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Canadian Railway and Marine World

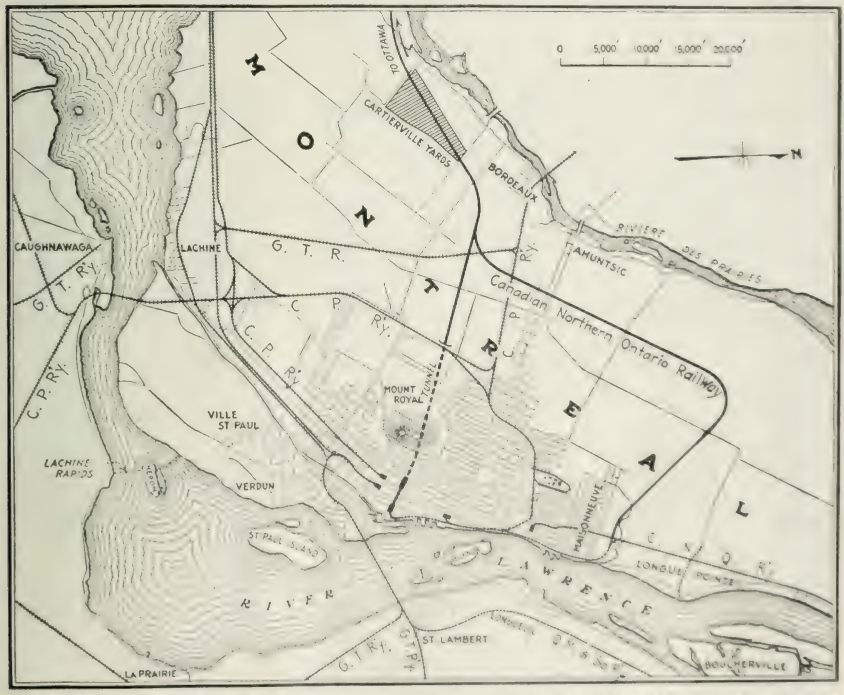
January, 1919

The Canadian Northern Railway's Montreal Tunnel From an Economic Point of View.

By H. K. Wicksteed, B.A.Sc., C.E.

This paper has been written in response to a very kind invitation to give something of interest in connection with the history of the Montreal tunnel. What were the considerations which led up to it, and made it seem a practical scheme? As the Canadian Northern Passenger Department has put it in its window dressing, "Why was the tunnel built?" And I have given my paper the title of "The Montreal tunnel from an economic point of view."

With the actual construction of the tunnel I do not propose to deal to any greater extent than is necessary to enable you to understand the problem, not because there were not a great number of intensely interesting points about it, and not because I was not in the tunnel a great many times during its progress, but because the construction side has been dealt with very ably by my colleague, S. P. Brown, and I believe is to be dealt with further by one of his assistants, J. L. Busfield, and they are both better posted in details of it than I. Mr. Brown has made tunnelling a specialty, and his whole soul was in his work, and I may say that it is a pretty large and comprehensive soul.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C. P. Ry.
C. P. Ry.
C. P. Ry.
C. P. R.
Canadian Northern Ontario Railway
TUNNEL
MOUNT ROYAL
VILLE ST PAUL
LACHINE RAPIDS
HERON
VERDUN
ST PAUL ISLAND
MAISONNEUVE
LONGUE POINTE
RIVER
ST LAWRENCE
ST LAMBERT
G. T. Ry.
G. T. P. Ry.
LA PRAIRIE
BOUCHERVILLE

Both by temperament and training it is the economic side of things which has always appealed to me most. Railways are commercial concerns, and the tunnel is an essential part of a great railway. If it cannot be justified in a commercial sense, if it cannot pay interest on its cost, it has no right to exist. The economic aspect of engineering works has come into great prominence of late years and [illegible] of railways. Nearly all our great tunnels have been built to carry railways past, or under, obstructions of one kind or another, so that the history of tunnelling is almost altogether confined to the last 70 or 80 years, and most of the great tunnels are much younger than that.

Railway construction started on a large scale first in England, where population was already dense, and traffic was waiting to be carried in large volume. A railway once built, even on what we should now consider very crude lines, was practically sure of paying its way from the very start, and the cost was a minor consideration as soon as the potentialities of the steam railway came to be understood. It was when the building of railways extended to this continent of great dis-

[illegible], and at the same time a sparse population, that it was found that not only [illegible] a very heavy drain on [illegible] [illegible], but that capital was very hard to get in any case, and had to be brought in from outside, hence the difference in [illegible] between the early American [illegible] and the English ones, and the expedients of sharp curvature, heavy [illegible] and [illegible] construction, which [illegible] [illegible] to reduce the capital cost; and [illegible] [illegible] [illegible] [illegible], English [illegible] [illegible] [illegible] American roads. As time went on and the traffic became heavier, [illegible] [illegible] [illegible] other lines were built between the same termini and competition became [illegible], [illegible] [illegible] the era when the balancing of cost against more perfect location and construction began to be a regular study, and while I think a good many of the earlier engineers, Latrobe, for instance, had thought a good deal about these matters (their works shewed that they did), it was Wellington who first committed his ideas to paper, and his writings are still useful as well as monumental.

The element of location, which conduces more than any other to reduce the cost of haul, is, of course, that of gradients, and in lessening gradients in rough country there is very often a strong temptation, and often an absolute necessity, to resort to tunnelling. Hence nearly all our tunnels are in the two great mountain ranges of the continent, one east and the other west of the Mississippi River. There are a few, however, on this continent, for the construction of which there are other or contributing causes; and a great many on the other side of the Atlantic, cases where property damage was to be avoided at almost any cost, or where navigation interests were paramount, and a tunnel was more practicable than a high level bridge. The Detroit-Sarnia and Hudson River tunnels are instances of the latter class, and the Baltimore and Washington tunnels are instances of the former, and to this class our own Montreal tunnel more properly belongs.

Towards the close of 1906, more than 12 years ago, I was instructed to commence surveys and location for the Canadian Northern Ry. from Montreal westward, primarily to the Georgian Bay, and eventually, as it turned out, to Port Arthur, to connect with the western system, which had already developed to very considerable proportions. My headquarters were at that time in Montreal, so that it was natural that a great deal of my attention should be devoted to what was in any case the problem of greatest interest and best worth studying out. Montreal and its problems and growth were not a new matter to me, for I had spent three years of my earlier life at McGill University, had geologized on Montreal Mountain with Sir William Dawson, and one of my closest friends was a prominent business man and an ex-mayor of Westmount.

The Canadian Northern, two or three years before, had purchased and completed the Chateauguay & Northern Ry. from Hochelaga to Joliette, and about the same time purchased the Great Northern Ry. of Canada, extending from Hawkesbury to Rivière à Pierre on the Quebec & Lake St. John Ry., which constituted a sort of [illegible] system by which part of the grain freight from Parry Sound by the Canada Atlantic found its way to an elevator at Quebec. The Superintendent of that railway system was offered one of the farms near Longue Pointe and we [illegible] to purchase this for the railway, and by this means secured an approach to the river front, and within a very short time thereafter, a connection with the Harbor Commissioners' tracks. This had already secured for the road an ocean terminal, and it developed later that from this farm, now the Longue Pointe yard (and a very busy yard indeed), there extended a very marked depression clear across the island to the Riviere des Prairies, and the only one of its kind between Racine and Bout de l'Isle. Everywhere else there was a high, broad-backed ridge of limestone to the north of the mountain itself, and to the south a long talus slope of sand and glacial drift.

The Northern Colonization Ry., afterwards the Quebec, Montreal & Occidental Ry., and now part of the C.N.R., climbed over the top of the limestone at Mile End, at an elevation of 200 ft. above the river, and down again with a very strenuous grade of 90 ft. to the mile, to Hochelaga. The Ontario & Quebec Ry., the C.P.R.'s entry from the southwest, climbed over talus debris, and dropped similarly, although not so viciously, to the Windsor St. Station.

Our discovery gave us an entry somewhat circuitous, it is true, but with a short maximum grade of 30 ft. to the mile.

This, then, was the obvious route for a freight line from the west to Montreal harbor, and it must be remembered that the C.N.R. was at that time purely a granger road and interested almost exclusively in the hauling of wheat to the seaboard. Here, therefore, was the starting point of the survey to Port Arthur, and we still hope to see this line built at a very early date. The surveys west showed that an excellent line could be had north of the Great Lakes to Port Arthur at moderate cost; in proportion to cost probably the best long distance line in the world. The Pacific coast extension also gave wonderful results, and the system promised to be easily the best of all the transcontinental lines on this continent or any other. While, however, this arrangement was entirely satisfactory as regards through freight traffic to and from the west, it did not meet the requirements of the local traffic, both passenger and freight, of the city itself. Moreover, a transcontinental, such as that described, must of necessity have a suitable terminal in the eastern metropolis to make it complete and well balanced, and this became the new study of the location staff.

Montreal proper, as everyone knows and many have said, is wedged in between the river and the mountain, on a narrow strip of territory consisting first of a river flat half a mile wide, and farther back a terrace 70 ft. higher, and of about the same width, extending to the mountain slope. Up to 30 years ago the site was an ideal one for a city of moderate size, although even then it was remarkable among American cities for its density of population. While Toronto was building up, with detached houses with lawns and gardens, Montreal adhered to long terraces of houses of grey limestone, built right up to the street, and extending for miles almost without a break. Only on the slopes of the mountain the "seats of the mighty," of the Allans, the Redpaths, the Angus's, and other merchant princes showed more attractive surroundings, even if built on a sharp slope. Westmount was then in its infancy and was deterred in its growth by the long distances from the commercial center of the city.

Thirty years ago was marked by the advent of the C.P.R. and the selection of Montreal as its headquarters. Montreal began to grow very rapidly indeed, and is said to be increasing in population nearly 10% a year, and has now a population of over 800,000. Montreal a few years ago had an area of 19 square miles, and a population of 580,000. Cleveland, with about the same population, occupied 45 square miles; Boston, with 670,000, covered 43 square miles. Between 1900 and 1910 Montreal added 10,000 people to each square mile, New York only 4,000, and Chicago only 2,500. Montreal, to use the words of a writer in an American paper, was "choking to death for want of room." In its efforts to find this it has extended down the river almost to Bout de l'Isle, and upward almost to Lachine, and answers much more closely even than Duluth itself, to the Eastern Yankee's description of that city as being "25 miles long, a mile wide, and pretty nearly a mile high."

The long-sighted men, my business friend for one, and Sir Wm. Van Horne for another, had repeatedly cast wistful and prophetic eyes towards the hinterland, "the great beyond" on the other side of the mountain. The Montreal Tramways Co. built a line around it, and Sir William suggested a tunnel of about 1,000 ft. to reduce the extreme summit of the Cote des Neiges hill. Only at one point had any actual expansion in this direction taken place, and this was largely due to the C.P.R. Mile End station and the Tramways Co.'s extensions to it. This was along the extensions of St. Lawrence, Main and St. Denis Streets, and later of Park Ave. This question of city expansion was one consideration which led to the conception and inception of the Montreal tunnel, but it was not by any means the only, or the principal one.

Topography.—To most Canadians the mention of the St. Lawrence suggests a river running east and west. It carries east and west commerce, and Sault Ste. Marie is pretty nearly due west of Montreal, and Port Arthur only three degrees farther north; but the St. Lawrence proper, from Lake Ontario to the sea, flows northeast, and at Montreal it runs almost due north and south. It is the Ottawa which is the east and west river, and it is the Ottawa valley which has been in the past the great highway of commerce, and which has resumed this place as the route of the two transcontinental roads. The result is that the direct route from the heart of Montreal to the west, lies directly through the mountain, and almost at right angles to the river and the great thoroughfares of St. Catherine, St. James and Notre Dame Streets, which parallel it. As grade separation was an essential feature of any terminal scheme, this was a very important consideration.

Three railways had already entered Montreal from the west. The Grand Trunk entered it when the problem was a comparatively simple one. The Victoria bridge was located at what was considered the best point for a bridge, as was the St. Anne's bridge over the Ottawa. The intermediate line was built as directly as possible between them, and one of the pioneer roads of Canada, the Lachine Portage Ry., was used as an approach to a dead end station in the outskirts of the city at that time. The main line did not touch Montreal as it then existed.

Thirty years later, the Northern Colonization Ry. was built from Ottawa, and it climbed over the northern toe of the mountain as already described, and entered the extreme northern end of the city, and, after absorption by the C.P.R., the Place Viger station. Ten years later still came the Ontario & Quebec Ry., which paralleled the Grand Trunk from Vaudreuil to Dorval, and then rose over the terrace and followed along its edge to the present Windsor St. station. What the governing ideas were in selecting this location I can only guess, having never met the designer, but a desire to eliminate property damages and grade crossings as far as possible is evident, and the solution has been accomplished in a very clever way. It is on the whole a very satisfactory entry, but the C.P.R. is under the disadvantage, with the double approach, of having to keep up two separate terminals and a great number of passengers have to travel across town from one to the other, in coming, for example, from Quebec to Toronto. It may almost be said that there are three terminals, for the Mile End station is getting to be very popular with short distance passengers to and from the north and west. The Windsor St. approach is very interesting, not only as a very good piece of work, but as showing the development of railway ideals, and the demands of the public in respect of abolition of crossings and concealment and suppression of smoke and noise.

Advent of C.N.R.—Nearly 30 years after the C.P.R. comes the Canadian Northern. Thirty years makes a great difference in a problem of this kind. Land values have grown prodigiously in the meantime, due to the ever increasing congestion. And the education of the public, assisted by a railway commission anxious to please it, has gone on apace. Grade separation has become absolutely essential, and the absolute abolition of smoke and noise almost so. At the same time, and from the railway point of view, passenger trains have become longer and heavier, and harder to haul, so that grades must be flattened to the utmost, especially in regard to starting and stopping. Maintenance of way and operating expenses have been increasing in a much faster ratio than the corresponding passenger rates and receipts. Only the increasing volume of traffic, offset the growing discrepancy, and served to stave off the bankruptcy of the railways.

The passenger business alone was not the only thing to be considered. The Grand Trunk, during its 60 years of occupancy, and the C.P.R. during its shorter term of existence, had surrounded and honeycombed Montreal with a network of industrial spurs, sidings, and yards, in every direction. The Canadian Northern had only one small yard in the extreme north end, and its connection on the same terms as the other lines with the Harbor Commissioners' tracks for overseas business. But business to and from the local industries, the wholesale houses, cold storage plants, etc., etc., has to be hauled from 3 to 5 miles by motor trucks to Moreau St. The handicap is altogether too great. In the district bounded by McGill St., the Lachine Canal, Windsor St. produced, and Lagauchetiere St. alone, there are something like 150 of these smaller industries and plants, and a great many more within a mile radius of the Haymarket Square. Passenger business may perhaps be described as the spiritual and intellectual function of the railway body corporate, but freight is the wholesome and nourishing food which enables it to do its work and carry on its functions. The passenger service is the side which appeals to the ordinary layman passenger, just as a man's face and bearing does to a new acquaintance, but he cannot keep up the prepossessing appearance unless he has his stomach full, and some little money in his pocket.

We have here a number of essentials to be provided for and a still greater number of desiderata, also many things to avoid. The most important necessity of all at the moment perhaps was the finding of the necessary capital. Railway terminals are expensive things at the best, and this was an era of extravagance in this respect. The Pennsylvania had spent many millions on its New York entry. The New York Central was following suit with a magnificent scheme, better balanced financially, but still enormously expensive. Kansas City was building a joint $45,000,000 terminal, and St. Paul was considering a scheme which involved encroachment on the rights of its very respectable and oldest citizen, the Mississippi River—almost as old and respectable as the Montreal mountain itself, although somewhat dirtier. But these were all in connection with roads of long standing and financial strength. They were improvements and consolidations rather than new schemes. The Canadian Northern, while it had been earning at a great rate, was also extending and building equally fast, and had largely discounted its future in its borrowings. Even in a growing northwest, it takes some months before a new piece of road can earn its own living, and some of the C.N.R. construction was of a nature and through such country as could not be expected to yield any adequate income except as part of the completed system.

The most obvious route was to parallel the two older roads and it was very seriously proposed, but the writer for one never took to the proposition. It was neither the inexpensive route of the older Grand Trunk, nor could the very neat grade separations which the C.P.R. effected 30 years ago be repeated and duplicated. The C.P.R. line had been badly bent in order to effect its entry. Everything pointed to the north, instead of the south shore of the Ottawa, as being the Canadian Northern's proper route, and in this case the bend would become a right angle elbow. The right of way would be absolute destruction for 2 miles or more, and grade separation could be effected only by a continuous track elevation for the same distance. It would have been plagiarism of the worst and most expensive type. It was proposed to join with the Grand Trunk, but this would merely have mitigated some of the evils of parallelism, not removed them, and the Canadian Northern would have lost its identity and its independence at a most important point, and neither of these propositions would have been any solution of the freight problem.

The tunnel was the obvious solution of the whole question, and it was adopted by the writer at a very early stage, but how was the money to be found? Here came in the question of expansion, of a greater Montreal. The piercing of the mountain, the inauguration of a fast and frequent electric service through it, would vastly enhance the value of the inaccessible lands beyond. Thousands of acres, sloping gently towards the Back River, were available, if they were once brought within easy reach of the business and shopping district. As soon as the programme was announced, real estate men would quickly absorb all the available land, subdivide it and sell at enormous profit. Why should not a syndicate be formed which would take this part of the business out of the hands of the real estate men, buy up the land and out of the prospective profits finance the construction of the tunnel? The idea once suggested took root, and some of the great financiers of the world became directly interested in it, and the idea of the tunnel entrance became an established one.

But this merely fixed the principle of the tunnel, not the line of it, and there were several lines suggested other than that adopted. A line just south of Park Ave. was strongly advocated, the reason given being that it would be closer to the surface and much of it could be built by the cut-and-cover method. It was pointed out in rebuttal that this would disorganize all the underground economy of the district, sewers, water pipes, and gas, and that the streets would be impassable and the abutting properly uninhabitable during the whole time of construction, unless the enormously costly methods of of the New York subways were adopted. So far from being an extravagance, the bold line under the highest part of the mountain was the cheapest, in that it avoided all property damage, except for about 2,000 ft. on the city end.

This argument prevailed finally and the bolder line was adopted, but there was still a good deal of latitude in the choice of line. At the west end a long strip of property was offered, reaching nearly to the Back River. It so happened that on this property was the best point at which to cross the C.P.R.'s Atlantic and North Western line, so this end was promptly and satisfactorily settled. The east end was the subject of longer debate and some warmth of argument. Most English-speaking people think of Montreal as extending from the mountain to Dorchester St., and from Park Ave. to the confines of Westmount, with an addition for business purposes extending east and south for half a mile from the Place d'Armes, and of St. Catherine St. as being the main and only important artery. This is only a small part of Montreal in reality, but the conviction in the Anglo-Saxon mind that this is Montreal, the whole of Montreal, and nothing but Montreal, is almost as fixed and ineradicable as the Englishman's idea that the whole world is centered about his own tight little island. As a result of this obsession, it was difficult to get any site off St. Catherine St. even seriously considered. A line near University Ave. was actually adopted, and abandoned only when it was shown that this was of no use except for purely passenger business, that there was no chance for extension eastward, and that it must for all time to come remain a dead end branch 6 miles long, and worse in this respect than either the C.P.R. or the G.T.R.

Finally, the present line was adopted mainly for the reasons that it gave a continuous line from the mountain to the water front, with opportunity to connect with the Harbor Commissioners' tracks and through them with the system extending to Quebec and Chicoutimi; that in doing this it passed through some of the best freight producing districts in Montreal, and that it did all this with a minimum of property damage and with an absolute avoidance of grade crossings or even distortion of street grades. There is, further, an avowed intention on the part of the Harbor Commission to build a dam across the river to St. Helen's Island and a bridge from it to the east shore, which will furnish a route for such roadways and railways as care to avail themselves of it. It is more than probable that the Quebec, Montreal & Southern and the Intercolonial will avail themselves of the chance, for the Grand Trunk's great bridge is already congested and overcrowded, but this is a matter for the future.

The choice of a station site on this road was another matter of debate, which it is somewhat irrelevant to go into now. The choice, for the present at any rate is on Lagauchetiere St. within easy reach of Dorchester St., but not so far below the surface as the latter.

Grades Through Tunnel.—Closely allied to the question of alignment and in some respects even more important is that of grades. I have already alluded to the increasing length and weight of passenger trains. The C.N.R.'s standard transcontinental train averages 11 cars, and with this its Pacific type locomotives get over the 1% grades of the Lake Superior Division with reasonable ease. On the other hand, if the grade is flattened too much, on a long tunnel and approach such as this, trouble with drainage is apt to occur, especially in winter. The grade through the tunnel is 6/10 of 1%, or 32 ft. per mile, and is continuous from end to end; the west portal being thus 100 ft. higher than the east. From the west portal the same rate of grade carries us down through the Model City for nearly the same distance. The long cutting on the west approach, was introduced with a purpose, viz.: to allow the civic expansion to go on overhead without too much distortion of street grades.

In consideration of the electrical operation, the headroom required under the bridges was reduced from the regulation 22½ ft. to 16½ ft., and the problem of grade separation rendered so much the easier of accomplishment. Near Cartierville the Montreal Park & Island Ry., and a main road alongside it, have been carried underneath. Absolute grade separation is thus secured, not only through the city itself and its transmontane annex, but for the entire length of the electric zone, nearly 9 miles, and Cartierville, a promising suburban settlement on the bank of the Riviere des Prairies, is now brought within 18 or 20 minutes of the heart of the city.

The tunnel itself is a very interesting one and ranks among the great tunnels of the world, being 3.25 miles long. Only the three great Alpine tunnels, the Mount Cenis, the St. Gothard, and the Simplon, completely eclipse it in length, and there is only one in Canada which is longer, the C.P.R. Rogers Pass tunnel. It was predicted beforehand that the difficulties would be comparatively few, and so it turned out. Very little water was met with, and this where it was expected, near the west portal, at the contact between the limestone and the older rocks on which it rests unconformably. The core of the mountain was almost exclusively Essexite, a basaltic volcanic rock, somewhat hard to drill, but otherwise quite unobjectionable.

It was at first thought that most of it would not require lining, and had it been a steam operated road in the open country, it is quite probable that very little lining would have been put in, but its nearness to the terminal, and the adoption of the trolley system, which meant support from the roof, made even a small fall a very serious matter, as it would both delay and endanger the traffic. Some little sea[illegible] [illegible]gration showed itself after exposure to the air, and in the end it was all lined with a thin sheeting of concrete, except about 1,000 ft. This applies to the rock section.

For something over half a mile at the city, or east, end, the roof ran into clay, although the bottom and most of the wall remained in limestone. This clay was known beforehand to exist, and it is of a very plastic and semifluid formation and contains numerous shells such as now exist in northern seas. On account of its semi-fluid nature, and because this section led under streets and close to the foundations of buildings, it was decided to take this out under a shield protection, the shield being followed up with an arch of concrete blocks pre-cast in voussoir shape.

Practically no leakage, even of water, was ever visible during the progress of the work, and yet considerable settlement of the street overhead took place. Probably the moisture evaporated and escaped as invisible vapor. A great many of the houses had been set down on this soft clay and had suffered from settlement before the work was started; the further settlement was therefore of less consequence than it would otherwise have been. Through this section the individual tracks are carried in separate tunnels with a thin wall between them. The same is true of a few hundred feet at the West Portal, but the body of the tube is a single opening.

The heading was a "bottom" one 8 x 12 ft. and was put through with very good speed. For a time, in fact, the American record for hard rock tunnelling was broken by an average advance of 26 ft. a day for a whole month. As soon as a sufficient advance had been made, the enlargement to full section was commenced, the arch being taken out first, and the two "benches" afterwards.

As the east end is in the city and there was no means of getting rid of large quantities of material except by teaming for several miles, this work had to be done from the west end, and for this reason the heading was driven faster from this end, and this meant working down hill. Under these circumstances the small flow of water was particularly fortunate, as the amount of pumping was small.

Shafts.—In order to expedite the work, a shaft was sunk 250 ft. one mile from the west end. This made it possible to follow up with the enlargement on the westerly mile without interference from the heading from the shaft, but as a matter of fact the rapid progress of the heading was to a large extent wasted, because the war intervened, and work on the enlargement was impeded by the difficulty in finding the necessary capital to carry it on. The shaft was, however, designed to carry an elevator in the future to a substation at its foot, and with this in view, was sunk to one side of the center line of the tunnel. This, as may be imagined, greatly increased the difficulty of alignment of the tunnel. To offset a line on the surface, to two plumb lines, only some 12 ft. apart and 250 ft. long, and then offset this line again at the bottom of the shaft, was an operation requiring care and patience, but it was accomplished without appreciable error by H. T. Fisher and his staff. A second shaft was sunk, some 70 ft. just to the north of Sherbrooke St., and at the bottom of this the shield was put together. A third shaft was projected at Pine Ave., but considerable opposition was met with from the wealthy residents of the neighborhood, and it was abandoned, and undoubtedly the advantage from it would merely have expedited the driving of the heading, not of the completed tunnel. A fourth shaft was sunk on Dorchester St., and it was from this that a large quantity of material was removed, because there happened to be a very large and almost vacant piece of property at this point, on which material could be wasted for the time being, until the tunnel became available for hauling it away.

Anecdotes.—Mr. Brown, in his enthusiastic belief in and support of everything connected with the tunnel working, got into some rather amusing situations which he relates himself with considerable humor. On one occasion he was dining in a house almost over the line of the tunnel, and his host took occasion to remonstrate against the heavy blasting which sometimes shook the house and made his women folk nervous. Brown assured him that this had been stopped altogether and only the lightest of charges were being used, and especially at night. Just then a tremendous shot was fired, and all the front windows were smashed. It was a very embarrassing moment, and Brown had some difficulty in preserving his dignity and his host's respect.

On another occasion a discussion arose with reference to the effect of the vibration, occasioned by moving trains on some of the delicate instruments in McGill University, which is almost immediately over the line of the tunnel; the seismograph, for instance, which is intended expressly for recording terrestrial vibrations. Brown stoutly maintained that there would be no effect whatever, and that in New York a similar instrument near the subway had taken less notice of the blasting and the subsequent train running, than it had of the San Francisco earthquake 3,000 miles away. He suggested that the instrument be set up in a basement on McGill College Ave. while a blast was being fired, and they would see for themselves how absurdly small the effect was. The suggestion was acted on, the instrument set up, the blast was fired, and the seismograph went out of business altogether.

Reasons for Electrification.—As mentioned previously, the tunnel was planned from the beginning for electric traction. No effort was made to avoid the inevitable in this respect. It was felt that while very much cheaper in initial cost, a steam service through such a long tunnel would not be popular with the public; fans and artificial ventilation would have to be installed, and that even outside the tunnel, on the city end, there would be a strong opposition to steam operation over the streets, and justly so, for Montreal is already more saturated with coal smoke than even Toronto.

Some will remember the fatal disaster in the St. Clair tunnel, when it was operated by steam locomotives, although this is not much more than one-third the length of the Montreal one. Some minor mishap necessitated a stop at the lowest point in the tunnel, and some of the train hands were asphyxiated by the waste gases from the locomotive before help could be got to them. Even on a passenger train, although the trip lasted a very few minutes, there was a certain sense of suffocation and a feeling of relief when the trip was over. This accident precipitated the inevitable change to electric traction, and in the case of the Pennsylvania and Detroit tunnels, electricity was installed from the very first.

In the Montreal tunnel, in actual experience, the air is just as fresh as it is outside, and there is quite a marked natural circulation through it. The air at the city end is nearly always warmer than that at the west, or country, end, and rises from the terminal excavation, causing a strong draught of cool air from west to east. With the west end warmed up by a westerly sun, while the east is in shadow, the current will very probably be reversed, but the normal conditions seem to be as above.

The electrification work, which is a very interesting study in itself, was under the very able charge of W. C. Lancaster. A study was made for developing power at St. Ursule falls, on the Canadian Northern line, some 60 miles east of Montreal, and transmitting to Montreal, but the power was not very reliable, and to make it so meant a lot of interference with vested rights and privileges, which threatened to raise the capital cost and resultant charges to a point which meant that it would cost more per h.p. than it could be obtained for from the Montreal Light, Heat & Power Co., and an arrangement was made with that company to supply the necessary power.

The system is a direct current of 2,400 volts, much higher than we have been accustomed to up to the present. The locomotives take the current by a pantagraph from a trolley wire, and weigh 80 tons. The third rail system was considered, but on account of the heavy snowfall about Montreal, and occasional accumulations of ice, it was not considered desirable. In actual test these locomotives haul a 7 or 8-car train against the adverse 6/10% grade through the tunnel in 7 minutes, or practically 30 miles an hour.

The electric zone extends at present only to Cartierville, which on account of its being a convenient point at which to establish a divisional yard with locomotive house and shops, was considered the best point at which to make the change. It is altogether probable that as the intermediate country gets settled up with suburban residences, a movement which has already commenced, it will be extended to St. Eustache, a very prosperous town with beautiful surroundings, and we hope eventually to Ottawa. Only the heavy cost of installation prevented this being done in the first place. The route to Ottawa, lying as it does along the banks of the river, and generally within sight of it and of the Laurentian Hills beyond, is quite the most attractive of the four existing ones, and within a mile of being the shortest. It has already made a good start in popularity, and with the additional attraction of electric traction, it should pretty nearly monopolize this business.

Cash Payment for Railway Transportation Charges Ordered.

The Canadian Railway War Board's executive committee issued circular 86, Nov. 20, as follows:—Effective Jan. 1, 1919, the collection of transportation charges, including demurrage and storage charges, by railways operating in Canada, for services rendered, shall be on a cash basis, and, effective as of that date, credit accommodations then in existence which may be in conflict with the following regulations shall be cancelled.

1. Tickets shall be sold only for cash in advance of service. Baggage charges are subject to the same rule as tickets, except c.o.d. baggage, and storage charges, which must be paid in cash before delivery.

2. In cases where the enforcement of this rule with respect to freight, will retard prompt forwarding or delivery of the freight, or the prompt release of equipment or station facilities, carriers will be permitted to extend credit for not exceeding 96 hours after receipt for shipment of a consignment if it be prepaid, or after delivery at destination if it be a collect consignment, provided the consignor, if it be a prepaid consignment, or the consignee, if it be collect, file a surety bond, either individual or corporate, in an amount satisfactory to the carrier's treasurer or other properly designated officer. The form of such bond shall be as per form attached, conditioned upon and providing for payment of all charges within 96 hours after forwarding, or delivery, of the freight. Upon receipt and acceptance of such bond a carrier may accept and forward prepaid consignments or may deliver collect consignments in advance of payment of all charges thereon to the amount covered by the bond. Failure to pay such charges within the time prescribed will automatically cancel such credit.

3. Treasurers or other properly designated officers of individual carriers are required to arrange and conduct all matters relating to such credits. They shall designate the amount and accept or reject the surety offered. Bonds may be required and accepted for individual consignments, or blanket bonds may be accepted from individual shippers or consignees to cover all of their consignments for a given period; the period of the credit in such cases shall, however, be limited to 96 hours on each shipment, as prescribed in the preceding paragraph.

4. In case of any question as to accuracy of charges, bills must be paid as rendered, and claims presented for alleged errors. This will not prevent adjustments by agents of obvious errors.

5. Freight consigned to "order," or to "order notify," shall be delivered only upon surrender to the carrier's agent of the original bills of lading for such freight and the payment of the freight charges thereon, as hereunder provided; provided, however, if such bill of lading be lost or delayed the freight may be delivered in advance of surrender of the bill of lading upon receipt by the carrier's agent of a certified cheque for an amount equal to 110% of the invoice, or upon receipt of a surety bond, either individual or corporate, acceptable to the carrier's treasurer or other properly designated officer, in an amount for twice the amount of the invoice.

6. Advice to the foregoing regulations shall be promptly given to all to whom credit accommodations are now given, to the end that the regulations may be put into effect at the time specified with as little inconvenience as possible.

7. Cheques, within the instructions issued by the individual railways to their agents, will be considered as payment in cash.

8. The foregoing regulations shall apply to shipments delivered to and received from consignors and consignees by cartage companies, as well as to shipments handled direct between consignor or consignee and carrier.

9. Until otherwise ordered, the foregoing regulations shall not apply to transportation service rendered Dominion Government departments, nations allied with Canada in war, the various provincial governments of Canada, the counties and municipal governments, transportation and authorized cartage companies.

The following supplement was issued Nov. 23:—For the guidance of those concerned in determining what constitutes delivery of freight at destination, as provided for in circular 86, and for the purpose of defining, when transportation charges are due, the following notice is issued:—

a. Transportation charges are due and payable when carload, or less than carload, freight is placed in storage, either on the property of the carrier or in private warehouses. If charges are not collected from the warehouse company, they should be collected from the consignee under the terms of circular 86 at, or immediately succeeding, the time of placement in storage and not after final delivery to consignee.

b. Cars consigned to bonded customers or to regular responsible customers are to be considered delivered when placed upon sidings or team tracks of so called plant facility industrial railways, either those connecting directly with the road haul carrier or those located on terminal switching lines.

c. Cars will be considered to be delivered when placed on interchange tracks with industrial railroads.

d. Under the provisions of paragraphs b and c, cars will also be considered as delivered when constructively placed as provided by demurrage rules.

e. The provisions of paragraphs b, c and d do not apply to "common carrier" industrial railways, so long as in good faith deliveries are promptly made by them to consignees, and the trunk line carriers agent is furnished with adequate information with respect to such deliveries so as to permit the prompt rendition of the freight bills.

See also "Cash Payment for Railway Transportation" on another page.

Park Incline Ry., Montreal.—At the annual meeting of the Park Incline Ry., in Montreal, Dec. 10, a resolution was passed favoring the winding up of its affairs by voluntary liquidation. The reports presented showed a steady falling off in receipts since 1913, when the profits were $2,240, permitting the payment of a 4% dividend. In 1914, the profits were $1,460, and a 2% dividend was declared; in 1915, the profits were $[illegible]87, and the dividend was passed; in 1916, the profits were $1,300, and a 2% dividend was declared. In 1917 the loss was $1,542, and the loss for 1918 was $2,261. The company applied recently to the city council for a reconsideration of the terms of the franchise, but without result. The franchise calls for a daylight service from May 1 to Oct. 31.

The Canadian Northern and Grand Trunk Railways have made an arrangement whereby tickets reading through between Toronto and Montreal may be routed via Ottawa, using the Canadian Northern between Toronto and Ottawa, and the Grand Trunk between Ottawa and Montreal. Round trip tickets may be routed both ways by Ottawa, or in one direction via Ottawa, and in the opposite direction via G.T.R. This arrangement applies for direct sale of tickets and for exchanges of coupons, both one way and round trip tickets of any line issue, after passengers have traveled part of their journey. Such exchanges are to be made at Toronto or Montreal.

Handling of Returning Troop Trains on the C.P.R.

A. D. MacTier, Vice President, Eastern Lines, C.P.R., has issued the following circular to officers and employes:—

The soldiers of Canada will, from now on, be returning home in considerable numbers every week. These men have endured dangers and suffered hardships which entitle them to every care and attention which we can give in assisting them to reach their homes with all the dispatch and every comfort possible. Men in all branches of the service can contribute materially in their respective positions towards accomplishing what is required in this respect, and it is expected that this assistance will be rendered.

Special care should be exercised to have the cars for the troop trains properly inspected, thoroughly cleaned and ventilated, well watered, and fully supplied for heating and lighting. These features should receive special attention at divisional points en route as well as at the starting point. Locomotives ordered for troop trains should be, if possible, even more closely inspected than ordinarily, so as to guard against any breakdown and consequent delays in transit, and every effort should be made to have them turned out on time, with both locomotives and train crews, to take their trains forward without detention.

Troop trains are to be given every possible dispatch, within defined speed and other regulations, and in so far as is consistent with safety, are to be given preference over all other trains, including regular passenger trains. In the event of a troop train locomotive breakdown on the road, the locomotive which can be made most quickly available, even if taken from a regular passenger train, is to be used to handle the troop train, so that it will incur the least possible delay. Practically all troop trains will be equipped with commissary or dining cars, but in the event of anything occurring to interfere with proper arrangements in this respect, special attention should be given to any required arrangements at dining stations, advices to the men regarding such arrangements, and proper time allowance for meals.

Divisional officers should, through their respective dispatching offices, keep each other fully and properly advised of the movement of troop trains, and of anticipated times of arrival at connecting divisional points. One of the most important features in the handling of troop trains is the care required in estimating the time of their arrival at destination points, and the movement of the trains so as to reach such points at the times anticipated. Station staffs at destination points should be fully and promptly advised of the expected time of arrival of troop trains, with all particulars available as to the names of steamships from which the passengers come, and any other known details. This information should be promptly and regularly posted on station bulletin boards and corrected from time to time as may be necessary. Operators should keep in close touch with the movement of the trains so that the information posted may be up to the minute. Train enquiry clerks should be at all times fully informed in connection with the trains and their movement, and they, as well as all other station staff concerned, will be expected to deal courteously and patiently with all enquirers, giving them correctly and clearly the fullest information possible in response to their enquiries. What is particularly desired is that all officers and employes concerned shall, in so far as possible, place themselves in the position of the father, mother, wife, sister, or other relative of the returning soldier, and deal with them as they would wish to be dealt with under similar conditions. All this being accomplished, it will add substantially to the welcome the company desires to give to returned soldiers, as well as to the comfort and convenience of relatives and friends who desire to welcome them.

Officers will please arrange to have copies of this circular posted and distributed so as to come to the notice of all concerned.

Canadian Pacific Railway's Honor Roll 39.

Adams, James E.	Stationary fireman	Schreiber	Wounded
Allen, James C.	Clerk	Kingston	Wounded
Anderson, Carl	Wood machinist	Ogden Shops	Wounded
Antilla, John E.	Trainman	Revelstoke Div.	Wounded
Archer, Wm.	Assistant agent	Hillcrest	Killed in action
Barnby, Jesse D.	Porter	Calgary	Killed in action
Barton, George	Steam fitter	Glen Yard	Died of wounds
Batchelor, Chas. H	Yardman	Vancouver	Wounded
Baxter, Geo. L.	Brakeman	Lethbridge	Presumed dead
Beaton, Alex.	Operator	Wapella	Killed in action
Beattie, John J.	Rodman	Sudbury	Wounded
Bennett, Thos.	Carpenter	West Toronto	Wounded
Bolton, Wilbery J.	Clerk	Winnipeg	Wounded
Borg, Paul	Car cleaner	Toronto	Wounded
Bowes, Victor A.	Clerk	Calgary	Wounded
Brae, Fredk. D.	Clerk	Victoria	Wounded
Brereton, Thos.	Car repairer	Glen Yard	Wounded
Brophy, Alex.	Air brake cleaner	Winnipeg	Wounded
Brown, Chesley	Clerk	Toronto	Wounded
Brown, James	Laborer	London	Wounded
Bucke, Philip P. F.	Clerk	Brandon	Wounded
Bulmer, Henry W.	Porter	Calgary	Wounded
Cameron, Wm.	Fireman	Outlook	Wounded
Carter, Emerson C.	Chef	Calgary	Gassed
Charlton, Geo. S.	Brakeman	Medicine Hat	Wounded
Christie, Thos. C.	Trainman	Fort William	Wounded
Churchman, Alfred H.	Storeman	Winnipeg	Wounded
Cole, Jno.	Clerk	Montreal	Killed in action
Cope, Edward W.	Brakeman	Quebec District	Wounded
Cox, Leonard	Fitter's helper	Fort William	Died of wounds
Craig, Lyle A.	Clerk	Winnipeg	Wounded
Croker, Wm. T.	Constable	Montreal	Died of wounds
Cronk, Homer R.	Assistant agent	Napinka	Died of wounds
Cruikshank, Robert	Car repairer	Brandon	Wounded
Curry, Sydney	Fitter's helper	Winnipeg	Killed in action
Cushman, Russell	Dist. freight agent	Saskatoon	Killed in action
Dawson, George	Electrician	Regina	Gassed
Dean, Wm. R.	Clerk	North Toronto	Killed in action
Dick, C. G.	Ditchrider	Brooks	Wounded
Donaghy, David S.	Clerk	Vancouver	Wounded
Donald, Terence F.	Apprentice	Angus	Wounded
Donald, Wm.	Trainman	Brandon	Wounded
Doyle, Terrance F.	Yardman	Winnipeg	Killed in action
Drummond-Hay, L. V.	Clerk	Winnipeg	Killed in action
Dryden, Vaughan T.	Stenographer	Calgary	Wounded
Dutton, William	Cook	Vancouver	Wounded
Duval, Edward W.	Superintendent	Saskatoon	Killed in action
Ewart, Douglas M.	Resident engineer	West Toronto	Killed in action
Fletcher, Thos.	Blacksmith	McAdam	Killed in action
Fraser, Chas. R.	Clerk	Calgary	Gassed
Freeman, George	Operator	Halifax	Wounded
French, Jas.	Car checker	Guelph	Wounded
Gardiner, Jas. H.	carpenter	Brownville Div.	Wounded
Gougeou, Philemon J.	Conductor	Cranbrook	Wounded
Graham, James	Wiper	Wilkie	Wounded
Gray, Henry H.	Fireman	Fort William	Killed in action
Gray, Norman	Wiper	Kenora	Gassed
Greenless, Malcolm	Clerk	Vancouver	Killed in action
Griffin, Thos. H.	Assistant agent	Qu'Appelle	Wounded
Hambleton, Albert	Conductor	Moose Jaw	Wounded
Harris, Karl M. W.	Apprentice instructor	Ogden	Wounded
Harrison, Mark	Assistant agent	Blairmore	Died of wounds
Henderson, Wm. J.	Storeman	Brandon	Presumed dead
Hewis, Harry	Fireman	Winnipeg	Killed in action
Hicks, Peter	Sectionman	Bothwell	Wounded
Hicks, Wm.	Car repairer	Moose Jaw	Wounded
Hill, Sam	Clerk	Victoria	Wounded
Hill, W. H.	Fireman	Winnipeg	Killed in action
Holloway, Thomas J.	Fireman	Fort William	Wounded
Holmes, Chas.	Spring maker	Angus	Wounded
Horton, Thomas H.	Storekeeper	Regina	Wounded
Hume, Edward	Laborer	Calgary	Wounded
Hunter, Harold E.	Clerk	Guelph	Wounded
Iliff, Thos. C.	Fireman	Kenora	Died of wounds
Irving, James J.	Constable	Fort William	Died of wounds
Jalbert, Louis	Fitter's helper	Sudbury	Wounded
Jebson, Fred	Engineer	Calgary	Wounded
Johns, Edward	Fireman	Swift Current	Wounded
Kendall, John J.	Fireman	MacLeod	Wounded
King, Jas. C.	Clerk	Kenora	Wounded
Laur, Lemen J.	Trainman	London Div.	Killed in action
Le Gros, Chas. A.	Clerk	Winnipeg	Killed in action
Linn, David	Brakeman	Medicine Hat	Wounded
Lowes, Thomas M.	Clerk	Windsor	Wounded
Luttrell, Robert	Machinist	Angus	Wounded
McBurney, Hy.	Car inspector	St. John	Wounded
McDonald, Alex.	Wreck crane operator	MacTier	Wounded
MacDonald, Chas. R.	Fireman	Cranbrook	Wounded
MacKay, Archie K.	Engineer	Kenora	Wounded
McLeod, Neil	Operator	Toronto	Wounded
McNally, John	Fireman	Sutherland	Killed in action
McQuarrie, Hugh S.	Fireman	Minnedosa	Wounded
Maisey, Walter	Car repairer	Ogden	Gassed
Marshall, Robert	Clerk	Vancouver	Wounded
Maxwell, Leonard G.	Operator	Bruce Division	Wounded
Milligan, W. C. H.	Fitter	North Bay	Wounded
Moore, James	Waiter	B.C. Coast Service	Presumed dead
Moore, Jas. Wm.	Silver cleaner	Vancouver	Wounded
Murray, Joseph	Foreman	West Toronto	Wounded

Murray, Wm.	Trucker	Estevan	Killed in action
Newby, Leonard	Clerk	Calgary	Wounded
Nicholson, Robert	Waiter	Montreal	Wounded
O'Brien, Edward G.	Car service agent	Montreal	Wounded
Page, S. J.	Cook	Winnipeg	Wounded
Partington, Albert W.	Stationary fireman	Toronto	Wounded
Pierce, Edward G.	Operator	Ontario District	Gassed
Pringle, Jos. N.	Checker	Toronto Freight	Wounded
Pulford, Fredk. M.	Clerk	Weyburn	Killed in action
Rawn, Fredk. W.	Clerk	Toronto	Wounded
Rees, Herbert J.	Fireman	Fort William	Killed in action
Rennie, Frank B.	Stenographer	Regina	Wounded
Richmond, Robert A.	Clerk	Moose Jaw	Killed in action
Ritchie, Robert	Carpenter	Winnipeg	Killed in action
Robertson, Walter B.	Storeman	Winnipeg	Wounded and missing
Robison, Norman	Wiper	Medicine Hat	Died of wounds
Ross, Alex. J.	Trainman	London	Concussion
Ross, Wm.	Checker	Calgary	Wounded
Rowlette, Archibald G.	Visual tester	Winnipeg	Wounded
Rye, John	Boilermaker	Angus	Wounded
Saunders, Frank	Car repairer	North Bay	Wounded
Smith, Arthur	Messenger	Brandon	Killed in action
Smith, Geo. H.	Fireman	Brandon	Wounded
Smith, Wm.	Boilermaker	Winnipeg	Killed in action
Sparling, Harry	Assistant agent	Elm Creek	Died of wounds
Stock, Sidney W.	Clerk	Calgary	Wounded
Swindells, Albert	Porter	Regina	Wounded
Todd, James W.	Apprentice	Winnipeg	Gassed
Travis, Ernest W.	Porter	Ottawa	Wounded
Trodd, Reuben R.	Machinist	Angus	Gassed
Turton, Samuel	Laborer	West Toronto	Wounded
Veasey, Ernest G.	Section foreman	British Columbia Dist	Wounded
Vidal, Cyril	Clerk	North Bay	Killed in action
Waldi, Adam	Storeman	Nelson	Killed in action
Wallace, George	Fireman	Chapleau	Wounded
Watt, Victor D.	Trainman	Minnedosa	Wounded
Waugh, Henry	Clerk	Montreal	Wounded
Websdale, Jas. F.	Brakeman	Medicine Hat	Died of wounds
Wensley, Frank	Call boy	Moose Jaw	Wounded
Wight, John H.	Freight clerk	Saskatoon	Died of wounds
Williams, John	Apprentice	Winnipeg	Killed in action
Wood, Geo. F.	Sleeping car cond'r	Moose Jaw	Wounded
Woodward, Geo.	Assistant foreman	Calgary	Wounded
Wren, Arthur	Fireman	Fort William	Presumed dead
Zetterland, John	Conductor	Brandon	Wounded

Shown on honor lists to date: killed, 775; wounded 1,9[illegible]. Total [illegible].

Birthdays of Transportation Men in January.

Many happy returns of the day to:—

J. Abrams, Wharf Freight Agent, C.P.R., Vancouver, B.C., born at Manchester, Eng., Jan. 24, 1870.

W. U. Appleton, Superintendent of Motive Power, Canadian Government Railways, Moncton, N.B., born there, Jan. 29, 1878.

R. Armstrong, Superintendent, Brandon Division, Manitoba District, C.P.R., Brandon, born at Kingston, Ont., Jan. 27, 1865.

J. A. Audrain, Trainmaster, Saskatoon Division, Saskatchewan District, C.P.R., Saskatoon, Sask., born at St. John's, Jersey, Channel Islands, Jan. 23, 1883.

L. E. Ayer, General Agent, Canadian Northern Ry., St. Louis, Mo., born at Henderson, Ia., Jan. 11, 1877.

F. X. Belanger ex-General Freight and Passenger Agent, Temiscouata Ry., Riviere du Loup, Que., now Traffic Manager, Fraser Companies, Ltd., Edmundston, N.B., born at Chlorydormes, Que., Jan. 20, 1876.

G. McL. Brown., European Manager, C.P.R., London, Eng., born at Hamilton, Ont., Jan. 20, 1866.

F. J. Buller, Cashier and Paymaster, Eastern Lines, Canadian Northern Ry., born at Lindsay, Ont., Jan. 30, 1874.

J. E. Dalrymple, Vice President, G.T.R.. G.T.P.R., and Central Vermont Ry., Montreal, born there Jan. 1, 1869.

A. Davidson, Commercial Agent, Grand Trunk Pacific Ry., and G.T.P. Coast Steamship Co., Vancouver, B.C., born at St. Henri, Montreal, Jan. 29, 1885.

G. J. Desbarats, C.M.G., Deputy Minister of Naval Service, Ottawa, Ont., born at Quebec, Que., Jan. 27, 1861.

J. E. Everell, Superintendent, Montmorency Division, Quebec Ry., Light and Power Co., Quebec, Que,, born at Cap Rouge, Que., Jan. 1, 1863.

J. E. Giles, Locomotive Foreman, Canadian Northern Ry., Lucerne, B.C., born at Toronto, Jan. 18, 1882.

Gordon Grant, Chief Engineer, Quebec and Saguenay Ry., and Consulting Engineer, Railways and Canals Department, Ottawa, born at Dufftown, Scotland, Jan. 2, 1861.

G. F. Hichborn, formerly Agent, Great Eastern Fast Freight Line New York, born at Boston, Mass., Jan. 13, 1875.

C. Hood, ex-Local Freight Agent, C.P.R., Saskatoon, Sask., now of Winnipeg, born at Edinburgh, Scotland, Jan. 20, 1864.

D. W. Houston, Superintendent, Regina Municipal Ry., Regina, Sask., born at Bathurst, N.B., Jan. 3, 1879.

Carl Howe, Traffic Manager, Michigan Central Rd., Chicago, Ill., born at Berrien Springs, Mich., Jan. 11, 1870.

H. J. Humphrey, Superintendent, Laurentian Division, Quebec District, C.P.R., Montreal, born at Berrys Mills, N.B., Jan. 26, 1879.

W. C. Hunter, ex-Manager New Brunswick Coal and Ry. Co., now of Montreal, born at St. John, N.B., Jan. 4, 1865.

H. G. Kelley, President, G.T.R. and G.T.P.R., Montreal, born at Philadelphia, Pa., Jan. 12, 1858.

W. J. Lynch, General Manager, Quebec Ry., Light, Heat and Power Co., Quebec, Que., born there, Jan. 17, 1882.

C. R. Mackenzie, General Manager's Assistant, Western Lines, Canadian Government Railways, Winnipeg, born at Toronto, Jan. 10, 1883.

John Macrae, Locomotive Foreman, C.P.R., Swift Current, Sask., born at Springburn, Glasgow, Scotland, Jan. 30, 1879.

J. A. Macdonald, Manitoba Public Utilities Commissioner, Winnipeg, born at Gananoque, Ont., Jan. 6, [illegible].

G. C. Martin, General Traffic Manager, Toronto, Hamilton & Buffalo Ry., Hamilton, Ont., born at Creemore, Ont., Jan. 2, 1866.

H. Mitchinson, Safety Engineer, Western Lines, Canadian Government Railways, Winnipeg, born at Gateshead on Tyne, Eng., Jan. 18, 1882.

William Phillips, Canadian Representative, Cunard Steamship Co., Montreal, born at Toronto, Jan. 31, 1876.

W. Pratt, General Superintendent, Sleeping and Dining Cars and Hotels, Canadian Northern Ry., Winnipeg, born at Sibbertoft, Northamptonshire, Eng., Jan. 18, 1870.

John Pullen, President, Canadian Express Co., Montreal, born at Shepton Mallet, Eng., Jan. 2[illegible], 1866.

Ralph M. Reade, Superintendent, City Division and Quebec County Railways, Quebec Railway, Light & Power Co., Quebec, born at Llanelly, Wales, Jan. 1, 1868.

L. J. Rouleau, Commercial Agent, G.T.R., Quebec, Que., born at Montreal, Jan. 6, 1879.

C. Senay, General Agent, C.P.R., Quebec, Que., born at St. Cesaire, Que., Jan. 31, 1873.

A. F. Stewart, Chief Engineer, Eastern Lines, Canadian Northern Ry., Toronto, born at West Bay, N.S., Jan. [illegible], 1864.

J. G. Sullivan, ex-Chief Engineer, Western Lines, now Consulting Engineer, C.P.R., Winnipeg, born at Bushnells Basin, N.Y., Jan. 11, 1863.

Ross Thompson, ex-Chief Engineer and Managing Director, St. John and Quebec Ry., Fredericton, N.B., now of Montreal, born at Newry, Ireland, Jan. 1, 1865.

T. H. White, Chief Engineer, Canadian Northern Pacific Ry., Vancouver, B.C., born at St. Thomas, Ont., Jan. 27, 1848.

A. Wilcox, General Superintendent, Central District, Canadian Northern Ry., Winnipeg, born at Kincardine, Ont., Jan. 2, 1865.

A Great Northern Ry. Construction Suit.—Judgment was given in the Court of Appeals, Montreal, Nov. 21, in an action brought by John Hyde as liquidator of the Great Northern Ry. Construction Co. against J. G. Scott, for the return of bonds aggregating a par value of $6,000, or in default the sum of $4,418.54, the amount realized by the sale of the bonds. The bonds in question formed part of $1,000,000 of bonds distributed by the company among its shareholders. The allegation was that the construction company sublet its contract for the construction of the Great Northern Ry. (Canada) to Ross, Barry and McRae, that it received cash, bonds and stock from the railway company and distributed among its shareholders $1,000,000 of the bonds, prior to the completion of the contract let to Ross, Barry and McRae. The construction company subsequently went into liquidation and the sub-contractors had not been settled with. At the original hearing of the action the court decided that the liquidator had failed to establish his right to recover, but the Court of Appeal, with a dissentient, held that the distribution was illegal, and the bonds, or the sum which Mr. Scott admitted he received for them, should be returned. Judgment was entered accordingly.

Engineering Institute of Canada, Calgary Branch.—It was reported at the annual meeting, Dec. 8, that [illegible] of the 76 members and associates on the roll, [illegible] are on active service with the Canadian forces. Following are the officers elected for the current year:—Chairman, G. W. Craig; Secretary-Treasurer, J. M. Arnold; Assistant Secretary, W. H. Mattice; Executive Committee, J. W. Pearce, A. S. Dawson, F. H. Peters, B. L. Thorne, A. S. Chapman.

Establishment of Per Diem Bureau for Canadian and United States Traffic.

The Canadian Railway War Board has issued the following circular:—With a view to simplifying the handling of car hire accounts as between United States railways operating under federal control and other lines, it has been arranged to establish a per diem bureau which will act as a clearing house in the handling of accounts between the various systems of railways as above mentioned. Draft of the general regulations which have been formulated to govern the working of the revised arrangement is enclosed herewith. It is anticipated that amongst the benefits to be derived from the new system will be the avoidance of long outstanding claims, such as have existed heretofore, and reduction in the work in the individual car accounting offices. As soon as further details of the new system have been decided upon it is proposed to have a meeting of the car accounting officers of member lines here, in order that the matter may be fully explained to all concerned, and to dispose of any questions of a local nature that may arise.

Rules for setlement of per diem, including reclaims and passenger car hire, between federal, non-federal, Mexican and Canadian roads (other than industrial roads).

On all settlements between federal, non-federal, Mexican and Canadian roads (other than industrial roads), the Code of Per Diem Rules shall govern, except as hereinafter modified.

Each non-federal road shall be assigned to a federal road, with which it shall make settlement for per diem, reclaims and passenger car hire as provided for in these rules.*

Settlement for freight and passenger equipment cars between federal and non-federal roads. Freight cars:

a. Each non-federal road shall report to the federal road to which it is assigned all per diem earned by railway owned cars on its line (with the record of receipt and delivery of such cars), and to which it shall pay all per diem due.

b. Each federal road shall be responsible for the payment of per diem on cars owned by the non-federal road, or roads assigned to it, while they are away from home. The non-federal road shall submit monthly statement to the federal road to which it is assigned, showing all per diem earned on its cars while they are away from home, with record of interchange with the home road.

c. A federal road switching cars for a non-federal road may reclaim an amount equal to the actual time (with a minimum of 5 days on any one car **), which shall be paid by the non-federal road to the federal road to which it is assigned.

d. A non-federal road switching cars for a federal road may reclaim an amount equal to the actual time (with a minimum of 5 days on any one car **) which shall be paid by the federal road to which the non-federal road is assigned.

e. Where a non-federal road, under its contract with the U.S. Railroad Administration, is allowed a special per diem reclaim on cars delivered to it, such reclaim shall be paid by the federal road to which it is assigned and shall not be in addition to any switching reclaim herein established.

f. After the responsibility has been established that a reclaim is due to or from a non-federal road from or to a federal road under per diem rule 14, or on account of special conditions, settlement shall be made with the federal road to which the non-federal road is assigned.

g. When cars are handled under per diem rule 5, or held under per diem rule 14, by one non-federal road, for another non-federal road, reclaim settlement shall be made direct by such non-federal roads.

h. When per diem earnings of cars of non-federal ownership cease or are suspended, as provided by per diem rules 7 and 8, notice in accordance with these rules shall be transmitted to the federal road responsible for settlement with owner and to the owner of the car ***.

i. When per diem earnings of any car on a non-federal road cease, or are suspended, as provided by per diem rules 7 and 8, notice in accordance with these rules shall be transmitted to the owner and to the federal road to which the reporting non-federal road is assigned ***.

*Each non-federal road (other than an industrial road) shall insert in its registration in the Official Railway Equipment Register the name of the federal road to which it is assigned.

**A car received loaded and delivered loaded in switching service shall be considered as two cars.

***Specific instructions as to the names of officers of the respective roads to whom these reports are to be forwarded should be inserted in each carrier's registration in The Official Railway Equipment Register.

Passenger cars:

j. Each non-federal road shall report and pay to the federal road to which it is assigned the mileage and per diem earned by each railway passenger equipment car on its line.

k. Each federal road shall be responsible for the payment of mileage and per diem on passenger equipment cars owned by the non-federal road or roads assigned to it while they are away from home. The non-federal road shall submit monthly statement to the federal road to which it is assigned, showing all mileage and per diem earnings on its passenger equipment cars while away from home.

l. Each federal road shall make monthly reports to car owner, showing the wheelage of non-federal roads passenger equipment cars on its line. Each non-federal road shall make wheelage reports to car owner for all foreign passenger equipment cars on its line.

Settlement for freight and passenger equipment cars between Canadian and United States roads:

A bureau shall be established by the U.S. Railroad Administration, for the purpose of maintaining a record of the interchange of all railway cars and for the settlement of per diem, reclaims and passenger car hire, between U.S. and Canadian roads.

Freight cars:

m. Each Canadian road shall report monthly to the bureau all per diem earned by railway cars (other than Canadian roads' cars) on its line, showing the name of road delivered to and date of such delivery.

n. The bureau shall report monthly to each Canadian road all per diem earned by its cars while on roads in the U.S. and Mexico.

o. Reclaims under per diem rules 5 and 14, and special conditions due from U.S. and Mexican roads to Canadian roads shall be reported by the federal roads to the bureau, in such detail as may be required by the bureau. These reclaims shall be included in the bureau's reports to the proper Canadian roads.

p. Reclaims under per diem rules 5 and 14, and special conditions due from Canadian roads to U.S. and Mexican roads shall be included on Canadian roads' per diem reports to the bureau, in such detail as may be required by the bureau. Each federal road shall report to the bureau reclaims due from Canadian roads in such detail as may be required by the bureau.

q. Each federal road shall notify the bureau and the car owner respecting cessation or suspension of per diem under per diem rules 7 and 8 on Canadian roads' cars on its road, or on non-federal roads assigned to it, and obtain acknowledgment of receipt thereof from the bureau.

r. Each Canadian road shall notify the bureau and the car owner of the cessation or suspension of per diem, as provided by per diem rules 7 and 8, on U.S. and Mexican roads' cars while on its line.

Passenger cars:

s. Each Canadian road shall report monthly to the bureau all mileage and per diem earned by railroad passenger equipment cars (other than Canadian roads' cars) on its line, showing the name of road delivered to and date of such delivery.

t. The bureau shall report monthly to each Canadian road all mileage and per diem earned by its passenger equipment cars while on roads in the U.S. and Mexico.

u. Each federal road handling passenger equipment cars of Canadian roads shall submit monthly statement to the bureau, showing mileage and per diem earnings of such cars on its rails and the rails of non-federal roads assigned to it.

v. Each federal and non-federal road shall make monthly reports to the car owners, showing by car number the wheelage of Canadian roads' passenger equipment cars on its line.

Settlement between United States and Mexican roads' freight and passenger cars:

w. The U.S. Railroad Administration shall establish a bureau for the purpose of maintaining a record of the interchange of all railway cars between U.S. and Mexican roads. The bureau shall arrange to secure such reports as it deems necesasry for this purpose.

U.S. Sleeping Car Charges.—The additional passage charge of 16 2/3% of the normal one-way fare required from passengers travelling in standard sleeping cars and parlor cars, and 8 1/3% of the normal one-way fare required from passengers travelling in tourist sleeping cars, which has been in force for some months in the United States, was abolished by the Railroad Administration Dec. 1.

Discrimination in Car Distribution Punished.—I. K. Dye, formerly General Manager, Coal & Coke Rd., Baltimore, Md., who was convicted recently for discrimination in the distribution of coal cars to mines in which he owned no stock, in favor of mines in which he was financially interested, has been fined $1,000 and sentenced to 6 months imprisonment.

Canadian Avro Co., Ltd., has been incorporated under the Dominion Companies Act, with $2,500,000 authorized capital and office at St. John, N.B., to build, own and operate aeroplanes, balloons, dirigible airships, hydroplanes, etc.

The Railway Terminals etc., at St. John, N. B.

By C. C. Kirby, Division Engineer, C.P.R.

The St. John, N.B., railway terminals present an interesting problem in regard to their future extension to meet the development of the port. The present terminal layouts are the result of slow growth from small beginnings, and, consequently, the growth has been along the line of least resistance and low cost, rather than with the fulfillment of a prearranged plan. In this respect St. John is probably no different from most other old cities. The high ground surrounding the harbor on four out of its five sides presents considerable difficulty toward obtaining ideal layouts, or even barely possible working conditions.

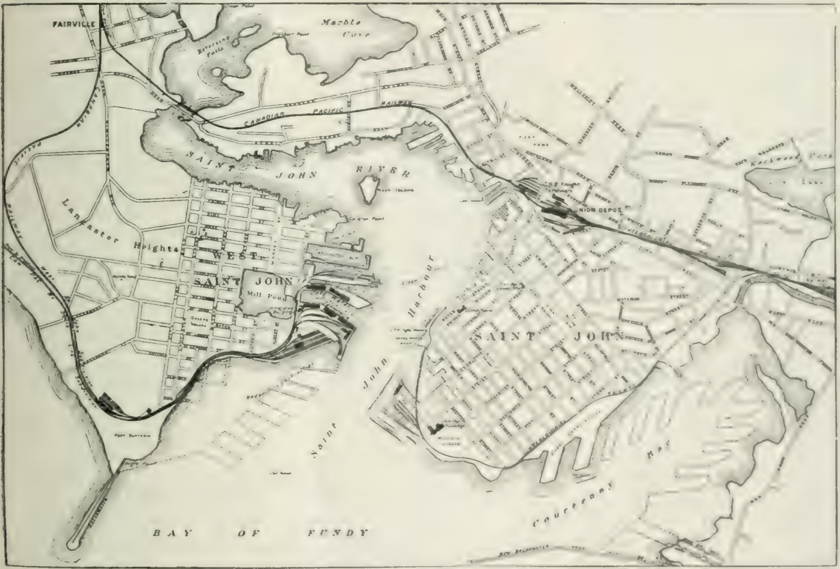
The city is served by 2 main lines of single track railway. The C.P.R. enters from the west and the Canadian Government Rys. from the east. The distance from Montreal to St. John via C.P.R. is 477 miles; by Canadian Government Rys. via Intercolonial and National Transcontinental 702 miles. The distance from Winnipeg to St. John by C.P.R. is 1,884 miles and by Canadian Government Rys. 1,906 miles. The terminals consist of the West St. John facilities, owned by the C.P.R., and the city facilities, owned by the Canadian Government Rys. The distance between West St. John and Long Wharf is 5.6 miles.

The C.P.R. terminals include a small yard of about 100 cars working capacity at Fairville, at which point all West St. John export freight leaves the main line and follows a short branch line into Bay Shore yard. Bay Shore is the terminal for freight trains from the west. It has a working capacity of about 800 cars and is equipped with a 12 stall locomotive house and the usual locomotive terminal facilities of coal plant, ashpit, water tank, etc. It is a turn-around point only for freight locomotives running between St. John and McAdam, the latter being the maintaining station. From Bay Shore yard cars are handled to the West St. John docks by yard locomotive service. There are three main line tracks connecting the two yards, operated under the control of a general yardmaster in charge of both yards. The distance between the two yard offices is 1.71 miles. At West St. John, the working yard capacity is about 1,000 cars, including cars actually set up along sheds and wharves.

There are 10 ocean wharves, known as berths 1 to 7 inclusive and 14, 15 and 16. In addition, there are a few wharves served by the railway which are exclusively used for local or coast traffic. At St. John, both railways do the work themselves of delivering and receiving freight into and out of the wharf sheds. There is no harbor commission or terminal railway company operating here as at other ports. The ownership of the wharves and sheds lies between the railways, the city and the Dominion Government. On the west side the city owns sheds 1 to 6, the government owns no. 6 extension and sheds 7, 14, 15 and 16. The C.P.R. owns the grain elevators and about one half of the conveyor galleries and the Dominion Government owns the other half. The railway tracks are owned by the C.P.R., except alongside of certain of the government owned sheds, where the government owns the tracks also. The city owns and maintains the trestle supports upon which the tracks are carried alongside of the city sheds. On the city side of the harbor the Canadian Government Rys. own the ocean terminal sheds at Long Wharf and the grain elevator and conveyor at Reed's Point, but the city owns the shed at the latter point.

The Canadian Government Rys. terminals lie wholly on the city side of the present harbor and comprise 2 ocean berths at Long Wharf, a passenger station and local yard at Mill St., a passenger car yard at Gilbert's Lane, and locomotive terminal at Island Yard, also a belt line railway running around the city proper along the harbor front. The belt line serves a number of industries and small wharves used for coast traffic as well as the new grain elevator at Reed's Point.

The layout of St. John Harbor can best be described as similar to the letter Y, the city proper lying in the crotch of the St. John River estuary and Courtenay Bay. The West St. John ocean terminals lie on the western side of the stem of the Y and the Canadian Government Rys. ocean terminals are proposed to be built in future



Canadian Pacific Railway and Canadian Government Railways Terminals at West St. John and St. John, N.B.

[illegible] the sides of the eastern arm. The [illegible] Canadian Government Rys. ocean [illegible] the head of the western arm on the [illegible] side. The Canadian [illegible] Rys. passenger and freight [illegible] across the city at the [illegible] of the Y and connect [illegible] C.P.R. at the union station near [illegible].

The fact of there being so many distinct [illegible] involved in the operation and maintenance of the railway tracks, [illegible] sheds, grain elevators and conveyors is to some extent a handicap to the proper development of the port, as any continuity of policy is impossible under such conditions. Beside the city and the C.P.R., the Dominion Government is represented by three different departments, Railways, Public Works and Marine and Fisheries. The creation of a harbor commission is under consideration for the carrying out of certain functions, but the complete ownership and control of all facilities by it has not so far been publicly suggested. That such an arrangement would be in the best interest of the port, there can be very little doubt, particularly in view of the necessity for the spending of large sums of money in development work in the near future.

At present there are two schemes of development suggested and partially embarked upon. The Courtenay Bay scheme on the east side, and West St. John on the west side. Which of these two schemes will be carried to completion first has not apparently been decided upon, but as both of them involve radical changes in the railway terminals, the consideration of them is of great interest from the railway viewpoint. The ideal scheme of development is of course one which can be carried out in part from time to time as the increase in traffic warrants. Unfortunately these conditions do not apply very well in St. John. In both schemes any further development for even one or two berths will involve a very large expenditure on other work than the actual berths themselves, such as reclamation, channel dredging, and railway development. The latter item itself is so considerable that the railway interests called upon to make the investment should be entitled to be assured of the full completion of the scheme when once embarked upon. For this reason it would appear proper to complete one scheme before becoming very deeply involved in the other.

The West St. John scheme, as outlined and agreed upon by the city, the C.P.R. and the Dominion Government, in an agreement entered into in 1911, includes the further construction of 4 piers and a retaining wall from the last one to the base of the Negro Point breakwater, giving 8 more berths than there are at present. The area between the site of the piers and the shore is to be filled in and used for railway purposes to serve the piers. The construction of the piers and retaining wall is an obligation upon the Dominion Government, as is also the filling in of the area behind the piers for 400 ft. from the end wall of the basins. The filling in of the remaining area is an obligation [illegible] C.P.R. So far 2 berths have been constructed by a piecemeal process of construction of one berth at a time, and these berths have been reached by the railway company extending out from its original location. The tracks to these berths approach in a fan shape from [illegible]. These tracks fan out from the base of a very heavy grade down from Bay Shore yard and sharp curvature. Unfortunately any further extension of these tracks by fanning out to reach more of the new piers will not be possible on account of the grade and curvature. The construction of the next pier will therefore necessitate a radical rearrangement of trackage. This rearrangement cannot be carried out without the reclamation of area between the new piers and the shore and the construction of the retaining walls to protect the filling. When this has been done the railway yard will require to be built at right angles to its present direction and a new entrance to it to be built at wharf level around Fort Dufferin point. This entrance could not be reached from the present Bay Shore yard, as the latter lies 66 ft. above dock level and too close at hand to make grades. Bay Shore yard would therefore have to be abandoned as the terminal yard and a new terminal constructed at some point farther back. A site for such a terminal could be found just west of the Fairville yard, but this would mean the retention of a long 1% up-grade against traffic from the west. A line diversion from South Bay towards Duck Cove, with a terminal yard on the flats in that vicinity, would appear to be the best arrangement. The present capacity of West St. John docks is approximately 250 cars of export freight a day. The final scheme would give a capacity of about 500 carloads per day, exported, or 100% increase.

In discussing railway terminals the operation of grain elevators at St. John cannot be overlooked. The port is now well equipped with elevator capacity, but only certain of the berths are equipped with conveyors to deliver grain. During the past season about 16,000,000 bush. of grain were shipped from West St. John through the conveyors and 3,500,000 bush. of oats were handled through the elevators and loaded into bags and shipped through the sheds. The elevators at West St. John are owned by the C.P.R. and consist of one timber structure built originally in 1892 and extended in 1898, having a present capacity of about 600,000 bush., and one concrete structure built in 1912 of 1,000,000 bush. capacity. There are 5,280 lin. ft. of grain conveyor galleries in use to deliver grain at 6 berths. The longest run for grain is 2,950 ft. when delivered to no. 6 shed from the new elevator. The old timber elevator is operated with rope transmission drives, driven by a 450 h.p. steam engine, and the conveyor belts in galleries to berths 1, 2, 3 and 4 are similarly driven. The new concrete elevator is operated by electricity, generated from a steam turbine plant in a power house close by. The generating units are two 600 h.p. turbines and boiler plant of four 125 h.p. boilers. Only one half the capacity of generating plant and boilers is generally used, the other half being held as spare. The condensing water for the turbines is obtained by pumping sea water from a nearby basin with an electrically driven 8 in. centrifugal pump. The 2 elevators are operated in conjunction with one another and are connected together with two 36 in. belts. The operation of both houses is under one general foreman, and grain can be delivered from the new house at any one of the 6 grain berths, and from the old house it can be delivered at 4 of the berths. An extension of the grain conveyor galleries to the new berths 14 and 15 is under consideration by the Dominion Government. On the city side of the harbor a new 500,000 bush. concrete elevator has recently been erected by the Canadian Government Rys., but has not yet been put into use.

The conveyor systems make the cost of handling grain at St. John very high in comparison with some other ports. Since the war began the operation of bagging oats has been extensively carried on at West St. John. This is done by elevating the grain into bins and then delivering it through a spout to machines which feed it into bags, the bags are then sewn up by hand and loaded into cars and switched around to the wharf sheds.

The design of wharf sheds has a very important bearing on railway terminal layouts. At St. John, practically all of the sheds are reached from tracks laid parallel with them. This works out very well where the sheds are sufficiently long to enable enough cars to be set up alongside to keep the unloading gangs employed from one meal hour to another. Unfortunately at all of the older sheds this is not the case and time is lost by having to switch the cars during working hours. In most cases it takes as much as 45 minutes to pull and set up a shed, and unless there happens to be work at some other convenient shed to which the unloading gangs can be sent for that period, the men will stand idle, sometimes 60 to 90 men. An alternative layout for short sheds is to place the tracks at right angles to the shed, with trucking platforms between every third or fourth track. This increases the trucking distance, but with the use of electric trucks it forms a good layout. This method is not in use at West St. John, but is contemplated as a possible future improvement at certain sheds.

The design of shed floor is also another important factor to the terminal railway. At St. John many of the floors are limited to floor loads of 300 lb. a sq. ft., owing to being constructed on joists and beams. This is a considerable handicap in handling freight, as the capacity of the shed is much reduced and therefore additional switching is necessary. At West St. John, shed 15 is considered to be the best from the point of view of railway working conditions. It is 80 ft. wide and 700 ft. long, with 3 tracks behind this shed, each holding 17 cars along the face of the shed. Only 2 tracks are used for unloading purposes at the same time. It is never found desirable to truck through more than one empty car. The third track is used for holding the next set up of cars for the face of the shed. Shed 16 is 90 x 750 ft. Although this is an excellent shed in most respects, it has the disadvantage of a limit of 300 lb. per sq. ft. in floor loading capacity. All of the modern sheds are equipped with continuous sliding doors on both sides.

The use of electric trucks for handling freight from cars to shed has been extensively adopted at West St. John. Last winter 26 trucks were in service. It has been found in practice there that an electric truck is economical for use as compared with hand trucking where the trucking distance is over 75 ft. Two sets of trucks are generally necessary, owing to the time required to charge them, which is about 6 to 8 hours. A truck will operate for about 12 hours with one charge. A double set of trucks is, of course, only required when working day and night shifts. An electric truck has approximately three times the capacity of a hand truck. It has also a number of uses, such as hauling heavy shipments across the floor of the shed when loaded on dollies.

At St. John only single deck sheds have so far been used for handling freight. The use of double deck sheds would appear to be desirable, although the extreme range of tide presents some difficulties.

With export freight loaded into the upper floor and import freight into the lower floor it should be quite feasible to handle freight without the use of hand cranes and using only the ships' derricks. The freight loaded into the upper floor from cars would be required to be raised by elevators and electrically trucked.

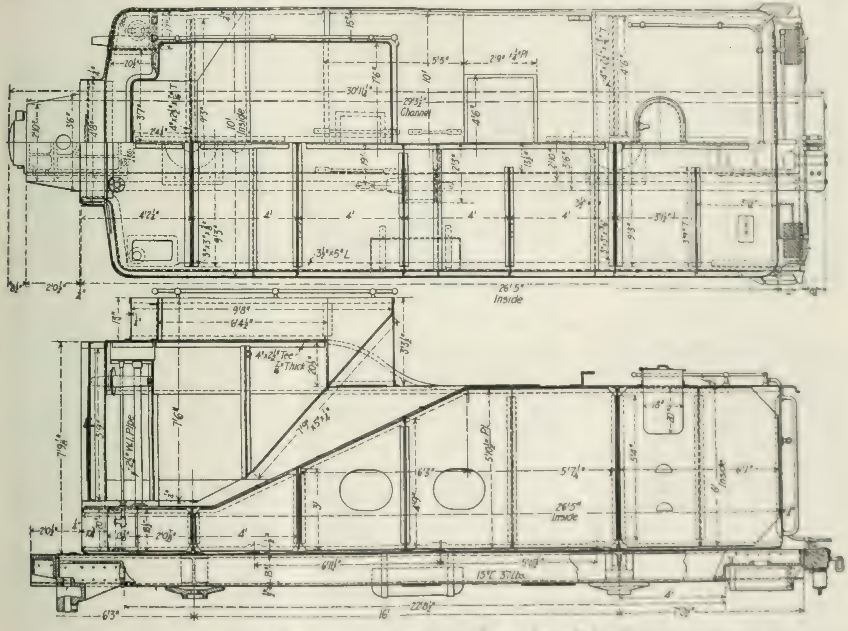
As a rough estimate of unloading export freight from cars, it is found at St. John that one car per hour is an average rate with general commodities and an average trucking distance of not more than about 75 ft. One gang of truckers, of 6 men and a checker, works each car.

One of the most recent improvements in railway facilities at West St. John is the erection of a 20,000 gall. conical bottom steel water tank. The water supply is received at about 60 lb. pressure from the city main and is regulated by an altitude governing valve on the intake main. The tank is provided with a 10 in. spout and also a 10 in. connection to a water standpipe. The tank is heated by a steam coil supplied from the elevator power house close by. The steam coil and water pipes are enclosed in a 6 ft. diameter steel cylinder underneath the bottom of the tank. This cylinder has not yet been provided with a frost-proof casing outside, as is the usual practice, and it is not the intention to use one as there is a better chance to keep the steel work properly painted without a casing. No trouble from frost has yet been experienced.

The foregoing paper was read before the Engineering Institute recently.

In connection with this article, the map of St. John harbor, published in Canadian Railway and Marine World for December, pg. 568, will be found of interest.

Canadian Pacific Railway Locomotive Tenders.



Canadian Pacific Railway Locomotive Tender. Plan and longitudinal section.

The C.P.R.'s standard locomotive tender, which for several years has been remarkable for a number of original ideas incorporated in its design, has recently undergone a number of modifications designed to promote both its utility and the safety of the engine and train crews working in connection therewith. As formerly constructed, the tender had a slope sheet at the usual angle which necessitated the use of a supplementary hinged sheet covering the upper half and arranged so as to permit of its being lifted by means of an air cylinder inside the water compartment when it was desired to throw the coal from the back part of the coal space forward to the shovel sheet. This form of coal passer has likewise been a standard feature of C.P.R. tenders for a number of years.

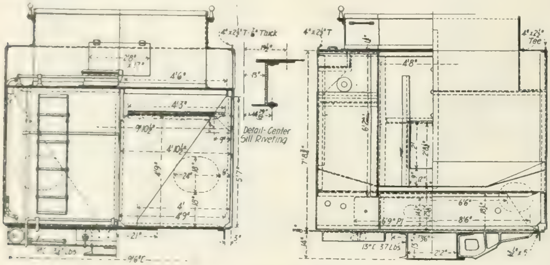
Without other modification to the tank portion of the tender, a new form of coal container has been applied, same having slope and bottom sheets independent of the tank with the former placed at an angle about 30 degrees steeper than formerly, the result being that coal automatically delivers itself at the shovel sheet and the coal passing arrangement has been dispensed with. This, of course, serves to diminish somewhat the coal carrying capacity of the tender, but the advantages gained through the elimination of the coal passer and the fact that quantities of fuel no longer remain dead in the coal space for indefinite periods of time are felt to be a full compensation for this seeming disadvantage.

The tanks of C.P.R. tenders are constructed with the idea of making them carry their own load without the assistance of a heavily constructed underframe. This is accomplished by dividing the water space longitudinally on the center line, and transversely over the [illegible], as well as at intermediate points, where it was originally designed to support the load of coal on the slope sheet, with plate diaphragms. These not only make of the tank a self supporting structure, but serve at the same time to reduce the surging of the contents and make the tender ride more smoothly. [illegible] diaphragms are large triangular gusset plates [illegible] the transverse diaphragms in their function of stiffening the structure. The [illegible]

[illegible] the diaphragms are cut off to simplify attachment and to permit of equalization of the contents in the several [illegible] of the tank, in addition [illegible] a series of 12 by 18 [illegible] in. above the bottom, which, in addition to serving the above purpose, also facilitate interior [illegible] and repairs. The well of the tank is placed just back of the rear [illegible] diaphragm and underneath the well the longitudinal diaphragm is so cut [illegible] as to serve the purpose of a ladder for entering the tank. This form of tank structure requires the minimum in the way of underframe construction, the latter consisting merely of a pair of 13 in. channels terminating in draft housings at either end and fitted with the [illegible] castings in the form of center-plates, bolster arms and filling pieces.

The tender is designed for application to locomotives having the vestibuled cab, a further standard feature of C.P.R. locomotive equipment. The coal gate is but 32½ x 24 in. in size, being cut into the otherwise solid plate front end of the coal hopper ,and is closed by means of a vertically operating steel plate slide. Through this relatively small gate, access to practically all portions of the shovel sheet is possible from the fireman's position of the firing deck.

This design of tender has been strongly commended because of the safety features incorporated in its construction. Prominent among these is the arrangement of the coal bunker, whereby it is not necessary for trainmen to climb over the coal pile in getting to the rear of the tender. This is accomplished by bringing in the top of the bunker a distance of 15 in. on either side, forming a runway of that width. A hand rail affords security to those having occasion to pass from front to rear or vice versa by [illegible]. Vertical hand rails are provided at the rear cornes immediately above corner steps, a further safety measure which is of especial value in switching. The frame extends beyond the end of the tank a sufficient distance to afford a platform on which to stand, there being a corrugated step plate near either end and a longitudinal hand rail across the back end of the tank at suitable height. Access to the top of the tank from the rear platform is had by means of [illegible] left-hand corner for that purpose ,and around the [illegible] the tank, at the rear, is still another hand rail for the safety of men having to climb over the back of the tender.—Railway Review.



Canadian Pacific Railway Locomotive Tender. Cross sections.

Programme for a Season's Track Work.

By M. Donahoe, Roadmaster, C. & A. Rd.

Spring.—No track should be tamped until the frost is all out of the ballast below the ties, other than in spots where the track is settled or frost heaved too much out of cross level or surface to safely carry and maintain gauge on frost shims between the rail and ties. Smoothing, lining track, removing frost shims, and tamping ties solid to the rail should be the track force's first spring work after the frost is out below the ties, gauging and tightening bolts to have been cared for during the winter months, other than it should be a fixed rule that wherever track is worked in the way of smoothing up, surfacing, renewing ties, etc., the bolts should be always tightened and protruding spikes driven to the rail.

Next in order for the foreman on outlying sections is to remove any and all obstructions to waterways through culverts and surface ditches parallel to track, to care for spring rains and freshets. Foremen in yards and yard sections have, in addition to their routine work, a considerable renewal of crossing plank in street and highway crossings, after being often times taken up and reset on account of being heaved up with winter's frost, snow and ice.

Next in order is tie renewals. Considerable can be said on the manner of handling and placing ties, without a waste of words. Many track foremen only consider digging out the old tie and placing a convenient new tie, spiking and tamping it to the rail. To be brief, if the season's ties are not received earlier than during winter months, they should be distributed along the track, as needed for renewals, except in cuts and high fills where they would obstruct waterways and roll down the slope of high hills. At such points they should be heaped at ends of such cuts and fills, thereby saving approximately a cent a tie to pile and two cents to truck and distribute for renewals later on. In spotting in ties in all kinds of ballast, the ballast bed should not be picked down or lowered any more than is absolutely necessary to fit the thickness of new tie to the surface of rail. In removing old tie, spring up the track rails one inch, or as much as can be raised by not permitting the kind of ballast at hand to run under the ties and hump the track. Ballast can best be trenched out one inch below bottom of old tie to be removed. Spring up rail one inch, drive old tie in trench and easily pull out.

The new tie should be chosen as to thickness and width for the space to be applied, using large or broad end ties under joints, a broad or narrow tie between the narrow and broad ties remaining in track as the case may be, also consider thickness of new tie with depth of trench remaining from old tie removed, proper spacing of ties to be reasonably maintained at all times. On curves requiring super-elevation for high speed trains, also carrying slow speed drag trains, the broad end of ties should be generally placed under inner rail of curve which has to carry the greater tonnage of the two rails. To save time of lining end of ties to rail, generally done by a mark on shovel handle or spike maul handle, a chalk line should be made on surface side of tie in advance of placing them in track.

When old ties for renewals are not marked for the foreman, the supervisor or roadmaster should make frequent inspections to know that each and every foreman is using good judgment in taking out old ties by considering the importance of the track in carrying tonnage and speed of trains as well as the condition and distribution of old ties under each rail, remembering that ordinarily on tangent track where there are two good sound ties, a poor tie will often do service between for a year or longer. It is good practice to accomplish all, or the greater percentage, of tie renewals during the spring work or early portion of the working season, except in track to be surfaced out of a face where the labor cost of tie renewal is a smaller item.

Summer.—Beginning summer maintenance, track surfacing should be well under way and nearly completed during the summer season. Broken stone and slag ballast track, to maintain good riding high speed track, should be surfaced two or more inches each third year to prevent track from becoming center bound. Provide a cushion of additional ballast under the ties and fork the ballast shoulder below bottom of ties to provide good drainage from ends of ties, preventing vegetation and maintaining a stone ballast cross section with as little ballast shoulder at ends of ties as will hold the track to line and prevent joint ties from skewing by rail creeping on one-way traffic, with the assistance of anti-rail creepers. This, of course, requires an additional application of new ballast.

On six mile sections a sufficient section force should be provided for during the working season to enable the foreman to surface two miles of track per year, which would surface the entire section every third year and would reduce the practice of trenching and spotting in ties in stone and slag ballast track each year. During the late spring and early summer season vegetation gets a good start, requiring a swath to be mowed on the dirt shoulder and outside the ballast line, and in some cases weeding out the ballast.

Mowing the right of way should be done systematically at a certain period according to localities. Some roads have to mow their right of way twice during a season. Right of way should be burnt off clean as soon as dry enough after being mowed, to prevent growth of weeds, rank vegetation, and damage by fire to adjoining property.

In localities where winter weather is

too severe to lay rail, it can best be done in the spring and summer seasons providing it is cared for by being surfaced and tie spaced, or else anchored before winter.

Autumn.—Some surfacing may be left over to be completed in the early autumn. On roads with small forces it is necessary that summer work begin early and end late in the fall. Next in order of autumn work is ditching, widening banks, building up dirt shoulder, etc. All surface ditches should be cleaned out, shaped up and deepened as may be necessary. Particular attention should be given to ditching and draining of ballast in cuts holding water where trouble is experienced from frost heaving track during winter months. Also provide good drainage about interlocking plants, switches, railroad crossings, street crossings, water cranes, etc. Sufficient ballast should be removed from between the ties to a depth of four or more inches, about all switches, spring rail frogs, guard rails, and all movable parts of track equipment, to have good working clearance for removal of frost, snow and ice as well as surface drainage. In busy yards there should be, if possible, a system of drainage from all switches to a catch basin where surface drainage cannot be very well maintained. It is also good practice to arrange the work so as to smooth up and line all outlying main track to the best possible condition just before the beginning of winter so as not to be compelled to do shimming and spike lining early in the winter, or after the first frost goes into the ballast, hindering tamping.

Winter.—Track work on outlying sections should consist generally of renewing bolts, spikes, gauging, and repairing and rebuilding of right of way fences, cutting and burning hedge, as weather conditions permit. Roads having much shimming to do during the winter, should provide track forces with shop made shims, ranging in thickness from ¼ to 1½ in. or more, spike bored to fit the different rail base sections. Where high shimming is necessary, say from ¾ to 1½ in. thick, the shim should be about 12 in. long, and shims from ½ to 3 in., which should be the limit in thickness of frost shims, other than for unusual conditions, should be 18 in. long, with holes bored for boat spikes, as well as rail spikes.

During winter months every road has an accumulation of cinders that should be distributed and unloaded on branch lines for ballast, building up shoulder, etc. In yards when the forces are not engaged at removing snow and ice, such work can be done as changing rail, adzing ties and turning in rail, applying tie plates and rail braces, renewing frogs and switches, changing angle bars, bolting, spiking, cleaning up at intervals when the ground is clear of snow or thawing, resetting crossing plank, flanging, and numerous other works.

In localities where the winter weather is reasonably mild, where there is not much snow or ice, new rail can be laid more economically during the winter by having a better class of well organized labor to do the work, thus giving an early start in the spring to surface and care for the new rail. It also helps to retain the track forces through the winter, and if careful attention is given to proper expansion and shimming over low ties, the rail can be laid and cared for as well as if done during the summer. Where rail creeps, apply anchors.

In localities where there is much snow during the winter, a good equipment and organization should be kept at suitable points and in first class condition for use. In addition to snow ploughs, flangers, etc., camp and commissary cars should be provided for the laborers. Section foremen and engineers should keep the dispatcher advised of local conditions along the line as to length and depth of drift accumulating so that the worst places can be given attention first.

After a heavy fall of snow commences to thaw, where practicable a trench should be cut through the snow in the ditches to provide easy outlet for the melting snow water, and not having it running at random on and across the track, but following the ditches. In yards where the snow fall is heavy, it is often necessary, and a good practice, to load the snow on flat cars and dispose of it at the nearest suitable place. In large terminals the melting of snow and ice from about switches and interlocking plants is gradually gaining favor and is a very good manner of removing sleet and snow from about switch points and interlocking movements. Yard forces have considerable lowering or opening up of small trenches to do to provide drainage from switches during the winter months, even though such trenching is done before winter.

Labor.—In accordance with the retrenchment policy in vogue on the average railway for some time past, such retrenchments consist almost entirely of uses of material and labor. It might be advantageous to establish some unit to measure the performance of section gangs, by having a system of performing certain work at a given period. Assuming the track conditions in general to be about the same, as should be, and if they are not they should be made so by the assistance of floating gangs, put it up to the section foreman to keep up his track systematically to the general average.

To secure the most efficient organization the maintenance forces should be nearly uniform throughout the year. This, of course, is not entirely practicable on all roads, or on parts of some roads, on account of winter weather conditions, but many of the more pronounced fluctuations in the forces as practiced on some railroads can be eliminated.

In the employment of men during the early spring, when the better or more choice of good track labor can be procured, the foreman should always endeavor to secure the most efficient and intelligent men possible. Generally, the native is the best laborer if he can be depended upon to remain through the harvest season, otherwise foreign labor had better be procured when the pick of such labor can be had during the early season. The employes who do not measure up to this standard should be eliminated from the service if a better class can be secured for the wages paid. One or more inefficient and incompetent men in a gang will often times influence the entire organization of that gang and possibly extend the detrimental influence to neighboring gangs.

The C.P.R. President's New Year's Greeting.—E. W. Beatty, K.C., President, C.P.R., sent the following message to officers and employes Dec. 31:—"I extend greetings and best wishes for the coming new year [illegible] in the history of Canada [illegible] Canada's problems."

The Canadian Railway War Board's Work.

Accident Reports.—The board has called the railways' attention to the Board of Railway Commissioners' general order 244, relative to reporting of certain classes of accidents to that board. Clause 4 of the order stipulates that railway employes affected shall be provided with a copy of paragraph 2 of the order, reading as follows:—

"2. That in the case of derailments, collisions, failure of locomotive boiler or any of its appurtenances, and highway crossing accidents attended by personal injury, and in the case of any damage to any bridge, culvert, viaduct, or tunnel so as to render the same impassable or unfit for immediate use, the conductors or other employes of every such company shall, at the expense of the company and at the same time they report to the company, send to the board, addressed to its Chief Operating Officer, a telegram containing the following information:—Date and place; name of railway; number and description of train or trains, locomotive or locomotives concerned; number of passengers, employes or others killed and injured; a short and concise statement of the apparent cause of the accident; name and title of person sending report."

Complaints have reached the Canadian Railway War Board that the instructions embodied in clause 4 of the order have not been complied with in some instances, and it is directed hereby that all railways subject to instructions from the Board of Railway Commissioners take the necessary action towards notifying their employes without delay.

Canadian Pacific Railway Construction, Betterments, Etc.

St. John, N.B., Facilities.—Lord Shaughnessy, Chairman of the Board; E. W. Beatty, President, and A. D. MacTier, Vice President, C.P.R., visited St. John, N.B., Dec. 6 and 7 and looked over the facilities at the port. A deputation representing the city council and the board of trade waited on them, and discussed a number of matters. President Beatty expects to make a longer visit to St. John in the near future, when matters at issue between the city and the company will be taken up.

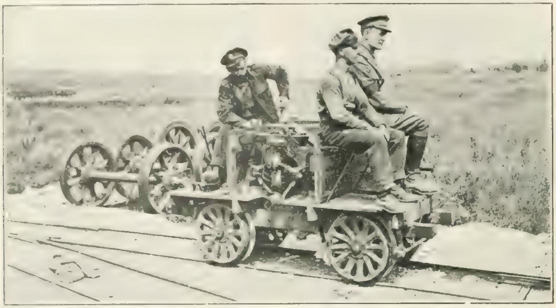
Leaside-North Toronto.—We are officially advised that the company laid, during 1918, two miles of second track on the line between Leaside and North Toronto. This piece of work was described in detail in Canadian Railway and Marine World for Sept., 1918, pg. 418.

Water Service at Regina.—A press report states that a second water tank is being built at Regina, Sask., alongside the existing tank, which will bring the water storage capacity at that point up to [illegible] gall. The pipe supply line between Pilot Butte and Regina is being put into first class condition. It is expected that this additional storage capacity will enable the company to supply all its requirements.

New Slip at Pier A, Vancouver.—A press report states that [illegible] an additional slip at Pier A, Vancouver, B.C., which is expected to cost [illegible], will be started in the near future. The present facilities [illegible] (Nov., 1918, pg. [illegible].)

Canadian Transportation Men, Engineers, Etc. in the War.

Canadian Engineers. The Canadian Sapper, the Canadian Engineers official magazine, published at Seaford, Sussex, Eng., had an article recently by Lt.-Col. T. V. Anderson, commanding the Canadian Engineers training depot there, from which the following extracts are taken: When in Canada the call for men first came in 1914, none came forward more readily than those suitable for the Canadian Engineers. At first, it was only proposed to send two field companies and one signal company with the 1st Canadian Division, but shortly before sailing a third field company was added. After a memorable voyage, the convoy reached Plymouth, and the troops went under canvas on Salisbury Plain towards the end of October. A very wet winter set in shortly afterwards, the camp became a regular sea of mud, and it was considered desirable to get the troops into huts as quickly as possible. The three field companies were, in consequence, employed for most of their period in England, on the construction of hutments in the vicinity, and were thus compelled to forego, until reaching the front, much of the technical training which they should have had.



The Mechanical Bug, on the British Western Front.
A "locomotive" made by Canadian Tramways Corps officers, aided by a corporal. The engine was from a motor cycle, the fly wheel from a once famous sugar refinery, and the belt from a mine-head, afterwards smashed by artillery fire. Canadian official photograph. Copyright reserved.

Canada had never before sent engineer units on active service, and, while the volunteers in their ranks were as fine a body of men as one could wish for, the majority—and this applied also to a number of the officers—had little conception of the services actually required of engineers in the field. If there were many within the C.E. units themselves not conversant with these requirements, there were few indeed of other branches of the service who had any appreciation of them whatever. So it fell to the lot of these pioneers of the Canadian Engineers not only to learn their own work under service conditions, but also to learn how this should be properly applied to the assistance of other arms in the field. That their methods of work should have been followed by the units which came later, speaks highly for the adaptability of these first companies.

When the engineers of the 1st Canadian Division proceeded to France in Feb., 1915, they left behind them only their base details, a mere handful of men, available as first reinforcements. Shortly afterwards, however, the C.E.T.D. a very small concern at first—was organized at Shorncliffe, with a nucleus of officers and men sent from Canada. With the 2nd Canadian Division came another signal company and three more field companies, formed in Canada and trained in England, which proceeded to France in Sept., 1915. Towards the end of the year the first two army troops companies, closely followed by the first two tunnelling companies, arrived also from Canada, and about this time the third tunnelling company was raised in France, the personnel being selected from the Canadian infantry units in the field. For a few months, towards the end of 1915, the Canadian field troop worked with the Canadian Corps. Its personnel was, however, entirely Royal Engineers. Now followed, in fairly quick succession, the formation of the engincer units required by the later divisions, together with more army troops companies. Thus we see how the Canadian Engineers in the field have grown from small to quite large numbers; and it has, of course, been necessary for the training depot to be increased in proportion.

In connection with the foregoing, we have received the following additional information. The Canadian Engineers in France were reorganized a few months ago, and the units were reinforced to battalion strength, with a corresponding step up in rank for all concerned. There are now three battalions of engineers, with a strength of 1,000 each, to a division, instead of three companies with a strength of 216 each as formerly.

The Timiskaming & Northern Ontario Railwaymen's Patriotic Association, up to Sept. 30, contributed $94,868.56 to the Canadian Red Cross Society and the Canadian Patriotic Fund.

PERSONAL NOTES.

Major C. A. Bell, of Toronto, formerly a mining engineer, who lost both legs at the opening of the battle of Amiens, has been awarded a bar to his military cross. He joined the Canadian Expeditionary Force, as a sapper in the Canadian Engineers, and obtained his majority recently. The official record of the act for which he received the bar to his cross is as follows:—"For conspicuous gallantry and devotion to duty during an attack. In spite of heavy shelling, he took his company across 'no man's land' and built a track into the enemy's territory. He was badly wounded in both legs and head, but the track, about two miles long, was ready for guns and transport in a wonderfully short time, and the success of the undertaking was due to his energy and fine example. M. C. gazetted Jan. 1, 1917."

Portion of Badly Shelled Track on the British Western Front in France.
British official photograph. Crown copyright reserved. Photograph loaned by C.P.R.

Gunner H. Brown, son of M. H. Brown, District Freight Agent, Ontario District, C.P.R., Toronto, is among the war prisoners released recently from Germany in accordance with the armistice terms. He enlisted in Sept., 1915, in the 34th Battery, and was taken prisoner at the battle of Zillebeke, June 2, 1916.

C. E. Goodman, formerly travelling

business representative, Canadian Railway and Marine World, who enlisted with the 1st Tank Battalion, C.E.F., and went overseas June 3, 1918, has sent us copies of the Tank Tatler, the battalion's newspaper. The October number details the origin of the tank battalions and the organization of the First, with its history.

Lt.-Col. A. M. Gordon, one of the Canadian army chaplains, who has been awarded the D.S.O. for gallant services, and who was Assistant Pastor of St. Andrews Presbyterian Church, Ottawa, before going overseas, is a brother of W. G. Gordon, Transportation Engineer, Canadian Electric Co., Toronto.

Lt.-Col. H. T. Hughes, C.M.G., R.C.E., was born in London, Eng., May 1, 1873; was articled to Alexander & Gibson, London, Ont., in 1893, was Assistant Engineer, C.P.R., 6½ years, and Assistant Engineer, Quebec & Lake St. John Ry. and Great Northern Ry. of Canada, 4 years. Admitted A.M. Canadian Society of Civil Engineers, 1899. Served in 8th Royal Rifles, Quebec, and 10th Q.O.C.H., Quebec, as Lieutenant. Received commission in R.C.E. in 1914, and served with the corps in Toronto, Halifax, Victoria, and Kingston. Camp engineer at Valcartier in 1914. Organized personnel for the C.E.T.D. and acted as O.C., C.E.T.D., England, until appointed C.R.E., 2nd Division. Proceeded to France, September, 1915. Appointed C.R.E., Corps Troops, May, 1917. Appointed Companion of the Order of St. Michael and St. George, June 3, 1916. Mentioned in dispatches, June 13, 1916, and Jan. 1, 1917.

Corporal A. Jackson, Canadian Railway Troops, has been awarded the Military Medal for conspicuous gallantry and devotion to duty while engaged on light railway patrol. Though slightly wounded, he, with a sapper, went to the assistance of a battery near his railway line, which had had its camouflage wood and sandbags ignited by heavy enemy shell fire, and after fighting the flames for half an hour under continuous shell fire, they smothered the fire. They then repaired the line, which had been damaged by shell fire, and re-railed the train. His fine devotion to duty saved the light railway train and much battery ammunition.

Brigadier-General W. Bethune Lindsay, C.M.G., D.S.O., R.C.E., was born at Strathroy, Ont., Nov. 3, 1880. Entered R.M.C., Kingston, Ont., 1897. Graduated 1900. Upon graduation, was appointed Assistant Engineer, Marine and Fisheries Department, Ottawa, from 1900 to 1904. Upon the organization of the R.C.E. in 1904, was gazetted Lieutenant, R.C.E., July 1, 1904; was Divisional Engineer, Military Districts 3 and 4, July, 1904, to Aug., 1905. From that time on he acted as Command Engineer or C.R.C.E. in most of the Canadian military districts. In 1914 he was C.R.C.E., district 10, and on the outbreak of war volunteered for service. Appointed O.C., Divisional Engineers, Valcartier, Aug., 1914, which was afterwards taken over by Brigadier-Gen. Armstrong. He then took command of the 2nd Field Company; was promoted Lieut.-Col. and C.R.E., 1st Canadian Division, Sept. 13, 1915; promoted Brigadier-General and Chief Engineer, Canadian Army Corps, Mar., 1916. Mentioned in dispatches Jan. 1 and 2, 1916; Jan. 1, 1917, and Jan. 1, 1918. Appointed C.M.G. June 2, 1916, and D.S.O. Jan. 1, 1918.

Col. C. Weldon McLean, D.S.O., with two bars, son of Brig.-Gen. H. H. McLean, M.P., K.C., formerly President, St. John, N.B., Railway, has been elected to the British House of Commons, for Brigg, Lancashire, as a supporter of the Unionist Government.

Lieut. J. G. Troup, of the Gordon Highlanders, and formerly in the Superintendent's office, C.P.R., Winnipeg, was among the Canadians decorated with the Military Cross, at Buckingham Palace, London, Eng., recently. He enlisted as a private in the 27th Battalion, and rose to the rank of sergeant, and on Sept. 23, 1915, was gazetted Second Lieutenant in the Gordon Highlanders, Imperial Army. He was wounded in Nov., 1916, and promoted to Lieutenant in Oct., 1917, and a month later was awarded the Military Cross, after which he was invalided to England.

Canadian Northern Railway Construction, Betterments, Etc.

St. Charles River Bridge.—Work on the cofferdams of the new Ste. Anne railway bridge on the St. Charles River at Quebec, is reported to be in progress, and it was expected everything would be in readiness to start the masonry work by Jan. 1. This is part of the work being carried out by Quinlan & Robertson for the Public Works Department. The bridge is used by the C.N.R.

Mount Royal Tunnel & Terminal Ry.—The Board of Railway Commissioners, Dec. 4, reserved its decision on the company's application for approval of transfer tracks and connections between its tracks and those of the Jacques Cartier Union Ry., a G.T.R. subsidiary.

Ottawa-Toronto Line.—Tenders were received to Dec. 14, for the removal of the present substructure of the bridge at the Trent River crossing at Glen Rose, mileage 43.5 on the Maynooth Subdivision, about 13 miles north of Trenton, Ont., and the construction in place thereof of 7 concrete piers. We were officially advised Dec. 18, that the contract will not be awarded for the present, it having been decided to carry the work over to the summer.

Ottawa-Port Arthur Line.—We are officially advised that a contract is about to be let for the erection of a steel bridge at mileage 147.4 on the Pembroke Subdivision, where the Little Madawaska River enters Trout Lake, 10 miles east of Brent, the divisional point in Algonquin Park. The two abutments are 15 ft. and 17 ft. high, respectively, and rest on a very hard, compact sand and gravel formation about 6 ft. below the river bed. The superstructure will consist of a 68 ft. through plate girder span. The existing structure is a 6 span pile trestle bridge. The new bridge is being built in line with the company's policy of replacing wooden structures with more permanent work, but its construction is being hastened owing to the fact the lumber companies wish to drive logs down the river in the spring, and the railway wants to give them a proper clearance for their drive.

Cherry St. Yards, Toronto.—We are officially advised that a contract, covering the grading for 3 additional team tracks of 500 ft. length, at the Cherry St. yards, Toronto, has been let to Verrochio and Costalloni, Toronto.

Fort William, Ont.—Construction is reported to be in progress on a platform for loading and unloading cattle, on property recently acquired off Vickers St., between Bethune and Cameron Streets.

Union Station for Port Arthur.—The Port Arthur, Board of Trade has been collecting information in connection with a project for the erection of a union station in that city, and is reported to have sent a memorandum on the subject to President D. B. Hanna. A deputation from the board of trade expects to arrange for an interview with the directors at Toronto on an early date.

Elrose Jct.-Alsask Branch Line.—Track has been laid this year westerly from Eston, the formal terminus of a branch 84.4 miles long from Elrose Jct., for about 40 miles, and in the new time table which came in operation at the end of October provision was made for operating a train service on 20 miles of the new mileage. The stations are as follows: Snipe Lake, mileage 90.9; Madison, mileage 97.6; Glidden, mileage 104. Track laying is reported to have been completed to mileage 121. We were officially advised at the end of June (see Canadian Railway and Marine World, July, pg. 293), that it was intended to extend this line during this year from Easton 43 miles to Alsask, where the Saskatoon-Calgary lines cross the Saskatchewan-Alberta boundary.

Hanna-Medicine Hat Extension.—Grading is reported to have been completed on this line for about 40 miles, to within a few miles of the Red Deer River. The construction programme for 1918 as detailed in Canadian Railway and Marine World for July, pg. 293, set out that some grading had then been completed out of Hanna, and that an additional 47 miles would be done during 1918, carrying the work up to the Red Deer River. The contractor for the grading is W. A. Dunton, Winnipeg. An unconfirmed report says that tracklaying is expected to be gone on with during the winter.

Oliver-St. Paul de Metis Line.—Ballasting is reported to have been completed to mileage 22 from Oliver, and ballast is reported to have been distributed on the remaining 22 miles of right of way, on which track has been laid. The bridge at Waskatenow Creek is reported to have been completed and a water tank built. Beyond mileage 44, bridging and other work is reported to be in progress to mileage 100, to which point the grading had been practically completed prior to 1918.

President D. B. Hanna's Message to Canadian National Railways' Employes.

D. B. Hanna, President, Canadian National Railways, issued the following circular Dec. 24: "As a first official greeting to all employes of the Canadian National Railways, this Christmas message is to wish for you and yours the realization of peace and good will. With the new year close at hand, which we enter under such changed conditions, it is opportune to ask your co-operation in making a success of government owned railways in the wider field which the combined system now covers. Our duties to this end should be regarded as a public trust. Our aim must be efficient transportation service which [illegible] can only be achieved through the loyal support of all employes. At this time we are getting back some of those who have so well represented Canada on Flanders fields. Those who return to our service are welcome. It should hardly be necessary to say to our employes that when travelling on our cars returned soldiers should be treated with all consideration and respect, and that their journey should be made as comfortable as possible for them; also that information as to returning soldiers should be handled with special care and thought of the great importance of such information to those personally concerned."

Government Control of United States Railways.

President Wilson, in addressing the U.S. Congress at Washington, Dec. 2, said, among other things:—

"The question which causes me the greatest concern is the question of the policy to be adopted towards the railways. I frankly turn to you for counsel upon it. I have no confident judgment of my own. I do not see how any thoughtful man can have who knows anything of the complexity of the problem. It is a problem which must be studied, studied immediately, and studied without bias or prejudice. Nothing can be gained by becoming partisans of any particular plan of settlement.

It was necessary that the administration of the railways should be taken over by the government so long as the war lasted. It would have been impossible otherwise to establish and carry through under a single direction the necessary priorities of shipment. It would have been impossible otherwise to combine maximum production at the factories and mines and farms, with the maximum possible car supply to take the products to the ports and markets; impossible to route troop shipments and freight shipments without regard to the advantage or disadvantage of the roads employed; impossible to subordinate, when necessary, all questions of convenience to the public necessity; impossible to give the necessary financial support to the roads from the public treasury. But all these necessities have now been served, and the question is, what is best for the railroads and for the public in the future.

"Exceptional circumstances and exceptional methods of administration were not needed to convince us that the railways were not equal to the immense tasks of transportation imposed upon them by the rapid and continuous development of the industries of the country. We knew that already. And we knew that they were unequal to it partly because their full co-operation was rendered impossible by law and their competition made obligatory, so that it has been impossible to assign to them severally the traffic which could best be carried by their respective lines in the interest of expedition and national economy.

"We may hope, I believe, for the formal conclusion of the war by treaty by the time spring has come. The 21 months to which the present control of the railways is limited after formal declaration of peace shall have been made will run at the farthest, I take it for granted, only to Jan., 1921. The full equipment of the railways which the federal administration had planned could not be completed within any such period. The present law does not permit the use of the revenues of the several roads for the execution of such plans, except by formal contract with their directors, some of whom will consent while some will not, and therefore does not afford sufficient authority to undertake improvements upon the scale upon which it would be necessary to undertake them. Every approach to this difficult subject-matter of decision brings us face to face, therefore, with this unanswered question: What is it right that we should do with the railroads, in the interest of the public and in fairness to their owners?

"Let me say at once that I have no answer ready. The only thing that is perfectly clear to me is that it is not fair either to the public or to the owners of the railways to leave the question unanswered and that it will presently become my duty to relinquish control of the roads, even before the expiration of the statutory period, unless there should appear some clear prospect in the meantime of a legislative solution. Their release would at least produce one element of a solution, namely, certainty and a quick stimulation of private initiative.

"I believe that it will be serviceable for me to set forth as explicitly as possible the alternative courses that lie open to our choice. We can simply release the roads and go back to the old conditions of private management, unrestricted competition, and multiform regulation by both state and federal authorities; or we can go to the opposite extreme and establish complete government control, accompanied, if necessary, by actual government ownership; or we can adopt an intermediate course of modified private control, under a more unified and affirmative public regulation and under such alterations of the law as will permit wasteful competition to be avoided and a considerable degree of unification of administration to be effected, as, for example, by regional corporations under which the railways of definable areas would be in effect combined in single systems.

"The one conclusion that I am ready to state with confidence is that it would be a disservice alike to the country and to the owners of the railways to return to the old conditions unmodified. Those are conditions of restraint without development. There is nothing affirmative or helpful about them. What the country chiefly needs is that all its means of transportation should be developed, its railways, its waterways, its highways, and its countryside roads. Some new element of policy, therefore, is absolutely necessary—necessary for the service of the public, necessary for the release of credit to those who are administering the railways, necessary for the protection of their security holders. The old policy may be changed much or little, but surely it cannot wisely be left as it was. I hope that the Congress will have a complete and impartial study of the whole problem instituted at once and prosecuted as rapidly as possible. I stand ready and anxious to release the roads from the present control and I must do so at a very early date if by waiting until the statutory limit of time is reached I shall be merely prolonging the period of doubt and uncertainty which is hurtful to every interest concerned."

Director General McAdoo Favors Continued Government Control.

Shortly after President Wilson had addressed Congress, as quoted above, W. G. McAdoo, Director General of U.S. Railroads, wrote the chairman of the Senate Committee on Interstate Commerce, and the chairman of the House of Representatives Committee on Interstate and Foreign Commerce, maintaining that it would be impossible to obtain legislation during the present session of Congress providing a permanent solution of the railway problem, and that it would be impracticable and opposed to public interest to attempt private operation of the roads under the present laws. In speaking of the carrying out of necessary improvements in the national railway system, Mr. McAdoo said: "The period of two years is entirely too short a time within which to plan and carry out the comprehensive improvements which ought to be made to meet the country's requirements under peace conditions. Many of the improvements could hardly be completed and put into operation inside of the two-year period and under such circumstances and facing a change to private management at the end of two years it would be unwise in the highest degree to make the improvements and impossible to secure the hearty co-operation of the railway corporations." He emphasized the alleged inadequacy of present legislation with respect to the division of authority over railway corporations between state and federal commissions as an important argument against the return of the roads to private control in the near future.

The Railway Companies Case.

At a meeting of the Railway Executives' Advisory Committee in New York Dec. 4, resolutions were passed advocating restoration of the railways to private corporations, opposition to government ownership, acceptance of the principle of "reasonable, responsible and adequate governmental regulation," adherence during the remaining period of federal control to a policy of preparing the carriers for the readjustment, and provision by Congress of a system of governmental regulation, which, while safeguarding the public, will be uniform, businesslike and empowered to deal equitably with wage and labor conditions. Representatives were present from practically all of the big trunk lines of the country.

At the close of the meeting T. De Witt Cuyler, chairman of the committee, issued a statement which, in part, follows: "Today's meeting showed that the railway companies want a readjustment which will give the best possible system of transportation to the country. They neither expect nor wish to escape adequate responsible public regulation. They want a relation between rates, wages and dividends which will stimulate business, adequately reward labor and attract the volume of new capital needed for expansion. They want, therefore, regulation which is helpful and constructive, as well as corrective."

On Dec. 12, the railway executives representing 125 roads and 92% of the mileage of the country, gave out a formal statement in which they declared that Director-General McAdoo's suggestion that the government retain control of the railroads until Jan., 1924, "would simply lead to delay and confusion, demoralization of the organization of the roads both on their corporate and operating side and defer indefinitely a satisfactory settlement" of the railway problem. The executive, the statement said, have reached the conclusion that "there is sufficient time under the term of the present act, to fully consider the railway situation in all its aspects and arrive at a plan that would be just to the country."

Travellers' Aid Work at Railway Stations.—In connection with the holding of a tag day in Montreal, Dec. 14, in aid of the Travellers' Aid Committee's work, A. D. MacTier, Vice President, C.P.R., writing to Mrs. E. E. Latter, representing the committee in that city, expressed his appreciation, after several years observation of the work done, of all that the women who were on duty to receive and advise travellers at the stations were doing, and expressed the hope that the work would be extended.

Canadian Northern Railway Directors' Inspection of Canadian Government Railways.

As stated in Canadian Railway and Marine World for December, D. B. Hanna, President, left Toronto, Nov. 26, for a trip over the C.G.R. in Quebec, the Maritime Provinces and Eastern Ontario, accompanied by most of the other directors, viz.: A. J. Mitchell, Vice President; Major Graham A. Bell, C.M.G., acting Deputy Minister of Railways and Canals; Robt. Hobson, Hamilton, Ont., and R. T. Riley, Winnipeg. Other directors joined them en route, viz.: A. P. Barnhill, K.C., of St. John, N.B., at Ottawa; Sir Hormisdas Laporte, at Montreal, and Thos. Cantley, of New Glasgow, N.S., farther down the line. The party also comprised M. H. MacLeod, Vice President, Operation, Maintenance and Construction; and R. P. Ormsby, Secretary, C.N.R. S. J. Hungerford, Assistant Vice President, accompanied the party to Quebec, and F. P. Brady, General Manager, Eastern Lines, joined them at Montreal. Division and other local officials joined the party en route, travelling through their respective jurisdictions.

The party travelled by a special train of official cars and a baggage car. From Toronto they went to Ottawa by C.N.R., thence to Montreal by G.T.R., leaving there Nov. 27 at 2.30 p.m. for Montreal, where they were entertained to dinner at the St. James Club. They left Montreal that night by I.R.C. and on arriving at Chaudiere the train was stopped for some time. Early on the morning of Sept. 28 they went over the Quebec bridge and the N.T.R., to Quebec, arriving there at 11 a.m. They left Quebec that afternoon, reaching Riviere du Loup at 11 p.m., where they stayed the balance of the night, leaving there Sept. 29 at 10 a.m., and going on to Chatham, where they spent the night. Chatham was left on the morning of Sept. 30 and Moncton reached at noon, where they spent the balance of that day and Sunday, Dec. 1, until 7.45 p.m., when they left for Cape Tormentine. On Dec. 2 they left Cape Tormentine by the car ferry steamship Prince Edward Island, arriving at Borden, P.E.I., at 8.30 a.m., and visiting Summerside and Charlottetown, leaving the latter place at 4 p.m. and arriving back at Cape Tormentine at 7.45 p.m., leaving at once for New Glasgow, which was reached Dec. 3 at 4 a.m. They left New Glasgow the same day at 2 p.m., stopped over at Mulgrave and Point Tupper, and reached North Sydney at 8.45 p.m., staying there all night. On Dec. 4 they visited Sydney Mines and Sydney, leaving the latter place at 7.30 p.m., and arriving at Halifax, Dec. 5, at 7.25 a.m. They left Halifax the same day at 10 p.m., arrived at St. John, N.B., Dec. 6, at 6.25 a.m. and left there at midnight for Fredericton, which was left on Dec. 7 at 11.25 a.m., Montreal being reached Dec. 8 at 7.30 a.m., and the party stayed there that night and the following day, looking over the tunnel, terminals and other property. Montreal was left Dec. 9 at midnight via C.N.R. for Ottawa, where Dec. 10 was spent until 4 p.m., when they left for Toronto, arriving there during the night.

The party spent some time at the Quebec bridge, making an inspection of the structure, and the yards on both sides of the river, and immediately on reaching Quebec Mr. Hanna had a conference with the mayor. Among the questions discussed were the running of I.R.C. trains over the bridge into Quebec, and the opening of the National Transcontinental Ry. St. Malo shops, and the mayor stated that he was preparing a memorandum on the needs of Quebec in connection with the N.T.R. and the terms of the contract entered into between the Dominion Government and the city. Subsequently the party inspected the Louise docks, the C.P.R. terminal facilities at the Palais station, the Canadian Northern Ry. and Quebec & Lake St. John Ry. terminals, and the site of the proposed new union station. The Quebec Harbor Commissioners entertained the party at luncheon at the Chateau Frontenac.

The memorandum referred to by the mayor, and which was forwarded to Mr. Hanna subsequently, asked that the obligations of the contract of August, 1910, under which the city gave $2,000,000 of river frontage to the Dominion Government, be fulfilled. These obligations are that the principal workshops of the system be located in the city. The St. Malo shops were erected at a cost of $2,000,000 and are capable of employing 1,500 men. They have not been put in operation, and the rolling stock is being hauled 1,350 miles to Winnipeg for repairs. The contract also calls for the expenditure of $2,000,000 on the St. Lawrence waterfront in Champlain Ward, including deep water dock frontage, storehouses and other terminals, towards providing which nothing has been done. The city would also like to have carried out the obligation to take a share of the grain trade of the west to the port; the provision of new rolling stock on the line to Winnipeg; the establishment of direct ocean passenger and mail traffic to and from Quebec; the establishment of passenger traffic over Quebec bridge and the consideration of the Champlain market property question.

At Moncton, N.B., after an inspection of the Canadian Government Railways general offices, representatives of the city council and board of trade were received by the directorate in the general offices. A number of points were brought up for consideration, among them being the question of the removal of the general offices and various officials from Moncton; the rumored cutting down of the shop staffs, the question of a second track between Moncton and Halifax, and the rumored direction of traffic to St. John, via McGivney Jct. Mr. Hanna, in reply, pointed out that the directors were making their first official trip over the eastern lines to see things for themselves, and to hear all that could be said at the various centers, so that they might be able to formulate a policy. There was not the slightest intention of removing any of the shops from Moncton, but as to what office changes, or what departments if any, would be moved, he could not say, but nothing would be done without full consideration. It is the directors' intention to manage the system entirely free from any political influence whatever. In connection with the management of such a vast system as the Canadian National Railways, it is necessary to have central offices somewhere, and these [illegible] Toronto.

Thos. Cantley, one of the directors, and President of the Nova Scotia Steel & Coal Co., said that in his opinion the building of certain portions of the National Transcontinental Ry. was an act of [illegible] folly that was almost criminal. If the money that had been expended on the eastern portion of that line had been expended on double tracking the I.R.C., there would be no need of resolutions calling for that work now. Sir Hormisdas Laporte, R. Hobson, A. P. Barnhill, K.C., R. T. Riley, G. A. Bell and A. J. Mitchell, other directors, also spoke, as well as F. P. Brady, General Manager, Eastern Lines.

At Cape Tormentine, N.B., and at Port Borden, P.E.I., the directors looked over the car ferry terminals, and subsequently inspected the work in progress in laying a third track on certain of the lines on the island, to provide for the operation of standard gauge rolling stock. Civic and other deputations were received at Charlottetown, and representations made as to the people's needs in regard to railway accommodation.

After having inspected the lines and terminals on Cape Breton Island together with the car ferry terminals on both sides of the Strait of Canso, which separates the island from the mainland of Nova Scotia, the party reached Halifax, Dec. 5, and had a conference with the city council and board of trade. Mr. [illegible] brought up the question of differential rates; the mayor raised the question of the Y on the track on Kempt Road, Fairview, and the matter of the building of a new passenger station at the ocean terminals; H. R. Silver dealt with the matter of adequate facilities for the storage of products, and A. H. Whitman raised the question of warehousing. Mr. Hanna, in reply, stated that the Fairview crossing was a question of engineering and would receive attention. The other matters would also receive full consideration; but there was so much to do in connection with the whole system that it was not always possible to deal with the interests of any one section just as the people of that particular section might desire. A resolution in favor of double tracking passed by the board of trade was put in by G. F. Pearson, and matters connected with an elevator system were raised by A. H. Whitman. After luncheon, the directors made a thorough inspection of the ocean terminals, and the work in progress there, and then visited Dartmouth.

At St. John, N.B., the party visited the St. John Drydock & Shipbuilding Co.'s works at Courtenay Bay, and the site of the proposed drydock, and discussed the railway facilities required in connection with the same. Then they had a conference with the mayor, the city commissioners, the board of trade and other representative men. A memorandum was presented by the board of trade, containing among other matters, the necessity for a general development of the harbor in order that the ocean carrying trade [illegible], and it was suggested that this could be done by the appointment of a Dominion Harbor Commission. Closer connection with the National Transcontinental Ry. by a route via McGivney Jct. was suggested, also a more extended system of government railway terminals at the west side of the port, a new railway passenger station, increased warehouses for freight, [illegible] trackage extensions, and an improved passenger [illegible]. Mr. Hanna replied in general terms, pointing out that the directors were making a [illegible] eral inspection of the whole system, in order to gather information before adopting any policy or plans. The directors had to consider what was essential for the operation of the entire system, and for the development of the trade of the Dominion. Subsequently the party looked over the new elevator, and visited the railway properties in the city. After luncheon with the mayor at the Union Club, they left for Fredericton.

At Fredericton, on Dec. 7, the directors received a civic and trade delegation, which discussed the question of a union station for the city, a new railway bridge across the river in the city, the suggested McGivney Jct. connection with the National Transcontinental Ry., and the provision of a connection between the St. John & Quebec Ry. west of Fredericton with the railways in Maine. The party left Fredericton about noon for Montreal via McGivney Jct. and the National Transcontinental Ry. to Levis.

The provision of a direct connection between the National Transcontinental Ry. and St. John, N.B., has been agitated ever since the project for building the line was made public. After considerable discussion, plans were made in 1909 for building the St. John & Quebec Ry. from Grand Falls to St. John, but the building of the northern section from Centerville to Grand Falls is at present in abeyance, and the section south of Gagetown has been diverted to a connection with the C.P.R. at Westfield. In this way the purpose of building the St. John & Quebec Ry. has been defeated, as it has no connection with the National Transcontinental Ry., and does not enter St. John. The most recent proposal is to provide such a route via McGivney Jct., which is at mileage 79 on the old Canada Eastern Ry., running between Newcastle and Fredericton, and at mileage 96 from Moncton on the National Transcontinental Ry. The proposition is that export freight be diverted from the N.T.R. at McGivney Jct., taken over the old Canada Eastern line into Fredericton, thence over the St. John & Quebec Ry. and the C.P.R. into St. John.

Steel Rails for Canadian Railways.

We are officially advised that up to Dec. 10, the Dominion Iron & Steel Co., Sydney, N.S., had rolled 113,661 tons of steel rails out of the 225,000 tons first ordered by the Dominion Government, and that 102,723 tons had been shipped to railways as follows:—

	First quality	Second quality
Canadian Cement Co.	[illegible]	...
Canadian Government Railways	[illegible]	[illegible]
Canadian Northern Ry.	[illegible]	2,519
Canadian Pacific Ry.	[illegible]	[illegible]
Grand Trunk Ry.	17,276	2,108
Toronto, Hamilton & Buffalo Ry.	663	33
Total	91,463	11,260

C.P.R. Tie Reserve.—A deal has been concluded whereby the C.P.R. adds more than 17 square miles of timber to its tie reserve, between the town of Yahk and the International Boundary, in British Columbia. The company already owned 86 square miles of this timber, but in order to develop it to advantage, it was necessary to acquire an additional acreage, which was held by the King Lumber Co., of Cranbrook, of which Hon. J. H. King, Minister of Public Works for British Columbia, is the President. It is estimated that the timber in the tie reserve [illegible]

The St. John & Quebec Railway Situation.

The Premier of New Brunswick on his return to Fredericton, N.B., recently from a conference of the premiers of the different provinces with the Dominion Government, gave out a statement as to what had transpired. Among the important questions discussed in which the province is interested was the future of the St. John & Quebec Ry., or as it is more commonly called in New Brunswick, the St. John Valley Ry. The premier stated that the New Brunswick Government's request was that the Dominion Government, in formulating its railway policy for the future, should take over this line from the province and incorporate the ownership, as well as the operation, with the Canadian National Railways. As explained in documents handed to the Dominion Government, and in a letter published over the signature of E. S. Carter, Secretary St. John & Quebec Ry., the position is as follows:—

The present project for the construction of a railway down the St. John River Valley, from Grand Falls to St. John, was promoted in 1909 by the business men of the various towns. The people wanted a direct connection with the National Transcontinental Ry. at Grand Falls, so that traffic from the west could be taken to St. John. The negotiations with the Dominion Government resulted in the making of an agreement under which the province was to guarantee the bonds of a constructing company for $25,000 a mile and the Dominion Government was to operate the line for 60% of the receipts. The necessary legislation was passed and the St. John & Quebec Ry. Co. was formed by A. E. Gould and his associates to build the line, their project including some lines in addition to those for which the government guaranteed bonds. The plans for the line as surveyed and approved by the Dominion Government provided for the construction of two large bridges across the St. John's and the Kennebecasis Rivers, for which the Dominion Government voted substantial subsidies, in addition to a subsidy at the usual rate for the railway mileage. Upon the faith of that contract the New Brunswick Government guaranteed the company's bonds, and upon the strength of that guarantee $4,250,000 was borrowed for construction purposes. In 1912 the Dominion Government cancelled the subsidy voted for the construction of the line for the mileage between Grand Falls and Andover, and subsequently the bridge proposals were held up.

The constructed line runs from Centerville through Fredericton to Gagetown, and the extension from Gagetown to a connection with the C.P.R. at Westfield is under construction. This construction has all been carried out on the National Transcontinental Ry. standard by the New Brunswick Government, upon the Gould company's failure to carry out its contract. There remains in a trust company's hands the proportion of the money borrowed on the strength of the guaranteed bonds, for the construction of the Centerville-Grand Falls section of the line, and the balance of the portion available for the Gagetown-Westfield line. The province is paying about $170,000 interest, in addition to providing funds to carry on construction. It is contended that this liability was undertaken upon the strength of the Dominion being a partner in the concern, and of the National Transcontinental Ry. connection, which would have meant traffic for the line. Seeing that this connection is not being provided, and considering the heavy cost of construction (undertaken in view of the promise of that connection), the province contends that the Dominion Government ought to take over the line and relieve the province of all liability. Another argument put forward is, that the Dominion Government, in taking over the Canadian Northern Ry. and allied lines, has relieved several provincial governments of liability under their guarantees.

Steam Railway Track Laid in 1918.

A table of new track laid in 1918 by steam railways throughout Canada, made up from official replies to Canadian Railway and Marine World's annual circular, is given below. The total is 121.32 miles of new track, against 230.16 miles of new track laid in 1917. The new mileage was laid by five railways, the largest being by the Canadian Northern Ry., viz., 45.14 miles. With the exception of 4.18 miles of track laid on the Grand Trunk Pacific Ry. to secure an entrance into Saskatoon over the C.P.R., the whole of the track laid during the year was on lines owned by the Dominion Government, the New Brunswick Government, and the British Columbia Government. The distribution of the track laid by provinces was: British Columbia, 50 miles; New Brunswick, 32; Saskatchewan, 27.15; Quebec, 10; Alberta, 2.17.

	Miles.	Miles.
Canadian Northern Ry.		
Moose Jaw terminals to Grand Trunk Pacific Ry., Sask.	1.31	
Glidden to mileage 122.88, Sask.	21.66	
Hanna towards Medicine Hat, Alta.	2.17	
Glen Lake to mileage 30, Malahat district Vancouver Island, B.C.	20.00	
		45.14
Grand Trunk Pacific Ry.		
Duro to Enger, Sask.	3.23	
Harfeld to Yorath, Sask.	0.95	
		4.18
Pacific Great Eastern Ry.		
From 12 miles north of Clinton, B.C., for 30 miles north		30.00
Quebec & Saguenay Ry.		
Mileage 15 from Cap Tormentine to Baie St. Paul, mileage 25		10.00
St. John & Quebec Ry.		
Queenstown to Westfield, N.B.		32.00
Total		121.32

During 1917, the Essex Terminal Ry. laid 10 miles of track, connecting the quarries yard at Windsor with the steel works at Ojibway, of which we were not advised in time for inclusion in the table for that year.

The C.P.R. reconstructed 2 miles of track between Leaside Jct. and North Toronto, during 1918.

Workmen's Compensation Board of New Brunswick.—The Lieutenant-Governor has approved of regulations made by the Workmen's Compensation Board for the province. The first regulation distributes into seven classes the various industries affected by the act. Transportation interests come under the following classes:—Class 3—steel shipbuilding and repairing; car shops. Class 5—wooden ships. Class 6—excavation, construction and operation of electric railways; electric power lines and appliances; construction of telegraphs and telephones. Class 7—stevedoring; pile driving, and subaqueous construction; operation of steam railways and navigation.

Immediately on the signing of the armistice between the allied powers and Germany, there was considerable congestion of telegraphic business, and all cable business from the general public was refused for some time. After a few days the business became practically normal, and public messages were again handled.

Transportation Appointments Throughout Canada.

Canadian National Railways, Canadian Government Rys., Canadian Northern Ry.

LORNE W. MITCHELL, Treasurer, Canadian Northern Ry. and allied transportation companies, has resigned, on being appointed Head Auditor, T. Eaton Co., Ltd., Toronto.

EUGENE ERNEST FAIRWEATHER, M.A., LL.B., heretofore Departmental Solicitor, Railways and Canals Department, Ottawa, has been appointed Assistant Counsel, Canadian National Rys. Office, Ottawa.

H. F. ALWARD, heretofore General Solicitor and General Claims Agent, Canadian Government Rys., Moncton, N.B., has been appointed General Solicitor, Canadian National Rys. Office, Montreal.

ARCHIBALD J. REID, K.C., and REGINALD H. M. TEMPLE, heretofore Assistant Solicitors, Canadian Northern Ry., Toronto, have been appointed General Solicitors, Canadian National Rys. Office, Toronto.

LOUIS LAVOIE, heretofore Purchasing Agent, C. G. Rys., Railway Department, Ottawa, who has been appointed Assistant General Purchasing Agent, Canadian National Rys., will remove from Ottawa to Toronto, Jan. 1, with 10 other members of the staff.

GEO. H. SHAW, General Traffic Manager, Canadian Northern Ry., Toronto, having resigned, and D. A. STORY, Freight Traffic Manager, Canadian Government Rys., Moncton, N.B., having retired, GEO. STEPHEN, heretofore Freight Traffic Manager, Western Lines, Canadian Northern Ry., Winnipeg, has been appointed Freight Traffic Manager, Canadian National Rys., Toronto, and H. H. MELANSON, heretofore Passenger Traffic Manager, Canadian Government Rys., Moncton, N.B., has been appointed Passenger Traffic Manager, Canadian National Rys. Office, Toronto.

A. T. WELDON, heretofore General Freight Agent, C.G.R., Moncton, N.B., has been appointed Assistant Freight Traffic Manager, Canadian National Rys., Matapedia, Que., and Edmundston, N.B., and east thereof. Office, Moncton, N.B.

GUY TOMBS, heretofore Assistant Freight Traffic Manager, Canadian Northern Ry., Montreal, has been appointed Assistant Freight Traffic Manager, Canadian National Rys. lines west of Matapedia, Que., and Edmundston, N.B., to, but not including, Port Arthur and Armstrong, Ont. Office, Montreal.

W. G. MANDERS, heretofore General Freight Agent, Western Lines, Canadian Northern Ry., has been appointed Assistant Freight Traffic Manager, Canadian National Rys. lines, Port Arthur and Armstrong, Ont., Duluth, Minn., and west thereof. Office, Winnipeg.

J. M. HORN, heretofore Assistant General Freight Agent, Western Lines, Canadian Northern Ry., has been appointed General Freight Agent, Canadian National Rys., lines Port Arthur and Armstrong, Ont., Duluth, Minn., and west thereof. Office, Winnipeg.

J. M. MACRAE has been appointed Assistant General Freight Agent, Canadian National Rys., lines Port Arthur and Armstrong, Ont., Duluth, Minn., and west thereof. Office, Winnipeg.

A. BROSTEDT, heretofore District Freight and Passenger Agent, Canadian Northern Ry., Vancouver, B.C., has been appointed Assistant General Freight and Passenger Agent, British Columbia Lines, Canadian National Rys. Office, Vancouver, B.C.

R. L. FAIRBAIRN, heretofore General Passenger Agent, Eastern Lines, Canadian Northern Ry., Toronto, has been appointed General Passenger Agent, Canadian National Rys., lines in Quebec and westerly to Port Arthur and Armstrong, Ont. Office, Toronto.

R. CREELMAN, heretofore General Passenger Agent, Western Lines, Canadian Northern Ry., Winnipeg, has been appointed Assistant Passenger Traffic Manager, Canadian National Rys., Port Arthur and Armstrong, Ont., Duluth, Minn., and west thereof. Office, Winnipeg.

OSBORNE SCOTT, heretofore Assistant General Passenger Agent, Western Lines, Canadian Northern Ry., Winnipeg, has been appointed General Passenger Agent, Canadian National Rys., lines Port Arthur and Armstrong, Ont., Duluth, Minn., and west thereof. Office, Winnipeg.

W. L. STITT has been appointed Inspector of Sleeping, Dining and Parlor Cars, Eastern Lines, Canadian National Rys. Office, Toronto.

F. L. CLARKE, who has recently been discharged from military service, has resumed his position as Inspector, Sleeping and Dining Car and News Service, Canadian National Rys., Winnipeg.

W. A. KINGSLAND, heretofore General Superintendent, Quebec Lines, Canadian Northern Ry., has been appointed Assistant General Manager, Canadian Northern Ry., lines east of Port Arthur, Ont., and C.G.R., lines west of O'Brien, Que. Office, Montreal.

L. S. BROWN, heretofore General Superintendent, Eastern Lines, C.G.R., Moncton, has been appointed General Superintendent, Maritime Division, Canadian National Rys., which consist of and including Mont Joli, Que., and Halifax

J. E. Morazain,
General Superintendent, Quebec Division, Eastern Lines, Canadian National Railways.

R. L. Fairbairn,
General Passenger Agent, Quebec Lines and west to Port Arthur, Ont., Canadian National Railways.

J. P. Driscoll,
General Superintendent, [illegible], Canadian National Railways.

and Southwestern Ry. Office, Moncton, N.B.

JAS. BAIN, heretofore General Superintendent, Halifax & Southwestern Ry., has been appointed Superintendent, H. & S.W.R., reporting to L. S. Brown, General Superintendent, Canadian National Rys., Moncton. Office, Bridgewater, N.S.

J. E. MORAZAIN, heretofore Superintendent, Montreal-Mont Joli District, C.G.R., Levis, Que., has been appointed General Superintendent, Quebec Division, Canadian National Rys., embracing C.G.R. lines between Mont Joli and Montreal, Pacific Jct. and O'Brien, Que., including O'Brien, and all Canadian Northern lines east of Ottawa, north of the St. Lawrence River. Office, Quebec, Que.

W. C. Blake,
Divisional Accountant, Canadian National Railways, Winnipeg.

W. J. ATKINSON, heretofore Assistant Superintendent, District 1, Intercolonial Division, C.G.R., Levis, Que., has been appointed Superintendent, District 5, Quebec Division, Canadian National Rys., vice E. L. Desjardins, transferred. Office, Edmundston, N.B.

W. F. SAWYER, heretofore agent and station master, C.G.R., Levis, Que., has been appointed Assistant Superintendent, District 5, Quebec Division, Canadian National Rys., vice F. Griffin, transferred. Office, Edmundston, N.B.

E. L. DESJARDINS, heretofore Superintendent, District 5, Intercolonial Division, C.G.R., Edmundston, N.B., has been appointed Superintendent, District 1, Quebec Division, Canadian National Rys., vice J. E. Morazain, promoted. Office, Levis, Que.

F. GRIFFIN, heretofore Assistant Superintendent, District 5, Intercolonial Division, C.G.R., Edmundston, N.B., has been appointed Assistant Superintendent, District 1, Quebec Division, Canadian National Rys., vice W. J. Atkinson, transferred. Office, Levis, Que.

J. GRAHAM, heretofore Superintendent, Locomotive Shops, Canadian Government Railways, Moncton, N.B., has been appointed Superintendent, Motive Power and Car Shops, Canadian National Railways, Moncton, N.B.

F. W. HARTSHORN has been appointed Assistant Superintendent, Montreal Division, Quebec District, Canadian National Rys. Office, Joliette, Que.

Following are the officials of the Maintenance of Way Department, with their territory:—

Bridge and Building Department—Toronto Division—O. KERR, Bridge and Building Supervisor, Rosedale, Toronto.

Ottawa Division and Brent Terminal to milepost 1, North Bay Subdivision—P. McGINTY, Bridge and Building Supervisor, Ottawa, Ont.

Nipissing Division, excluding Brent Terminal, but including Foleyet Terminal to milepost 1, Oba Subdivision—F. McKAY, Bridge and Building Supervisor, Capreol, Ont.

A. Wilcox,
General Superintendent, Central District, Canadian Northern Ry., and Canadian Government Railways west of O'Brien, Que.

Superior Division—W. J. COUGHLIN, Bridge and Building Supervisor, Hornepayne, Ont.

Track Department—Toronto Division—Muskoka Subdivision, from mileage 4.5 to north end Bowes St. bridge, Parry Sound, Duncan cutoff to C.P.R. connection and Orillia Subdivision—E. MYERS, Roadmaster, Rosedale, Toronto.

Trenton Subdivision, to mileage 103 and Toronto Terminals, including Leaside—W. M. JACKLIN, Roadmaster, Rosedale, Toronto.

Maynooth and Irondale Subdivisions—D. McDONALD, Roadmaster, Trenton, Ont.

Ottawa Division—Picton Subdivision—Trenton Terminals to mileage 103 on Trenton Subdivision and to heels of east and west frogs of Y; Tweed and Rideau Subdivisions, from Trenton to west switch of crossover at Harrowsmith—G. ROSEBUSH, Roadmaster, Trenton, Ont.

Brockville and Rideau Subdivisions, from east switch of crossover at Harrowsmith to Hurdman, including Ottawa Terminals, to milepost 1, Pembroke Subdivision—O. OGDEN, Roadmaster, Ottawa.

Pembroke Subdivision, from milepost 1 westerly, and Brent Terminal to milepost 1 on North Bay Subdivision—W. H. HENDERSON, Roadmaster, Pembroke, Ont.

Nipissing Division—North Bay Subdivision, from milepost 1 westerly, and Capreol Terminals to south and west yard limit boards—T. BROWN, Roadmaster, Capreol, Ont.

Sudbury Subdivision, from Bowes St., Parry Sound, to south yard limit board, Capreol, and Sudbury and Parry Sound Terminals—E. HAYSTEAD, Roadmaster, Capreol, Ont.

Ruel Subdivision, from west yard limit board, Capreol, westerly and Foleyet Terminals to milepost 1, Oba Subdivision—P. VICKS, Roadmaster, Capreol, Ont.

Superior Division—Oba Subdivision, from milepost 1 westerly and Hornepayne Terminal to milepost 1, Long Lake Subdivision—R. FURGUSON, Roadmaster, Hornepayne, Ont.

A. T. Weldon,
Assistant Freight Traffic Manager, Canadian National Railways.

Long Lake Subdivision, from milepost 1 to east yard limit board, Jellicoe—J. McMAHON, Roadmaster, Hornepayne, Ont.

Nipigon Subdivision, westerly to mileage 141.6, and Jellicoe Terminal to east yard limit board—G. S. WARNER, Roadmaster, Jellicoe, Ont.

C. MARTIN, heretofore Roadmaster, Canadian Northern Ry., Yarker, Ont., has been transferred to Bancroft, Ont., as sec-

The grouping of the Ontario District Subdivisions has been rearranged as follows:—

Toronto Division (449.6 miles)—C. L. HARRIS, Superintendent, Rosedale; L. W. BULLER, Assistant Superintendent, Rosedale: Muskoka, Maynooth, Orillia, Trenton, Irondale Subdivisions, and Toronto Terminals.

Ottawa Division (451.6 miles)—W. R. KELLY, Superintendent, Ottawa; P. H. FOX, Assistant Superintendent, Trenton: Pembroke, Tweed, Brockville, Rideau, Picton, Kingston Subdivisions, and Trenton and Ottawa Terminals.

Nipissing Division (442.8 miles)—G. A.

Agent, Toronto, has been transferred to HOAG, Superintendent, Capreol; A. H. CAVANAGH, Assistant Superintendent, Capreol: North Bay, Sudbury, Ruel Subdivisions, and Sudbury, Parry Sound, Brent and Foleyet Terminals.

Superior Division (446.5 miles)—G. N. GOAD, Superintendent, Hornepayne: Oba, Nipigon, and Long Lake Subdivisions.

W. F. HEFLIN has been appointed Chief Dispatcher, Canadian National Rys., Capreol, Ont., vice J. B. Smith, assigned to other duties.

J. R. CAMERON, Assistant General Manager, Western Lines, Canadian Northern Ry., has had his jurisdiction extended to include all Canadian Government Railways lines west of O'Brien, Que. Office, Winnipeg.

A. WILCOX, General Superintendent, Central District, Canadian Northern Ry., has had his jurisdiction extended to include all Canadian Government Railways lines west of O'Brien, Que. Office, Winnipeg.

A. T. FRASER, heretofore Division Engineer, Canadian Northern Ry., Edmonton, Alta., has been appointed Chief Engineer, Western Lines, Canadian National Rys. Office, Winnipeg.

B. T. CHAPPELL, heretofore Superintendent, Pacific District, Western Lines, Canadian Northern Ry., Vancouver, is reported to have been appointed General Superintendent, Prairie District, Western Lines, Canadian National Rys., with office at Saskatoon, Sask.

H. R. ARTHUR, heretofore Inspector of Transportation, Vancouver, has been appointed acting Superintendent, Pacific District, Western Lines, Canadian National Rys., in place of B. T. Chappell, Superintendent, Vancouver, who is reported to have been promoted to the Prairie District. Office, Kamloops Jct., B.C.

G. E. SMART, heretofore Superintendent of Car Department, C.G.R., Moncton, N.B., has been appointed General Master Car Builder, Canadian National Rys., with jurisdiction over all lines. Office, Toronto.

W. U. APPLETON, heretofore Superintendent of Car Department, C.G.R., Moncton, N.B., has been appointed Mechanical Superintendent, with jurisdiction over Motive Power and Car Departments, Eastern Lines, Canadian National Rys. Office, Moncton, N.B.

C. E. McCOY, heretofore Assistant Superintendent, Car Department, C.G.R., Moncton, N.B., has been appointed Master Car Builder, Eastern Lines, Canadian National Rys. Office, Moncton, N.B.

T. MADDEN, heretofore General Foreman, Car Shops, C.G.R., Moncton, N.B., has been appointed Assistant Superintendent of Shops, Car Department, Eastern Lines, Canadian National Rys. Office, Moncton, N.B.

H. W. SHARPE has been appointed Master Mechanic, Quebec District, Eastern Lines, Canadian National Rys. Office, Quebec, Que.

E. G. THEOBOLD, heretofore Car Foreman, Canadian Northern Ry., Joliette, Que., has been appointed District Car Foreman, Quebec District, Canadian National Rys. Office, Quebec, Que.

T. C. HUDSON, heretofore Master Mechanic, Quebec District, Canadian Northern Ry., Joliette, Que., has been appointed General Master Mechanic, Eastern Lines, Canadian National Rys. Office, Montreal.

HUGH CAMERON, Mechanical Engineer, Canadian Northern Ry., Toronto, has resigned to enter the Robinson Con-

F. BARNARD has been appointed A-nector Co.'s service at Montreal.

A. H. EAGER, heretofore Assistant Superintendent of Rolling Stock, Western Lines, Canadian Northern Ry., Winnipeg, has been appointed Mechanical Superintendent in charge of Locomotive and Car Departments, Western Lines, Canadian National Rys. Office, Winnipeg.

A. McCOWAN, heretofore Supervisor of Car Work, Canadian Northern Ry., Winnipeg, is reported to have been appointed Master Car Builder, Western Lines, Canadian National Rys., at Winnipeg.

W. C. BLAKE, heretofore chief clerk to General Auditor, Canadian Northern Ry., Winnipeg, has been appointed Divisional Accountant, Canadian National Rys. Office, Winnipeg.

Major F. L. C. Bond,
Chief Engineer, Grand Trunk Railway.

A. E. MACDONALD has been appointed acting Superintendent, Division 1, Western District, Canadian National Rys., vice W. E. Roberts, transferred. Office, Dauphin, Man.

W. E. ROBERTS, hereotfore Superintendent, Division 1, Western District, Canadian Northern Ry., Dauphin, Man., has been appointed Superintendent, Division 3, Western District, Canadian National Railways, vice M. Helston, assigned to other duties. Office, Edmonton, Alta.

HUGH SUTHERLAND, Executive Agent, Canadian Northern Ry., Winnipeg, has resigned.

Canadian Pacific Ry.—W. N. TILLEY, K.C., Toronto, has been appointed Consulting Counsel.

W. M. THOMPSON, heretofore Superintendent of Traffic, Eastern Lines, C.P.R. Telegraphs, Montreal, has been appointed Superintendent of Telegraphs, Eastern Division, Montreal.

J. MITCHELL has been appointed Superintendent of Traffic, Eastern Lines, C.P.R. Telegraphs, Montreal, vice W. M. Thompson, promoted.

W. D. NEIL, heretofore Superintendent of Telegraphs, Eastern Division, Montreal, has been appointed Superintendent of Telegraphs, Ontario Division, vice C. D. Leggitt, transferred to the Operating Department. Office, Toronto.

L. B. H. CLARKE has been appointed Assistant Superintendent, Brownville Division, New Brunswick District. Office, McAdam, N.B.

W. WELLS, heretofore Division Master Mechanic, Farnham Division, Quebec District, Farnham, has been appointed Night General Foreman, Locomotive Shop, Angus shops, Montreal.

J. C. BROWNE, heretofore Freight [illegible] the duties of inspecting stations.

R. BARNWELL, heretofore Assistant Purchasing Agent, Winnipeg, has been appointed General Tie Agent, Western Lines, Winnipeg.

Canadian Pacific Ocean Services, Ltd.—C. E. BENJAMIN, heretofore General Passenger Agent, Trans-Pacific Lines, Montreal, has been appointed Passenger Traffic Manager, in full charge of passenger services on Atlantic and Pacific Oceans. Office, Montreal.

Grand Trunk Ry.—W. J. BEYERS, conductor, is reported to have been appointed General Yardmaster, Coteau, Que., vice C. C. McCullough, transferred.

J. S. McADAM, heretofore Chief Dispatcher, Ottawa Division, Ottawa, Ont., has been appointed Trainmaster, Districts 31 and 32, with office at Madawaska, Ont.

W. E. WEEGAR, Trainmaster, District 30, Ottawa, Ont., has had his jurisdiction extended to include Ottawa Terminals.

H. E. LANDON, dispatcher, has been appointed Chief Dispatcher, Ottawa Division, Ottawa, Ont., vice J. S. McAdam, promoted.

C. C. McCULLOUGH, heretofore General Yardmaster, Coteau, Que., has been appointed General Yardmaster, Ottawa, Ont., vice A. B. McNaughton, resigned to go to G.T.R. lines in New England.

E. S. COOPER has been appointed Trainmaster, District 4, Montreal, vice W. J. Nixon, transferred.

W. J. NIXON, heretofore Trainmaster, District 4, Montreal, has been appointed Trainmaster, District 5. Office, Brockville, Ont.

A. R. HANNAFORD, heretofore of the Engineering Department, Toronto, has been appointed Assistant Engineer, Hamilton Division, Ontario Lines, vice James Boyd, deceased. Office, Hamilton, Ont.

The Montreal Division has been extended to include territory from the west yard limit board at Turcot, Que., to the west yard limit board at Brockville, Ont. All matters pertaining to District 5 and Brockville terminal, formerly addressed to J. D. McMILLAN, Superintendent, Belleville, Ont., are addressed to J. J. CONNOLLY, Superintendent, Montreal.

Grand Trunk Ry. Lines in New England.—A. B. McNAUGHTON, General Yardmaster, G.T.R., Ottawa, Ont., has been appointed Superintendent, G.T.R. Lines in New England, under the U.S. Railroad Administration, with office at Island Pond, Vt.

Grand Trunk Pacific Ry.—F. HACKING, heretofore General Car Foreman, has been appointed Master Car Builder, and his former position has been abolished. Office, Transcona, Man.

D. CHIVERS, heretofore Car Foreman, Watrous, Sask., has been appointed Car Foreman, Biggar, Sask., vice H. F. Bell, assigned to other duties.

R. LAING, heretofore Assistant Car Foreman, Melville, Sask., has been appointed Car Foreman, Watrous, Sask., vice D. Chivers, transferred.

F. CLARK has been appointed Locomotive Foreman, Melville, Sask., vice A. J. Bell, resigned.

[illegible] Melville, Sask., vice [illegible].

[illegible], Assistant Superintendent, [illegible], Sask., has had his office [illegible] to Saskatoon, Sask.

Pere Marquette Ry.—S. J. BOYLE, [illegible] Trainmaster, Detroit, Mich., [illegible] Trainmaster, St. Thomas, Ont.

H. PLASTOW, heretofore dispatcher, has been appointed Night Chief Dispatcher, St. Thomas, Ont.

W. F. THOMPSON, heretofore yard conductor, has been appointed Night Yardmaster, St. Thomas, Ont.

Toronto Union Station.—W. VAUGHAN, Assistant to Superintendent, has been appointed acting Superintendent, during the absence on leave for three months, of J. J. BECK.

Railway Rolling Stock Orders and Deliveries.

[illegible] International Nickel Co., Copper Cliff, Ont., has received 116 specially de[illegible] service cars from Canadian Car & Foundry Co.

The National Steel Car Co. has shipped [illegible] to Canadian Government Railways, 244 box cars, and has also shipped 4 [illegible] cars and 65 coal hopper cars, in knock down shape, for the Bengal Nagpur Ry., India.

The Canadian Northern Ry. received the following additions to rolling stock, during Nov., 1918, ordered by the Dominion Government: 707 steel frame box cars, 40 tons capacity, from Canadian Car & Foundry Co., and 118 ballast cars, 50 tons capacity, from Eastern Car Co.

Canadian Government Railways received the following rolling stock during Nov., 1918: 73 coal cars, 50 tons capacity, and 9 flat cars, 40 tons capacity, from Eastern Car Co.; 20 remodelled box cars, 30 tons capacity, converted to heater cars, from Canadian Car & Foundry Co.; and 1 ballast car, 50 tons capacity, from C.G.R. Transcona shops.

The G.T.R. has received 13 Mikado locomotives from Canadian Locomotive Co., which were built under order from the Dominion Government. Following are the chief details:—

[illegible]	213,500 lb.
W[illegible]	283,000 lb.
W[illegible] engine, rigid	16 ft. 6 in.
W[illegible] engine, total	35 ft. 1 in.
W[illegible] engine and tender	68 ft.
H[illegible]	242 sq. ft.
H[illegible] tubes	3,398 sq. ft.
H[illegible] total	3,640 sq. ft.
[illegible]	63 in.
J[illegible]	11 x 20 in.
[illegible]	10 x 20 in.
Cylinders, diar. and stroke	27 x 30 in.
[illegible]	Extended wagon top, radial stay
[illegible]	180 lb.
[illegible]	[illegible] to 2 in.; 32 [illegible] in.
[illegible]	20 ft.
[illegible]	56.5 sq. ft.
[illegible] loaded	166,000 lb.
[illegible]city	9,000 U.S. gall.
[illegible]	12 tons
[illegible]	Water bottom, with vestibule connections
T[illegible] diar	34 in.
[illegible]	6 x 11 in.
[illegible]	High speed, M.C.B. heads
[illegible]	Locomotive Superheater Co.
[illegible]	Tate Flexible
[illegible]	Walschaert
[illegible]	Franklin
[illegible]	McCord
[illegible]	Simplex
[illegible]	Westinghouse ET 6

The Canadian National Railways management, at Toronto, has placed several [illegible] for rolling stock recently, has [illegible] for tenders for more, and is prepared to ask for further tenders. The [illegible] placed already, and those under [illegible]tion, will total about $20,000,000. The following orders have been given:

Canadian Car & Foundry Co., Montreal, [illegible] colonist cars; Pullman Co., Chicago, [illegible] cars. The management was [illegible] of ordering all the colonist cars [illegible] early delivery could not be given by Canadian car builders, a third of the order was given to the Pullman Co. These cars will have the following dimensions:

Length over end sills	73 ft. 6 in.
Length between truck centers	57 ft. 6 in.
Length over buffers about	82 ft. 4½ in.

They will have 16 sections each, and smoking room compartment. Special attention has been given in the designing of these cars to provide suitable accommodation for handling troops. The interior layout conforms to the latest Board of Railway Commissioners and Interstate Commerce Commission's recommendations. The exterior will be of steel, and the interior of wood. They will be equipped with 6-wheel trucks, with the latest type of clasp brake, and will be lit by electricity.

Canadian Car & Foundry Co., Montreal, 20 baggage cars, with the following general dimensions:

Length over end sills	73 ft. 6 in.
Length between truck centers	57 ft. 6 in.

The interior layout will conform to the latest Board of Railway Commissioners and Interstate Commerce Commission's recommendations. The exterior will be of steel and the interior of wood. A double board floor will be provided, with slats, for handling fish. The underframe and trucks will be the same as for the colonist cars referred to above. They will be equipped with the heaviest type of friction brake, specially designed for heavy train service.

Preston Car & Coach Co., Preston, Ont., 25 cabooses, Canadian Northern Ry. standard, and the following general dimensions:

Length over all	35 ft. 2 in.
Length over end sills	30 ft. 0 in.
Outside width	9 ft. 3 in.

The C.N.R. management has also asked for tenders for 12 sleeping cars, 6 dining cars, 150 refrigerator cars, 750 box cars, 500 stock cars, 750 coal cars, 250 ballast cars and 500 flat cars.

The C.N.R. management is also considering asking tenders for about 50 locomotives, probably 25 Pacific type, and 25 either consolidation or switching.

The Canadian National Railways Inaugurated.

The following order in council was passed at Ottawa Dec. 20:—"Whereas the Minister of Railways and Canals reports that by the order in council dated Nov. 20, 1918 (P.C. 2654), the persons, from time to time comprising the board of directors of the Canadian Northern Ry. (which controls and operates the Canadian Northern Ry. System) were appointed a board of management of the Canadian Government Railways; That, as a matter of convenience in connection with the operation of both systems under one management, the use of one name as a collective or descriptive title for both systems is highly desirable, and refers to the established use of the term Canadian Northern Ry. System as a descriptive (but not corporative) title for all lines of railway owned or controlled by the Canadian Northern Ry. Co., and also to the use of the name Canadian Government Railways, which is also merely one of description; That the use of such a title is a mere matter of description for convenience of reference and does not create a new legal corporate entity, or affect in any manner whatsoever the legal status or the rights or obligations of the individual corporations collectively so denoted.

"Therefore His Excellency the Governor General in council doth hereby order and direct the board of directors aforementioned to use as a collective or descriptive designation the name Canadian National Railways, in lieu of the names Canadian Northern Ry. System, and Canadian Government Railways, wherever such last mentioned names are or may be at present used (including, without restricting the generality of the aforegoing, all operated and traffic forms) in respect of the whole of the lines of railway and railway properties controlled or operated by the board; provided that deeds, leases, agreements, and documents of all kinds requiring execution under seal shall continue to be drawn and executed under the respective corporate names of the corporations (including the Crown), owing or entitled to the properties affected thereby, and that nothing in this order shall be taken to restrict or enlarge or otherwise affect the liability of such respective corporations for any of their respective acts or omissions, the corporate entity in each case being preserved and the rights and liabilities remaining the same as heretofore, notwithstanding the use of the collective or descriptive designation herein ordered."

D. B. Hanna, President, issued the following circular Jan. 1:—"Effective this date, the railways heretofore known as the following, viz.: Canadian Northern Ry. System, Eastern and Western Lines; Canadian Government Railways, National Transcontinental Ry., Intercolonial Ry. of Canada, Prince Edward Island Ry., will be operated under the name of the Canadian National Railways, the headquarters of which will be in Toronto. In operating and corresponding, officers of any of the above mentioned railways will in future use the name Canadian National Railways. We shall be obliged if in future the public and our connections will address their communications and reports to the proper officers of the Canadian National Railways."

A Freight Damage Suit.—The Boston & Maine Rd., and the Grand Trunk Ry. were defendants in an action brought in a Quebec court recently by J. Ratskowski to recover $2,062.27 damages to 6 bales of goods in transit from Boston, Mass., to Montreal. In the Superior Court, at the original hearing, the action was dismissed as against both companies. An appeal was taken and judgment was given in the Court of Review, Nov. 29, confirming the lower court's judgment insofar as the G.T.R. was concerned, but holding the Boston & Maine Rd. liable for the amount claimed, with costs in both courts. The railway company undertook to deliver the goods in Montreal, the court held, in the condition in which it received them. The lower court held that the plaintiff could not recover because he had not affirmatively proved that the bales were in good condition when shipped, but the railway company's receipt was to the effect that it received them "in apparent good order and condition." If the company wished to avoid its liability, it must affirmatively prove that the goods were in a damaged condition when received.

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NOTICE TO ADVERTISERS.

ADVERTISING RATES furnished on application.

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Cash Payment for Railway Transportation.

In connection with the circular ordering cash payment for railway transportation charges, published on page 5 of this issue, the Canadian Railway War Board issued the following additional circular Dec. 12, to Canadian railways:—

In order that railway employes may have as complete an understanding as possible of what is required of them in carrying out regulations calling for cash settlement of transportation charges, the following instructions (with such changes in form as may be necessary to meet local conditions) are suggested for issuance to employes concerned:—

Instructions relative to the collection of transportation charges, issued by the Canadian Railway War Board, become effective on Jan. 1, 1919, and copy of such instructions are incorporated as a part hereof, for the information and guidance of all concerned.

A sufficient supply of the instructions will be sent to all agents to enable them to transmit a copy to each credit patron at their station. Application blanks and form of bond prescribed will be furnished by agent's or vice president's (finance) office to all patrons who may be entitled to a credit of not exceeding 96 hours, as called for in paragraph 2 of the board's instructions, which should be executed and delivered to the freight agent at the point where credit is desired, the application to be recommended by the agent, and the bond and application forwarded to the vice president (finance).

Where credit is desired at more than one station, a separate bond must be taken for each station.

Upon receipt of advice from vice president (finance) that parties desiring credit have filed with him a satisfactory bond, 96 hours credit may be allowed. The 96 hour credit period begins from the time freight is received by the railway company, in the case of forwarded freight, or the time of delivery, as defined in supplement 1 to circular 86, in the case of received freight.

As the intent of the instruction is to have all business conducted on a cash basis, the 96 hour privilege should not be applied for, except in cases where settlement cannot be made otherwise.

At points where there are no banking facilities, or where firms have no accounting office, an arrangement can be made, subject to approval of vice president (finance), whereby firms' representatives may settle by giving railway agent a sight draft on such firm. These drafts, when duly authorized, can be remitted (with expense bills attached if required) to treasury department, as cash.

These instructions automatically cancel all present credit arrangements, including authorized transfers to audit office of bills for collection at midnight, Dec. 31, 1918.

Agents must without fail at once notify the vice president (finance) when any firm or individual granted credit defaults in payment of charges due, and will cancel the credit privilege in each case in accordance with the board's circular 86, rule 2.

In the event of default in payment of transportation charges within the credit period, and unless settlement is promptly made thereafter, the vice president will take immediate steps to realize upon the bond of the individual or firm which has not made settlement.

Premiums on all bonds and all expenses incident thereto, shall be borne by the applicant to whom the accommodation is granted.

Bonds given to cover credit accommodation shall not include liability for the delivery of freight consigned to "order notify" prior to surrender of original bill of lading; bonds for such bill of lading transaction must be given as provided for in the board's instructions.

The foregoing instructions and the board's instructions must be carefully studied by all concerned and receipt acknowledged to the [illegible] of agencies.

When the foregoing instructions and those on an earlier page of this issue were made public, J. E. Walsh, Manager Transportation Department, Canadian Manufacturers Association, arranged for a conference between representatives of the association and of the railways, at which the new regulations were protested against, and as a result the Canadian Railway War Board issued telegraphic instructions to the railways postponing the effective date of the regulations to March 1. The regulations will be further considered by a committee of the Canadian Manufacturers Association, and it is expected that they will be modified in certain particulars.

Electric Railway Lines Acquired by Canadian Northern Railway.

The Toronto Suburban Ry., which operates 10.26 miles of lines on streets and highways in the western portion of Toronto and in the town of Weston, and two interurban lines on private right of way, one from Weston to Woodbridge, 11 miles; and one from Lambton to Guelph, 46.3 miles, a total of 67.56 miles, and which is controlled by Sir Wm. Mackenzie and associates, is being acquired by the Canadian Northern Ry. and will be operated as part of the Canadian National Railways.

The Canadian Northern Ry. is also acquiring the Toronto Eastern Ry. Co.'s charter and other property, which are also controlled by Sir Wm. Mackenzie and associates. This line is projected to run from Toronto to Cobourg, Ont. A contract was let and construction started in 1914, grading being done from Bowmanville west to Pickering Village, 19.5 miles, and track was laid and ballasting done from Bowmanville to Whitby, 11.2 miles. No overhead or other electrical work was done and, owing to the war, all construction was stopped.

The Chatham, Wallaceburg & Lake Erie Ry., also controlled by Sir Wm. Mackenzie and associates, will not, it is said, be taken over by the Canadian Northern. Its Toronto offices, heretofore in one of the C.N.R. buildings in Toronto, have been removed to 4[illegible] Victoria St.

The Board of Railway Commissioners passed order [illegible], Nov. 19, re order [illegible], Aug. 11, 1918, which suspended until further order item [illegible] in supplement [illegible] to E. C. Airy's tariff C.R.C. [illegible], and continuing in effect item [illegible] in supplement 4 to tariff C.R.C. [illegible], covering the arrangement whereby fish in carloads is carried by express at [illegible] weight from Edmonton, Alta., to U.S. points, and after hearing the matter at Edmonton, the Express Traffic Association of Canada being represented, and on the report of the Board's Chief Traffic Officer, it ordered that order [illegible], Aug. 11, 1918, be rescinded.

Nationalization of British Railways.

Conditions of Government Control During War.—The following summary of the conditions under which the government took control of the railways on the outbreak of war, will be of interest. It was prepared by the U.S. Railroad Wage Commission and submitted to the Director General of U.S. Railroads last spring, with a recommendation that U.S. railway employes wages be increased.

The legislation under which the British Government was empowered to assume control of the railway systems of the country was in existence many years before the beginning of the war. The Civil War in the United States had shown the value of railways for military purposes; and the Franco-Prussian war proved conclusively that railways were absolutely essential to the conduct of all military operations. The lesson of this war was immediately recognized by Great Britain, and in 1871 the Regulation of the Forces Act was passed. Although minor legislation had previously been enacted as to the regulation of the railways to military needs, and although a small number of relatively unimportant laws were subsequently passed, the Regulation of the Forces Act of 1871 was the fundamental legislation which provided for government control of railways for military purposes. Sec. 16 of this act authorized the government, in any emergency in which it might be expedient that the government have control over the railroads of the United Kingdom, to empower any person or persons to take possession of any railway in the United Kingdom and of the plant belonging thereto, or of any part thereof; and it was under the provisions of this section of the act that on Aug. 4, 1914, the King, by order in council, declared that the government was to assume control of the railways in Great Britain, this control to be "exercised through an executive committee, composed of general managers of railways, which has been formed for some time, and has prepared plans with a view to facilitating the working of these provisions of the act." Since the outbreak of the war orders have been issued under this existing pre-war legislation, but no additional legislation has been necessary, and the railways have been administered for the government, but not by the government, through a railway executive committee, the organization and composition of which was provided by this pre-war legislation. This committee is made up of the general managers of 14 railways, representing about three-fourths of the entire steam railway mileage in Great Britain. The members of this committee, however, have also continued to act as general managers of their own systems, the general personnel of each railway has been retained as far as possible, and the routine of operation has proceeded along much the same lines as before the outbreak of hostilities.

The act of 1871 provided that government control should remain in force for one week at a time only, but could be prolonged from week to week so long as the emergency continued, so that in practice it has been necessary to renew each week the order by which government control was established.

In regard to the financial questions involved in the establishment of government control, sec. 16 of the Regulation of the Forces Act of 1871 contained the following provisions: "There shall be paid to any person or body of persons whose railway or plant may be taken possession of in pursuance of this section, out of moneys to be provided by parliament, such full compensation for any loss or injury they may have sustained by the exercise of the powers of the Secretary of State under this section as may be agreed upon between the said Secretary of State and the said person or body of persons, or, in case of difference, may be settled by arbitration."

Compensation to the railways.—To determine the compensation which these provisions stipulated was to be paid to the railways in case of government control, it was not necessary to resort to arbitration, the basis of compensation being fixed by a mutual agreement between the government and the railways. According to the terms of this agreement, the railways placed their organizations unreservedly at the command of the military authorities, for the transportation of troops and of military equipment and supplies, and further provided that military traffic should be given priority over all other traffic. It was agreed that he government would not pay the railways for any military traffic, as such; but the government agreed to pay each railway monthly an amount which would be sufficient to bring its net income for the period to an amount equal to the net income for the corresponding period of the calendar year 1913—that is, the government guaranteed to maintain the net income of each road at the same amount as in 1913, a year in which the net income of the railways was the greatest ever recorded—with the qualification (added later) that the amounts so paid by the government to the railways during the last five months of 1914 would be sufficient to make the net income for the whole of 1914 equal to the net income for the whole of 1913. On the other hand, if any railway earned a net income greater than that earned during the corresponding period of 1913, it was required to turn the excess over to the government. For the purpose of this agreement, "net income" meant the total revenue derived from railway and subsidiary transportation operations, less expenses of operation and taxes; that is, the net income before the deduction of interest, fixed charges, and dividends. Later this definition was modified so that the government would bear a 4% interest charge on all capital invested in new railway property since Aug., 1914. This agreement was to continue as long as the government exercised control over the railways in accordance with the provisions of the Regulation of the Forces Act of 1871.

Under the operation of this agreement the government has paid the railways from 5 to 10% of their normal pre-war revenues, whereas the amount of governmental traffic handled by the railways during the war has undoubtedly been considerably in excess of 10% of their total traffic.

Since railway control was assumed by the government there has been little increase in freight rates, but passenger rates soon began to be increased through the abolition of various forms of reduced rates, while on Jan. 1, 1917, all passenger rates were increased 50%.

The Irish Railways.—When the government took over control of the British railways, as provided by the Regulation of the Forces Act, the Irish railway systems were not included. For more than two years after the outbreak of war these systems continued to be operated and controlled by their own managements, but by the end of 1916 the employes of these systems were insisting upon war bonuses as great as those paid railway employes in Great Britain, and the Irish railways announced that they could not meet wage increases in competition with the British Government. Failing in an effort to bring about an agreement between the Irish railway managers and their employes, the government brought the Irish railways under government control on Jan. 1, 1917, on practically the same conditions as govern the British railways. A distinct railway executive committee was established, but the government agreed to maintain the net incomes of the railways at their normal levels.

The question of the nationalization of railways is a live issue in Great Britain at present. A statement made by Right Hon. Winston Churchill, at Dundee, Scotland, Dec. 5, briefly and directly, that the government proposes to nationalize the railways of the three kingdoms, taken in conjunction with a statement on the following night by Right Hon. W. H. Long, that the question is a very big one and will want a great deal of thinking out, is sufficient evidence that the matter has been under the government's consideration, as one of the means of dealing with the immense transportation interests of the country in returning to a peace basis.

The Dominion Government's Railway Policy, etc.

Sir Thomas White, Finance Minister, and acting Prime Minister, when in Toronto, Dec. 16, gave out a statement calling attention to the things accomplished by the Union Government during its first year of office. Among other things he said: "The Government has completed the purchase of the Canadian Northern Ry. and consolidated all the government owned railways, including the Intercolonial and National Transcontinental, under a board of directors of business men who will operate the roads in the national interest. For the better co-ordination and direction of the immense railway traffic arising out of the war, the Canadian Railway War Board, composed of the chief executives of the principal Canadian railways, was formed and has rendered most excellent service, avoiding serious difficulties which would otherwise have arisen.

"The Minister of Railways has, during the year, contracted for 185 locomotives, 8,500 freight cars and 100,000 tons of rails. Orders are now being placed for 200,000 additional tons of rails, and 100 colonist cars."

French Railway Reconstruction.—The Chamber of Deputies, on Dec. 31, voted the government to advance 600,000,000 francs for the re-establishment of the railways after the war; 480,000,000 francs are to be devoted to the employes and 120,000,000 to repairs and rolling stock. During the debate, the Minister of Public Works said that 27,000 American cars would be delivered soon. With regard to the railways built in France by the U.S. army, he declared that if the negotiations now going on reached a satisfactory end, the roads would be kept and improved.

Orders by Board of Railway Commissioners for Canada.

Beginning with June, 1904, Canadian Railway and Marine World has published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed the paper have a continuous record of the Board's proceedings. No other paper has done this.

General order 255. Nov. 20.—Amending general train and interlocking rules, approved by order 7563, July 12, 1909.

General order 256. Nov. 20.—Amending pars. 1 and 2 of rule 102 of the general train and interlocking rules.

General order 257. Dec. 6.—Amending rule 33 of general train and interlocking rules, approved by order 7563, July 12, 1909.

General order 258. Nov. 25.—Amending rule 26 of the General Train and Interlocking Rules approved by order 7563, July 12, 1900, by directing that railways display a blue flag by day and a blue light by night at a height of 5 ft. above rail level on steel frame secured to rail; day signal to be 22 x 28 in., set at right angles to track and located between switch and first engine, car or train occupying track, all switches leading to regular repairs tracks to be locked wtih special locks and keys carried by foremen in charge of repair work.

27868. Nov. 19.—Authorizing British Columbia Electric Ry. to charge increased commutation fares as published in tariff C.R.C. 7, effective Dec. 1.

27869. Nov. 19.—Extending to Aug. 31, 1919, time within which gates may be erected at crossing of C.N.R. and C.P.R. at Bay Bridge Road, Belleville, Ont.

27870. Nov. 19.—Relieving G.T.R. from providing further protection at Vigar Crossing, Richmond, Que.

27871. Nov. 20.—Authorizing C.N.R. to cross road allowance between Secs. 1 and 2, Tp. 51, Range 11, west 4th meridian, Alta.

27872. Nov. 18.—Authorizing Grand Trunk Pacific Ry. to build spur for Upper Fraser Valley Lumber Co., Ltd., Cariboo District, B.C.

27873. Nov. 16.—Authorizing G.T.R. to rebuild bridge carrying highway between lots 17 and 18, Con. 28, St. Marys, Ont.

27874. Nov. 18.—Authorizing Town of Stoney Plain, Alta., to carry 5th Meridian road allowance across C.N.R. and G.T.P.R.

27875. Nov. 18.—Ordering C.N.R. to build station at Rosebud, Alta., and install a passing track, to be completed by Sept. 1, 1919.

27876. Nov. 20.—Authorizing C.N.R. to build across road allowance between Sec. 25 and 26, Tp. 53, Range 7, west principal meridian, Alta.

27877. Nov. 20.—Authorizing Bell Telephone Co. to build telephone lines in underground conduit in London, Ont.

27878. Nov. 23.—Approving Canadian Northern Ontario Ry. revised location through Indian Reserve, Commanda Tp., Nipissing District, from mileage 347.2 to 353.8 from Montreal.

27879. Nov. 22.—Authorizing Halifax & Southwestern Ry. to build two spurs for Davison Lumber & Mfgr. Co., Bridgewater, N.S.

27880. Nov. 22.—Authorizing Canadian Northern Ontario Ry. to build spur for S. L. Lambert, near Grave Yard Lake, Beamont Tp., Sudbury District.

27881. Nov. 23.—Authorizing London & Port Stanley Ry. to build branch to Military Convalescent Home, Westminster Tp., Ont.

27882. Nov. 22.—Extending to Jan. 22, 1919, time within which C.P.R. shall install electric alarm bell at crossing of King St. West, Ingersoll, Ont.

27883. Nov. 22.—Extending to Oct. 31, 1919, time limited by order 27282, June 1, during which Lake Erie & Northern Ry., pending installation of interlocking plant at Brantford, Ont., was authorized to operate over crossing there.

27884. Nov. 22.—Approving agreement between Bell Telephone Co. and St. Marys, Medina, and Kirkton Telephone Co., in Huron, Perth, Middlesex and Oxford Counties, Ont.

27885. Nov. 23.—Approving Canadian Northern Ontario Ry. revised location through Beaucage and Pedley Tps., Nipissing District.

27886. Nov. 25.—Dismissing C.P.R. application for order re heater charges on fruit cars from Minneapolis, St. Paul and Sault Ste. Marie, to Calgary, 27461; and also to Winnipeg, and suspending order 27458, pending further order.

27888. Nov. 22.—Approving agreement, Oct. 26, between Bell Telephone Co. and Hampshire Telephone Co., Simcoe County, Ont.

27889. Nov. 26.—Relieving G.T.R., in so far as northbound trains which stop at Norwich station are concerned, from providing further protection at the first crossing north of Norwich station, Ont.; and prohibiting standing of cars on siding west of main track, closer to highway than 150 ft.

27890. Nov. 26.—Extending to June 15, 1919, time within which Canadian Northern Ry. shall complete moving station building, siding, and loading platform at Looma, Alta.

27891. Nov. 25.—Authorizing C.P.R. to build siding for P. Lund & Son, Lethbridge, Alta.

27892. Nov. 26.—Authorizing G.T.R. to build siding and spur for Imperial Steel & Wire Co., Nottawasaga Tp.

27893. Nov. 27.—Approving C.P.R. clearances of canopy and extension at Gordon, Ironside & Fares siding, Winnipeg.

27894. Nov. 26.—Approving Canadian Northern Ry. drawing showing combined culvert and road crossing for watercourse at Forsters Lake, McDougall Tp., Parry Sound District, Ont.

27895. Nov. 26.—Authorizing Essex Border Utilities Commission to build sewer across G.T.R. in Walkerville Tp., Ont., and at 2 points in Ford City, Ont.

27896. Nov. 21.—Dismissing application of New York Central and Rutland Rds. for order staying enforcement of general order 199, June 24, 1917, as amended by general order 226, Apr. 4, 1918, pending decision of U.S. courts on jurisdiction of Interstate Commerce Commission to make order in similar terms.

27897. Nov. 28.—Authorizing Toronto, Hamilton & Buffalo Ry. to open for traffic its second main line between Stoney Creek and Kinnear, Ont.

27898. Nov. 28.—Authorizing G.T.R. to build spur for Ontario Government on Lot 15, Concession 6, Hunter Tp., Nipissing District.

27899. Nov. 29.—Approving Canadian Northern Ry. drawings showing abutments proposed to be erected where C.P.R. ballast pit spur crosses under C.N.R. in Lot 12, Con. 4, Scarboro Tp., Ont., at mileage 12.9 from Todmorden.

27900. Nov. 26.—Approving agreement, Nov. 8, between Bell Telephone Co. and Maidstone Tp., operating Maidstone Municipal Telephone System, Essex County, Ont., and rescinding order 12264, Nov. 11, 1910.

27901. Nov. 27.—Authorizing Village of Turcotte, Que., to make highway crossing over C.P.R. at Garneau Jct., in lieu of farm crossing as at present.

27902. Nov. 27.—Authorizing Grand Trunk Pacific Branch Lines Co. to build spur for Spicer Coal Co., in Secs. 18 and 13, Tp. 48, Range 19 and 20, west 4th meridian, Alta.

27903. Nov. 27.—Ordering Edmonton, Dunvegan & British Columbia Ry. to fence right of way through east ½ of Sec. 31, Tp. 72, Range 5, west 5th meridian, Alta., and install farm crossing for S. Wraight, Sawridge, Alta; work to be completed by Dec. 31.

27904. Nov. 28.—Authorizing Saskatchewan Highways Department to make public highway over C.P.R. north of Sec. 14, Tp. 32, Range 14, west 2nd meridian.

27905. Nov. 29.—Approving Canadian Northern Ry. drawing showing proposed reconstruction of bridge over creek on west leg of Y at Brockville, Ont.

27906. Nov. 29.—Amending order 27846, Nov. 9, re crossing of Jacques Cartier Union Ry. by Mount Royal Tunnel and Terminal Co.'s track, at mileage 5.25 from Montreal terminal.

27907. Nov. 29.—Rescinding order 25254, Aug. 11, 1916, re rates on fish from Edmonton, Alta., to U.S. points.

27908. Dec. 3.—Relieving Canadian Northern Ry. from providing further protection at Nepean Road, Bastard Tp., Ont.

27909. Dec. 2.—Approving agreement, Oct. 9, between Bell Telephone Co. and Plane Settlement Telephone Co., Hastings County, Ont.

27910. Dec. 3.—Ordering C.P.R. to build interchange and storage tracks to provide for separate access for C.N.R. and C.P.R. to elevators at Port Arthur; cost to be divided as may be agreed between the two companies, and rescinding order 27225, May 15.

27911. Dec. 3.—Ordering Canadian Northern Ontario Ry. to build at expense of the parishes of St. Placide and St. Benoit, Que., a platform at Cote Double, Que., similar to platforms provided at St. Benoit and St. Hermas, cost not to exceed $300; and rescinding orders [illegible] and [illegible], Apr. 17, 1916, and Sept. [illegible], 1918.

27912. Dec. 6.—Ordering Bell Telephone Co. to file with board and deliver to Montreal and other municipalities opposing company's application, further detailed [illegible]

[illegible]

27913. Dec. [illegible]—Authorizing C.P.R. to build [illegible] Middlesex [illegible] North Dorchester Tp., Ont.

27914. Dec. 7.—Ordering Canadian Northern Ry. [illegible]

[illegible]

27915. Dec. [illegible]—Authorizing C.P.R. to rebuild bridge [illegible] Westminster [illegible] Tp., Ont.

27916. Dec. [illegible]—Ordering Hamilton Radial Electric Ry. [illegible]

[illegible]

27917. Dec. 9.—Approving agreement, Nov. [illegible], between Bell Telephone Co. and Michigan Central & Hudson River R.R.

27918. Dec. [illegible]—Authorizing Alberta Public Works Department to make highway over C.P.R. in Sec. [illegible], Tp. [illegible], Range [illegible], west [illegible] meridian.

27919. Dec. 9.—Authorizing Niagara, St. Catharines & Toronto Ry. to build spur for McKinnon Columbus Chain Co., St. Catharines, Ont.

27920. Dec. 10.—Approving agreement, Nov. 11, between Bell Telephone Co. and the [illegible] Telephone Co., Lennox, Addington and Hastings Counties, Ont.

27921. Dec. 11.—Ordering Pere Marquette Ry. to construct new culvert on north ½ of lot 15, Con. 4, Orford Tp., Ont.

27922. Dec. 11.—Relieving G.T.R. from providing further protection at highway crossing near Henfryn station, Ont.

27923. Dec. 12.—[illegible] from Collingwood, Ont., to Vancouver wharf, B.C., by G.T.R. and C.P.R. all rail route from Dec. 3, 1917, to Oct. 31, 1918, on carload shipments of [illegible] rate shown in Special [illegible] Freight Tariff G.T.R. C.R.C. E-3677, as applicable from Toronto and Hamilton, Ont.

27924. Dec. 12.—Dismissing, on grounds of no jurisdiction, application of Kitchener, Guelph, Waterloo and [illegible], Ont., for order [illegible] rates per cord or per carload instead of by weight on firewood from Algonquin Park to municipalities and institutions at cost.

27925. Dec. 19.—Relieving Grand Trunk Pacific Ry. from providing further protection at highway crossing near Pope, Man.

27926. Dec. 9.—Extending to June 15, 1919, time within which the Canadian Northern Ry. is required to erect a third class station at Durban, Man.

27927. Dec. 12.—Approving clearance of C.P.R. coal tipple and works over tracks for [illegible] Collieries, Ltd., on C.P.R. Mountain Park Coal Branch, Alta.

27928. Dec. 12.—Approving C.P.R. protection by gates at Douglas Ave., St. John, N.B.; Bridge and Grand Sts., Quebec; St. Hubert St., Montreal; Moore St., Carleton Place; Church St., Peterborough; Waterloo and Adelaide Sts., London; King, Adelaide and William Sts., Chatham, Ont.; and ordering gates to be provided at [illegible] St., Ingersoll, Ont.

27929. Dec. 12.—Ordering C.P.R. to maintain watchman at Powell St. crossing, Vancouver, B.C., between 7 a.m. and 12 p.m., until further order.

27930. Dec. 13.—Relieving C.P.R. from providing further protection at crossing near Guelph Jct., Ont., [illegible] to be removed by May 1, 1919.

27931. Dec. 16.—Extending to May [illegible], 1919, time within which Niagara, St. Catharines & Toronto Ry. shall install interlocking plant at G.T.R. crossing, as required by order [illegible], July [illegible].

27932. Dec. 17.—Approving of Pere Marquette Ry. bylaw authorizing [illegible] M. [illegible], General Freight Agent, and W. F. [illegible], General Passenger Agent, to prepare and issue tariffs of tolls.

27933. Dec. 13.—Authorizing C.P.R. to build spur for Credit River [illegible] Ltd., [illegible] Toronto Tp., Ont.

27934. Dec. 16.—Authorizing C.P.R. to build spur for [illegible] Paper Box Co., York Tp., Ont.

[illegible]

Railway Development, Projected Lines, Surveys, Construction, Betterments, Etc.

Alberta & Great Waterways Ry.—An Edmonton, Alta., press report states that work is to be started at once upon an [illegible] extension from near the present end of steel at mileage 275.40, to the Clearwater River for the development of [illegible] fields in the vicinity. The completion of the line to McMurray, about 15 miles, will, it is said, be considered by the Alberta Government in connection with the railway programme for 1919. (Nov., 1918, pg. 488.)

Calgary & Fernie Ry.—The Dominion Parliament is being asked to extend the time within which the company may build its projected railway, authorized in 1906, from Calgary, Alta., to Fernie, B.C. Hough, Campbell and Ferguson, Winnipeg, are solicitors for applicants. (Sept., 1917, pg. 350.)

Calgary & South Western Ry.—A general meeting of shareholders was called to be held at Calgary, Alta., Dec. 16, to elect directors, complete the organization of the company, and to consider and, if thought advisable, to authorize the directors to enter into a contract with the Great West Construction Co., for the building of the projected railway from Calgary to the Fish Creek coal fields, 70 miles. (April, 1918, pg. 146.)

Essex Terminal Ry.—We are officially advised that during 1918 the company laid 2 miles of sidings in Quarrie's yard, Windsor, Ont. The grading was done by the Quick Contracting Co., Windsor, and the tracklaying, etc., by the company's own forces. The Quarrie yard is connected with the steel plant at Ojibway, Ont., by a line 10 miles long, on which track was laid in 1917, but which was not reported in time for use in our table showing track laid in that year. (Sept., 1918, pg. 390.)

Grand Trunk Pacific Ry.—Steps are being taken in the Swift Current district, Sask., to bring pressure to bear on the company to start construction during this year on the projected branch from Watrous southwesterly to Swift Current. The branch would serve the Lenian and Stewart Valley settlements and the country north of Waldeck. The surveys for the branch have been made and the Saskatchewan Government has authorized the guarantee of bonds in aid of construction, as well as for terminals in Swift Current.

The G.T.P. Branch Lines Co. has applied to the Commissioner of Irrigation at Calgary, Alta., to divert water from Archydal Coulee, and the right to construct the necessary works to enable the water to be used in the company's tanks, buildings and engines at Archydal, on the Moose Jaw Northwesterly Branch.

Grand Trunk Ry.—The Lachine, Jacques Cartier & Maisonneuve Ry. Co., a G.T.R. subsidiary, is applying to the Dominion Parliament for an extension of time for the building of its railway round Montreal from Lachine to Maisonneuve.

We are officially advised that during 1918, the company laid 0.62 of a mile of track in extension of its yard at Campbellford, Ont. (Dec., 1918, pg. 540.)

Hudson Bay Ry.—H. T. Munn, who arrived in Ottawa recently, after two years prospecting [illegible] on Southampton Island and Baffin's Land, is reported to have stated that, as far as grain is concerned, his experience makes it obvious that the Hudson Bay route is impracticable. With the straits open only for a short time in the year, it would be impossible to get out more than a few shipments. The fishing industry has great possibilities, and the Hudson Bay Ry. should be a food line for central Canada. There is nothing of great mineral value in the Arctic regions, so far as he had visited them, but there are Arctic products which would justify exploitation, such as furs, blubber, oil and ivory. (Oct., 1918, pg. 438.)

Medicine Hat, Alta.—Some years ago the city of Medicine Hat, Alta., built a spur line of about 4 miles from the C.P.R. to give access to an industrial area which was being developed. At the end of 1911 a proposition was made to the city council by the Ansley Coal Co., that if the city would construct an extension of the spur line to the city boundary nearest to the company's mine, the company would build a spur from the mine to connect with the city line. After some negotiations, the proposition was agreed to, the company got plans approved by the Board of Railway Commissioners showing a line about three miles long connecting with the proposed extension of the city spur line. The Medicine Hat ratepayers passed a bylaw in Dec., 1912, authorizing the issue of $20,000 of debentures to defray the cost of the extension of its spur line to the city boundary. The city line was extended to the municipal boundary, but nothing was done in the way of construction on the mine spur. The last information we received about it was in July, 1913, when R. O. Sweezy, General Manager, Montreal Engineering Works, was quoted as stating that the Ansley coal carrying spur line would probably be electrified in the then near future, and operated in connection with an electric railway which his company proposed to build in Medicine Hat.

Nothing further was heard of the project until recent advices as to the development of the Swan and Smith property, which, we are advised, has been renamed the Ajax mine. The company's spur line, under construction, was described in Canadian Railway and Marine World, September, pg. 390, and we have since been advised that owing to the impossibility of obtaining labor, the work of completing the spur line has been delayed. The grading is finished for 3.5 miles from the mine, and connected with the city spur, and the old spur is being regraded on a revised location, which eliminates 129 degrees of curvature in half a mile. We were advised, Nov. 25, that track laying was in progress.

We are also advised that the new opening to the mine is completed, bricked up and enclosed, and that the poles for the power line from the city to the mine are erected and ready for the delivery of power for the operation of two coal cutting machines. The estimated immediate output of the mine is 300 tons a day, but this will be increased to 1,000 tons a day. The estimated quantity of coal in the Swan and Smith holdings in this district is 15,000,000 tons, of which it is expected to mine 90%. The market for the product is in the three prairie provinces.

Medicine Hat ratepayers voted recently in favor of a bylaw granting aid to the company to build the spur line. The bylaw provides that the city guarantees that the C.P.R. will supply the rails for the spur on a rental basis; that the company will be enabled to run its cars across certain streets over which the spur line passes within the city limits; for the leasing of a locomotive and passenger car to carry the mine employes to and from their work, and to supply power at 1½c per kilowatt hour. C. Le B. Miles is the engineer in charge of construction. (Sept., pg. 390.)

Since the foregoing was put in type, we were advised, on Dec. 19, that track had been laid to the mine, that electric wires were up and that two machines were cutting coal in a stratum that will be from 6 to 8 ft. deep a little further in.

Pacific Great Eastern Ry.—We are officially advised that track has been laid from the old end of track, 12 miles north of Clinton, B.C., for 30 miles, and that work is in progress for 12 miles further north. The contract is being carried out for the British Columbia Government by the Northern Construction Co., Vancouver. (Dec., 1918, pg. 541.)

Quebec & Saguenay Ry.—A press report of Dec. 10, stated that the bridge at Baie St. Paul over the Riviere de Gouffre was expected to be completed by the end of December. The bridge is a fixed steel span, 165 ft. long, with accommodation for foot passengers, carried on two piers and abutments.

We are officially advised that grading has been completed from Baie St. Paul to Murray Bay, 25 miles, and is ready for tracklaying. This work will be gone on with early in the spring.

It is reported that it is expected to be able to put on a temporary passenger train service as far as Murray Bay in June, and a complete permanent freight and passenger traffic to Murray Bay in the autumn. (Nov., 1918, pg. 488.)

Quebec Central Ry.—We are officially advised that the company has under contemplation as projects to be carried out in the future an extension of its line from Scotts to the south end of Quebec bridge, 19 miles, and the building of a line from Las Frontier, on its Chaudiere Division, to St. Pamphille, Montmagny County, Que., 25 miles.

St. John & Quebec Ry.—We are officially advised that track has been laid on the extension of this line from Gagetown to the C.P.R. at Westfield, N.B., between Westfield and Queenstown, 30 miles. Ballasting has not been started. The total length of the extension is 37.8 miles, of which 7.8 miles is yet to be completed. The Nova Scotia Construction Co., Halifax, N.S., is the general contractor, and C. O. Foss is Chief Engineer. The line is owned by the Province of New Brunswick. (Dec., 1918, pg. 541.)

Toronto, Hamilton & Buffalo Ry.—G. A. Mountain, Chief Engineer, Board of Railway Commissioners, met representatives of the G.T.R. and the city of Hamilton, Dec. 19, to discuss some of the T.H. & B. R. yard plans, and their relationship to the development plans outlined by the city. A press report states that an attempt will be made to come to an agreement early in the year, rather than that an order be made by the board directing the T.H. & B. Ry. to separate grades.

Toronto Terminals Ry.—J. R. Ambrose, Chief Engineer, is reported as having said recently that the new union station building in Toronto will be ready in the spring, and that, failing the elevation of tracks along the esplanade, as originally planned, temporary tracks will be laid on the present levels. Temporary wooden buildings will be required with access to the tracks from overhead bridges. (July, 1918, pg. 285.)

Minimum Weight on Canned Goods in Carloads.

Sir Henry Drayton, Chief Commissioner, Board of Railway Commissioners, gave the following judgment Dec. 6:—

Complaints have been made as to the increase in the minimum weight applicable to canned goods, in carloads, moving at commodity rates. These complaints have been forwarded from points in New Brunswick, Nova Scotia, Prince Edward Island, and Ontario. The question has been taken up actively by this board with the Canadian Railway War Board, which in the first instance commenced the campaign for heavier loadings. Owing to car shortages and the great expense in railway operation, it was apparent to everybody that, to the full extent that minima could be increased, and a more intensified use made of the equipment available for public business, without at the same time throwing burdens upon the traffic carried, increases ought to be made; and these increases, speaking generally and apart from the question of flour, which was specifically dealt with by the board, were arrived at by conferences with interested shippers. No action whatever was taken by the board in connection with canned goods.

The Canadian Railway War Board, on Nov. 21, 1918, wrote: "We have had a thorough investigation made into the circumstances and are unable to find that proper grounds for this complaint exist. The communications which reached you from a few of the dealers in canned goods appear to have been inspired by the Dominion Canners, Ltd., which, for reasons of its own, seems to have undertaken a campaign to nullify the efforts which have been made by the railways and a large proportion of their patrons to increase the railway efficiency by reducing to the minimum the amount of wasted effort involved in hauling an unnecessarily high proportion of tare weight of equipment. Enclosed, for your information, is copy of a circular letter received here as having been addressed by the Dominion Canners, Ltd., to its customers. Further comment in connection with this communication appears to be unnecessary. Prior to the receipt of the enclosed communication, no complaint was registered, so far as we can ascertain, by any of the local dealers who subsequently wrote you. It is the consensus of opinion of those who are well acquainted with the canned goods business in the Maritime Provinces that in the vast majority of instances there is no difficulty in maintaining the 40,000 lb. minimum, and that the dealers, if permitted to do so by the larger shippers such as the Dominion Canners, Ltd., will readily adapt their handling arrangements to the 40,000 lb. minimum. It will be remembered that consignees, if they find it absolutely necessary to depart from the present commodity minimum, are permitted to ship 24,000 lb. at the regular 5th class rate. In the west the minimum on canned goods is 60,000 to 70,000 lb. and cars have been so loaded for many years. It will be remembered, also, that the minimum made effective by the U.S. Food Administration is 60,000 lb., and these regulations have been in effect in that country for some months."

The copy of the letter claimed to have been written by the Dominion Canners, Ltd., on June 20, 1918, and referred to in the Canadian Railway War Board's letter, is as follows: "We understand that the Canadian Railway War Board has asked the Board of Railway Commissioners for authority to increase the minimum weight on canned goods from 24,000 to 60,000 lb. We are advising you of this because we know this will have a serious effect on your business, as in many instances it is not possible for you to make up carloads of 60,000 lb., and the tendency will be to throw this business into the large centers and force the dealers in your districts to pay the excess freight between carload and less carload on their purchases. If this ruling will injuriously affect you at all, we suggest that, without using our name, you take this matter up with your member of the Dominion house; also send your protest to the Canada Food Board, as well as the Canadian Railway War Board."

The Dominion Canners, Ltd., is very largely interested in the question. The great bulk of the movement is originated by it, and it is naturally interested in obtaining as favorable transportation terms for its products as possible.

The letter of the Canadian Railway War Board and copy of the circular letter of June 20, 1918, were forwarded to the Dominion Canners, Ltd., for its answer and comments, and the board has received the following reply: "The understanding was that when these minimum weights were increased from 30,000 to 40,000 lb., that it was for a war measure only and for the duration of the war only. Furthermore, you have a letter from the Canadian Manufacturers Association regarding this same subject, having it fully understood that the increase was put into effect with the understanding between the railways and the shippers that same would expire at the end of the war. Under these circumstances we do not feel it necessary to enter into full details regarding this increased minimum, as we can stand the inconvenience and extra expense until peace is actually declared. At this time we expect that the minimum will be automatically reduced again to 30,000 lb. If, however, the railways do not intend to do this, then we wish to seriously object to continuation of 40,000 lb. as minimum for canned goods to points covered by commodity rates to Eastern Canada after peace has been declared."

Canned goods, of course, can be sent at the appropriate class rate in as small quantities as may be desired, and the minimum regulation applies merely to the lower commodity rate. The old minimum was 30,000 lb. The present minimum is 40,000 lb. The Canadian Railway War Board at one time endeavored to have the minimum raised to 60,000 lb., which would have resulted in loading to capacity of the older box cars and a loading to 75% capacity of the newer cars, which usually have a capacity of 80,000 lb., while others now go as high as 100,000 lb. The minimum of 60,000 lb. would have meant that 75% of the loading capacity of the car would have been utilized; the former minimum of 30,000 lb. meant the utilization of but 50% of the older type of car and 38% of the 80,000 lb. car equipment.

In view of the letter of the Dominion Canners, Ltd., which represent, as stated, the chief trade interest in the question, no action should be taken on the present application, but the matter will be left open for future consideration on any complaint which that company, or others interested, may desire to make subsequent to the declaration of peace.

Change in General Train and Interlocking Rules.

The Board of Railway Commissioners has passed the following orders:—

General order [illegible], Dec. 6, 1918. Re application of Canadian Northern Ry. for an order to amend rule [illegible] of General Train and Interlocking Rules approved by order [illegible], July 12, 1909. Upon reading what is filed in support of the application, urging the advantages of standardization for safe and efficient operation of railways; and upon the report and recommendation of the board's Chief Operating Officer, it is ordered that the said rule [illegible] be struck out and the following substituted therefor:—

"[illegible]. Watchmen stationed at public road crossings must, by day, display a standard metal disc, and by night, a [illegible] light, to warn pedestrians and persons in vehicles that a train is approaching. Red signals must be used by them only when necessary to stop trains."

General order [illegible], Nov. [illegible], 1918. Re rule 26 of the General Train and Interlocking Rules approved by order [illegible], July 12, 1909, providing that a blue flag by day and a blue light at night, be displayed at one or both ends of an engine, car, or train for the protection of workmen engaged in, under, or around cars on regular repair tracks; and to the question of requiring additional protection of workmen so engaged as contemplated by circular 150, Jan. 29, 1917, and supplement 1 thereto, Nov. 2, 1917, as well as supplement 2, Mar. 17, 1913, to circular 98, copies of said circular and supplements having been served upon the railway companies with the request that they show cause why the recommendations embodied in such circular and supplements should not be adopted and put in practice on their respective railways. Upon reading the answers filed on behalf of the companies, the reports of the board's inspectors, and the recommendation of its Chief Operating Officer, it is ordered as follows:

1. That all railway companies within the legislative authority of the Parliament of Canada, operating by steam, are hereby directed to display the blue flag by day and the blue light by night, required by rule 26 of General Train and Interlocking Rules, at a height of 5 ft. above rail level, on a steel frame secured to the rail; the day signal (flag) to be 22 x 28 in. in size, set at right angles to the track, and located between the switch and the first engine, car, or train occupying the track.

2. That all switches leading to regular repair tracks of every such railway company, be locked with special locks and keys carried by the foreman in charge of the repair work, or other responsible party, whose duty it shall be to see that employes and workmen, so engaged, are warned, and are clear from cars or engines before any switching movement is made on such track, and also that the switches are relocked after the switching movement is completed.

Railway Lands Patented.—Letters patent were issued during Nov., 1918, for Dominion railway lands in Manitoba, Saskatchewan, Alberta and British Columbia, as follows:—

	Acres.
Calgary & Edmonton Ry.	[illegible]
Canadian Pacific Ry.	[illegible]
[illegible] & [illegible] Ry.	[illegible]
Qu'Appelle, Long Lake & Saskatchewan Rd. and Steamboat Co.	[illegible]
Total	[illegible]

Canadian Government Railway Construction, Betterments, Etc.

A stores building being erected at Campbellton, N.B., consists of one story, 80 ft. 10 in. long, by 31 ft. wide, with an average height of 12½ ft., on a concrete basement. The basement is divided in two, one section, 35 ft. 5 in. x 29 ft., being for oil tanks, and the second, 46½ ft. x 29 ft., for miscellaneous stores. The basement has a clear inside height of 7 ft. On the west side of the building is a platform, 47 x 30 ft., at car floor height, for storing heavy castings, etc., and along the front of the building is a trucking platform 8 ft. wide at car floor height. The main building and platforms are of wood, semi-mill construction; the basement walls and floor are of concrete. A lavatory and rest room is provided in the main building for employes. Access to the stores basement is by a ramp at the east end of the building, and the oil basement is provided with a hatchway of sufficient size to allow oil tanks to be lowered through. The heavy castings platform is provided with bins 4 x 5 ft. for storing the castings. These bins are made in double rows of 6 bins, with a 5 ft. trucking space between each row. The bins are roofed over with a light roofing to protect the contents from the weather. As the contents will consist mainly of rough castings, it will only be necessary to protect them from heavy snowfalls.

The oil storage system consists of the following tanks and pumps:—two 1,000 gall. tanks for locomotive oil; 1,000 gall. tank for cleaning oil; 482 gall. tank for valve oil; 482 gall. tank for superheater oil; 482 gall. tank for passenger car oil; 482 gall. tank for mineral seal oil; 482 gall. tank for l.t. burner oil; 482 gall. tank for freight car oil; 100 gall. tank for gasoline. The tanks are equipped with storage indicators, which will show at a glance the quantities of oil on hand. The gasoline tank will have a graduated dip stick to show the quantity on hand at any time. In front of each pump is a fill box, by which it will be possible to fill each tank from barrels. The 1,000 gall. tanks are also provided with car fills, so that each tank may be filled directly from tank cars if required.

Ten standard gallon pumps are provided, complete with meters, which will tally the number of gallons passing through, from 1 to 10,000, and then repeat, which makes it possible to keep a constant check on the quantity of oil issued. The pumps are also provided with locks, quick acting nozzles, and discharge registers. The pumps are all placed in one section of the stores building and railed off with tube railing. For cleanliness and safety, the walls and floors in the pump section are tiled, so that the floor can be kept free of oil drippings, which, with wood or plain concrete flooring, would soak in and increase the fire hazard.

The contractor for the building is A. Landry, St. Octave, Que.

St. John, N.B., Wharves, Etc.—Commissioner Bullock was reported to have received recently from the C.G.R. engineering department, a proposition in regard to replacing the tracks on the repaired sections of McLeod and Pettingill wharves. The work on the wharves was reported to be 75% completed.

Campbellton Freight Offices.—A press report states that the house at Campbellton, N.B., at one time occupied by the late Evan Price, a former Superintendent, will be removed to a site adjoining the freight sheds, and be converted into offices for the freight staff. (Nov., pg. 493.)

Cut-off Near Campbellton, N.B.—We are officially advised that there is under construction a cut-off, extending from mileage 4.7, on the Campbellton Subdivision, to mileage 7.4 on the St. Leonard Subdivision, 2.7 miles. This piece of line will enable traffic to be carried on between the Intercolonial Ry. and the International Ry. of New Brunswick more efficiently, and will render it possible to remove the tracks of about seven miles of the latter line. The contractor is R. B. Stewart, Tide Head, N.B. When the contract was let in Sept., 1918, it was expected to have the work finished by Dec. 31, but we are advised that track has not yet been laid.

Prince Edward Island Ry.—A steamship with a cargo of steel rails for widening the gauge on the P.E.I.R. went ashore in New York harbor at the end of November, which is expected to result in delaying the work considerably.

Obscuring Headlights on Locomotives Backing at Night.

In the uniform code of train rules the diagram depicting the signal indications under rules 19 and 19D shows the headlight burning when locomotive is backing up at night. In order that confusion may be avoided, and uniform practice obtain, it has been decided, after consultation between the Board of Railway Commissioners for Canada and the Canadian Railway War Board, that that portion of the explanatory notes referring to rules 19 and 19D, relative to the above mentioned diagram, shall be amended by adding thereto the sentence "Headlights must be obscured," thus making the amended notes to read, respectively, as follows:—

"Engine running backward by night as an extra train, without cars, or at the rear of the train pushing cars.

"White flags at AA and white lights at BB (see rule 21).

"Lights at CC as markers, showing green at side, and in direction engine is moving, and red in opposite direction (see rule 19).

"Headlights must be obscured.

"Engine running backward by night without cars, or at rear of train pushing cars, and displaying signals for a following section.

"Green flags at AA and green lights at BB (see rule 20).

"Lights at CC as markers, showing green at side and in direction engine is moving, and red in opposite direction (see rule 19).

"Headlights must be obscured."

The foregoing will continue in effect until such time as a revision of the diagram is made, or the present rule book is reprinted.

Coal Lands for C.P.R.—Pittsburg, Pa., press dispatch, Dec. 24.—Canadian Pacific Ry. officials are said to have been given an option on the J. V. Thompson coal lands. The reported price is $8,000,000, and if the deal goes through there will be a payment of 42c on the dollar for the unsecured creditors. This is the land which the J. J. Hill interests originally optioned.

C.P.R. Station Gardens.—The first prize in the war garden competition for 1918, on the C.P.R. Western Lines, was awarded to the Regina Division, with 202 gardens; the Portage Division coming second with 111 gardens. It is reported that a total of 284 acres was brought under cultivation in the 15 divisions of the Western Lines during the year.

Freight and Passenger Traffic Notes.

The C.P.R. is carrying on a special advertising campaign in Manitoba, Saskatchewan and Alberta, to promote winter traffic to the Pacific coast.

The C.P.R. has placed in operation additional mixed trains, running three days weeks between Lethbridge and Cardston, and between Lethbridge and Coutts, Alta.

Travel restrictions on railways imposed by the Alberta Board of Health, in connection with the influenza epidemic, were practically all raised Dec. 5, and the railways restored the former train services where there had been reductions.

It was announced in Washington, D.C., Dec. 11, that no further restrictions on the private use of railways would be instituted, and that the U.S. Railroad Administration would give the public the best service of which the railways were capable.

The daily, except Sunday, trains, nos. 601 and 602, heretofore operated between Toronto and Tweed, were cut off between Havelock and Tweed, Dec. 1. The train from Toronto to Havelock, with the corresponding Havelock-Toronto trains, are being continued.

The C.P.R. trains on the Waldo Subdivision are being operated Mondays and Fridays, instead of Mondays and Thursdays as heretofore. These trains operate from Caithness, through Waldo to the end of track, 10.8 miles, in the Crowsnest Pass district.

The Winnipeg City Council's works committee is reported to have recommended the council not to extend the hours during which railways may switch across public streets, a privilege desired principally by the Midland Ry. of Manitoba (Great Northern Ry., U.S.).

The C.P.R. train 31, operated between Brownville Jct., Me., and Sherbrooke, Que., and the corresponding train from Sherbrooke to Brownville Jct., daily except Sundays, have been discontinued between Sherbrooke and Megantic, but are being continued between Megantic and Brownville Jct.

Director General McAdoo, of the United States Railroad Administration, is reported to have stated in Washington, D.C., Dec. 10, that steps were being taken to restore a normal passenger service on U.S. railways, and that a first step would be taken within a few weeks to add a number of trains to existing schedules.

J. A. Everell, Superintendent Montmorency Division, Quebec Ry., Light & Power Co., is reported to have said that the company was preparing for an extensive advertising programme in Canada and the United States for tourist business during next summer, and that the timetable for the summer would provide for the more frequent running of trains, both steam and electric, than in previous years.

Railway Supplies Wanted in France.—Sir John Willison, President Canadian Reconstruction Association, stated recently that among the tremendous quantities of materials required for the French State railways are: wheels for locomotives, freight and passenger cars, straight and bent axles, iron fittings, spare parts for freight and passenger cars, cast iron and cast steel lubricating boxes, locomotive steam cylinders, rails, bars, spikes, cut and wire nails.

Mainly About Railway People Throughout Canada.

Andrew Aitken, who resumed his duties recently as Assistant Superintendent, Toronto Terminals, C.P.R., was born at Decewsville, Ont., Oct. 12, 1872, and entered railway service in July, 1890, since when he has been, to July, 1896, freight checker, baggage master, switch tender, and draw bridge tender, G.T.R., Merritton, Ont.; July, 1896, to Aug., 1897, brakeman, G.T.R., Niagara Falls, Ont.; Jan. to Mar. 8, 1898, yard helper, yard foreman and yardmaster, C.P.R., Vancouver, B.C.; Mar. 8, 1898, to Nov. 13, 1912, General Yardmaster, C.P.R., Vancouver, B.C.; July 22, 1913, to July 1, 1914, Yardmaster, C.P.R., North Toronto, Ont.; July 1, 1914, to May 1, 1917, General Yardmaster, C.P.R., Toronto; May 1 to Oct. 15, 1917, Traffic Manager, during construction of aviation camps at Armour Heights at Leaside, Toronto; Oct. 15 to Nov. 29, 1917, General Yardmaster, C.P.R., Toronto; Nov. 29, to Dec. 13, 1917, Assistant Superintendent, Toronto Terminals, C.P.R.; Dec. 13, 1917, to Nov., 1918, Traffic Manager for Reconstruction Committee formed to handle matters at Halifax, N.S., following the disastrous explosion in the harbor in Dec., 1917.

Walter U. Appleton, who has been appointed Mechanical Superintendent, Eastern Lines, Canadian National Rys., Moncton, N.B., was born there, Jan. 29, 1878, and entered railway service, Oct. 12, 1890, since when he has been, to Sept., 1895, junior clerk, Intercolonial Ry., Moncton, N.B.; Sept., 1895, to May, 1899, machinist apprentice, same road; 1900, clerk; 1901 to 1903, machinist; 1903 to 1909, chief clerk to Superintendent of Motive Power; 1909 to 1913, Assistant to Superintendent of Motive Power; 1913 to Feb., 1918, General Master Mechanic; Feb. to Dec., 1918, Superintendent of Motive Power, Canadian Government Rys., all at Moncton.

J. T. Arundel, who retired recently as General Superintendent, Ontario District, C.P.R., was entertained to dinner at Toronto, by a number of his former colleagues, and presented with a five piece silver tea service, from the Ontario District officials.

James Bain, who has been appointed Superintendent, Halifax & Southwestern Ry. (Canadian National Rys.), Bridgewater, N.S., was born at Pictou, N.S., May 24, 1860, and entered transportation service in May, 1875, since when he has been, to Mar., 1876, in operator and dispatcher's office, Intercolonial Ry., Truro, N.S.; Mar., 1876, to June, 1879, operator and ticket agent, I.R.C., Stellarton, N.S.; June, 1879, to Nov., 1881, in operator and dispatcher's office, I.R.C., Truro, N.S.; Nov., 1881, to June, 1882, chief operator, Western Union staff, Direct U.S. Cable Co., Tor Bay, N.S.; June, 1882, to Apr., 1886, dispatcher, I.R.C., New Glasgow and Truro, N.S., and Moncton, N.B.; Apr. to Oct., 1886, dispatcher, Missouri Pacific Ry., St. Louis, Mo.; Oct., 1886, to May, 1892, chief dispatcher, Quebec & Lake St. John Ry., Quebec, Que.; May, 1892, to Nov., 1899, Manager's Assistant, same road, Quebec, Que.; Nov., 1899, to Dec., 1907, Superintendent, Q. & L. St. J. R., Lower Laurentian Ry., and construction of Great Northern Ry. of Canada, Quebec, Que.; Dec., 1907, to May, 1913, Superintendent, Halifax & Southwestern Ry., Bridgewater, N.S.; May, 1913, to Nov., 1918, General Superintendent, same road, Bridgewater, N.S.

W. U. Appleton,
Mechanical Superintendent, Eastern Lines,
Canadian National Railways.

H. E. Bissell,
[illegible]

Major F. L. C. Bond, who has been appointed Chief Engineer, G.T.R., Montreal, was born there in 1877, and educated at Montreal High School, Collegiate Institute and McGill University, graduating in 1898, when he entered G.T.R. service, since when he has been, to 1901, Assistant Engineer, Eastern Division; 1901 to 1902, engineer in charge of double track construction; 1902, [illegible] superintendent on construction of the Park Ave. tunnel, New York; 1902 to 1913, Resident Engineer, Eastern Division, G.T.R.; 1913 to 1916, when he went overseas, Division Engineer, G.T.R., Montreal.

Lafayette S. Brown, who has been appointed General Superintendent, Maritime Division, Canadian National Rys., including Canadian Government Rys. east of Mont Joli, Que., and the Halifax and South Western Ry., at Moncton, N.B., was born at Nelson, N.B., Oct. 19, 1864, and entered I.R.C. service, Jan. 15, 1880, since when he has been, to Dec. 20, 1881, cleaning locomotives, and machinist helper, Newcastle, N.B.; Dec. 20, 1881, to Sept. 5, 1882, shunting in Newcastle yard and learning telegraphy; Sept. 5, 1882, to Nov. 25, 1883, assistant agent, Newcastle, N.B.; Nov. 26, 1883, to Oct. 4, [illegible], train dispatcher, Moncton and Ste. Flavie District, Campbellton, N.B.; Oct. 4, [illegible], to April 30, 1912, Chief Dispatcher, New Glasgow, N.S.; May 1, 1912, to July 31, 1913, Assistant Superintendent, Moncton and Ste. Flavie and Fredericton to Loggieville, N.B., Newcastle, N.B.; Aug. 1, 1913, to June 1, 1917, Superintendent, Truro, Sydney and Oxford District, Intercolonial Ry., latterly known as District 4, Intercolonial Division, Canadian Government Rys., New Glasgow, N.S.; June 1 to Sept. 17, 1917, Assistant General Superintendent, Eastern Lines, Canadian Government Rys., Moncton, N.B.; Sept. 17, 1917, to Dec., 1918, General Superintendent, Eastern Lines, Canadian Government Rys., Moncton, N.B.

Capt. A. E. Doucet, civil and consulting engineer, Quebec, and formerly District Engineer, National Transcontinental Ry., has been elected President of the Quebec Garrison Club.

John Patrick Driscoll, who has been appointed General Superintendent of Car Service, Canadian National Railways, Toronto, was born at Montreal, Apr. 4, 1866, and entered railway service in June, 1879, since when he has been, to July, [illegible], clerk, G.T.R., Montreal; July, [illegible], to 1888, chief clerk to Car Accountant, C.P.R., Montreal; 1888 to 1894, chief clerk to Superintendent of Car Service, C.P.R., Montreal; 1894 to [illegible], Car Accountant, C.P.R., Montreal; [illegible] to Nov., 1918, Superintendent of Car Service, Canadian Northern Ry., Winnipeg.

Albert H. Eager, who has been appointed Mechanical Superintendent, Western Lines, Canadian National Rys., Winnipeg, was born at Waterloo, Que., [illegible], and entered railway service, [illegible], since when he has been, to [illegible], machinist apprentice, [illegible] Ry. and C.P.R., Farnham, Que.; [illegible] Farnham, Que.; [illegible], Locomotive Foreman, C.P.R., Farnham, Que.; Nov. 1, [illegible], Locomotive Foreman, C.P.R., Megantic, Que.; May 1, [illegible], General Foreman, C.P.R., Cranbrook, B.C.; May 1, [illegible], General Foreman, C.P.R., Calgary, Alta.; [illegible], District Master Mechanic, C.P.R., Kenora, Ont.; [illegible], Locomotive Foreman, C.P.R., Calgary, Alta.; May 1, [illegible], to Aug. 1, [illegible], Superintendent of Motive Power, Canadian Northern Ry., Winnipeg; Aug. 1, [illegible], to Dec., 1918, Assistant Superintendent of Rolling Stock, Western Lines, Canadian Northern Ry., Winnipeg.

Anthony C. Egan, who has been ap-

[illegible] Auditor of Agencies, Canadian Northern Ry., Toronto, was born at Winnipeg, [illegible], and entered railway service in [illegible], since when he has been, to [illegible], accountant, C.P.R., Winnipeg; 1904 to 1909, in accounting department, Canadian Northern Ry., Winnipeg; 1909 to 1911, Chief Travelling Auditor, same road, Winnipeg; 1911 to 1918, Auditor of Agencies, Western Lines, same road, Winnipeg.

J. L. Englehart, Chairman, Temiskaming & Northern Ontario Ry. Commission, Toronto, advertises having lost a certificate for 54 shares of C.P.R. stock.

Harry Gray Foreman, who has been appointed Assistant Treasurer, Canadian Northern Ry. System, Toronto, was born there, Sept. 2, 1882, and entered railway service Sept. 15, 1898, since when he has been, to June 15, 1902, clerk, General Auditor's office, Lake Erie & Detroit River Ry., Walkerville, Ont.; June 15, 1902, to Feb. 15, 1903, clerk, Accountant's office, Engineering Department, Pere Marquette Rd., Detroit, Mich.; Feb. 15, 1903, to June 15, 1909, clerk, Accounting Department, Canadian Northern Ry., Toronto; June 15, 1909, to Nov., 1916, chief clerk, Accounting Department, Canadian Northern Ry., Toronto; Nov., 1916, to Dec. 31, 1918, Chief Accountant, Canadian Northern Ry., Toronto.

C. E. Friend, who has been appointed Comptroller, Canadian Northern Ry., Toronto, was born at Brighton, Eng., Oct. 12, 1871, and entered railway service in Jan., 1894, since when he has been, to Oct., 1896, secretary to Traffic Manager, C.P.R., Winnipeg; Oct., 1896, to June 1, 1901, Assistant to Superintendent, Canadian Northern Ry., Winnipeg; June 1, 1901, to July, 1910, Auditor, same road, Winnipeg; July, 1910, to Dec. 1, 1918, General Auditor, same road, Winnipeg.

Gerard G. Ruel, who has been appointed Counsel, Canadian National Rys., Toronto, was born at St. John, N.B., July 5, 1866, and studied law there, subsequently graduating in law at Harvard University, Cambridge, Mass., in 1889. He practised in St. John for a number of years, and was for some time a partner in the law firm of Blair, Ruel & Blair. From July, 1899, to Oct. 1, 1905, he was Law Clerk of the Railways and Canals Department, Ottawa; from Oct. 1, 1905, to 1909, Assistant Solicitor, and from 1909, Chief Solicitor, Canadian Northern Ry., Toronto.

Grant Hall, Vice President, C.P.R., and Mrs. and Miss Hall, who have been living at the Ritz-Carlton since arriving at Montreal, have taken up their residence at 1 Macgregor St.

Grant Hall, Vice President, C.P.R., has been nominated to act as one of the representatives of the Citizens' Protective Committee on the board of arbitration to settle wages disputes of civic employes at Montreal.

William Harrison, Manager of the refreshment rooms at the Toronto Union Station, for the Canada Railway News Co., died at Toronto, Dec. 15. He had been in the company's service for 28 years, and prior to coming to Toronto, in [illegible] was in a similar position at Kingston, Ont.

Arthur J. Hills, who has been appointed Assistant to President, Canadian National Railways, Toronto, with the duties defined in Canadian Railway and Marine World for Dec., 1918, pg. [illegible], was born at Toronto, Feb. 15, 1879, and educated at Ridley College, St. Catharines, Ont., Upper Canada College, Toronto, and the University of Toronto. He entered railway service in Apr., 1899, since when he has been, to June, 1901, Stores and Material Agent, Construction Department, Canadian Northern Ry., in Manitoba; June, 1901, to Dec., 1903, clerk in General Superintendent's office, same road, Winnipeg; Dec., 1903, to Jan., 1908, in Third Vice President's office, same road, Toronto; Jan., 1908, to July, 1914, Superintendent, Canadian Northern Ontario Ry., Toronto; July, 1914, to Aug., 1916, General Superintendent, Eastern Lines, Canadian Northern Ry., Toronto; Aug., 1916, to Feb., 1917, in Third Vice President's office, same road, Toronto; Feb. 10, 1917, to Dec., 1918, Assistant to the Executive, same road, Toronto.

J. Bain,
Superintendent, Halifax & Southwestern Railway.

L. S. Brown,
General Superintendent, Maritime Division,
Canadian National Railways.

J. M. Horn, who has been appointed General Freight Agent, Canadian National Rys., Winnipeg, was born at Allanton Mills, Lanarkshire, Scotland, Apr. 12, 1880, and entered railway service in July, 1890, since when he has been, to 1900, abstract clerk and biller; 1900 to 1901, checker, local freight office, Northern Pacific Ry., Winnipeg; May, 1901, to 1902, rate clerk, local freight office, Canadian Northern Ry., Winnipeg; 1902 to Apr., 1904, chief clerk to Local Freight Agent, same road, Winnipeg; Apr., 1904, to May, 1909, City Freight Agent, same road, Winnipeg; May, 1909, to Mar., 1916, District Freight Agent, same road, Edmonton, Alta.; Mar., 1916, to Dec. 31, 1918, Assistant General Freight Agent, Western Lines, same road, Winnipeg.

Louis Lavoie, who has been appointed Assistant General Purchasing Agent, Canadian National Railways, Toronto, was born at Rimouski, Que., June 22, 1879, and entered railway service Oct. 1, 1894, since when he has been, to Nov., 1901, clerk, General Manager's office, Intercolonial Ry., Moncton, N.B.; Nov., 1901, to Aug., 1902, stenographer to Manager's Assistant, same road, Moncton, N.B.; Aug., 1902, to Sept., 1904, secretary to General Superintendent, same road, Moncton, N.B.; Sept., 1904, to Nov., 1909, chief clerk to General Superintendent, same road, Moncton, N.B.; Nov. 1, 1909, to Mar., 1910, Purchasing Agent, Canadian Government Railways, Ottawa, Ont.; Mar., 1910, to Nov., 1918, Purchasing Agent, Canadian Government Railways, Railways and Canals Department, Ottawa, and from 1913, also Purchasing Agent for Hudson Bay Railway and the Port Nelson terminals.

Lorne W. Mitchell, who has resigned his position as Treasurer, Canadian Northern Ry. System, and allied companies, on being appointed Head Auditor, T. Eaton Co., Ltd., Toronto, was born at Port Elgin, Ont., Mar. 12, 1879, and entered railway service Jan. 1, 1900, since when he has been, to Jan., 1902, stenographer in Mackenzie, Mann & Co.'s office; Jan., 1902, to Jan., 1903, Assistant to Purchasing Agent (the late A. W. Mackenzie), Mackenzie, Mann & Co., and Inverness Coal & Ry. Co.; Jan., 1903, to June, 1907, Assistant to Treasurer, Canadian Northern Ry., and to Purchasing Agent, Eastern Lines, C.N.R.; June, 1907, on the death of A. W. Mackenzie, to July, 1910, acting Treasurer, C.N.R., and Purchasing Agent, Eastern Lines, C.N.R.; July, 1910, to Dec. 31, 1918, Treasurer, C.N.R., and allied transportation companies, all at Toronto. Mr. Mitchell was entertained to dinner at the Albany Club, Toronto, Dec. 30, by a number of Toronto C.N.R. officers and officials, including D. B. Hanna, Vice President, who occupied the chair; A. J. Mitchell, C. A. Hayes and M. H. MacLeod, Vice Presidents; R. P. Ormsby, Secretary; R. C. Vaughan, Assistant to President; S. J. Hungerford, Assistant Vice President; and R. H. Temple, A. J. Hills, D. Crombie, J. D. Morton, R. S. Gossett, H. G. Foreman, C. E. Friend, H. K. Wicksteed, R. L. Fairbairn, A. L. Graburn, W. H. Grant, F. J. Buller, H. G. Hanna, C. Price Green, T. J. McCabe, Eustace Smith, C. P. Young and Scott Griffin. Mr. Hanna, on behalf of himself and other officers and officials, presented Mr. Mitchell with a silver tea service and a gold watch. The several speakers expressed warm appreciation of Mr. Mitchell's business abilities and popularity, and while regretting his departure from the service, one of them said it was not a time for sadness, but rather for happiness and pleasure at Mr. Mitchell having made such a rapid advance in his career.

Jules Edouard Morazain, who has been appointed General Superintendent, Quebec District, Canadian National Rys., Quebec, Que., was born at Wheatland, Que., July 31, 1875, and entered railway service May 3, 1890, since when he has been, to May 21, 1890, freight clerk, C.P.R., Drummondville, Que.; Aug. 1. 1890, to Jan. 8, 1881, night operator, C.P.R., Foster, Que.; Jan. 9, 1891, to Aug. 12, 1891, day operator, C.P.R., Richford, Vt.; Aug. 12, 1891, to Aug. 15, 1892, at college at Sherbrooke, Que.; Aug. 15, to Sept. 26, 1892, night operator, C.P.R., Sutton, Que.; Sept. 26, 1892, to Feb. 9, 1894, night and day operator, C.P.R., Highlands, Que.; Feb. 9 to July 15, 1894, day operator, C.P.R., Richford, Vt.; July 15 to Oct. 12, 1894, relieving agent and operator at various points, C.P.R.; Oct. 12, 1894, to May 27, 1895, day operator, C.P.R., Highlands, Que.; May 27, 1895, to Sept. 24, 1901, agent, C.P.R., Highlands, Que.; Sept. 24, 1901, to Nov. 15, 1908, agent, C.P.R., Mile End, Que.; Nov. 15, 1908, to Feb. 1, 1913, General Agent, Operating Department, C.P.R., Quebec, Que.; Feb. 1 to Dec. 3, 1913, Assistant Superintendent, District 3, Eastern Division, C.P.R., Quebec, Que.; Dec. 3, 1913, to Feb. 7, 1914, Assistant Superintendent, District 2, Eastern Division, C.P.R., Montreal; Feb. 7 to Oct. 21, 1914, Assistant Superintendent, District 3, Eastern Division, C.P.R., Montreal; Oct. 22, 1914, to Feb. 10, 1915, acting Superintendent, District 1, Eastern Division, C.P.R., Farnham, Que.; Feb. 11, 1915, to Apr. 1, 1916, Assistant Superintendent, District 3, Eastern Division, C.P.R., Montreal; Apr. 1 to Nov., 1916, Superintendent, District 1, Transcontinental Division, Canadian Government Rys., Quebec, Que.; Nov., 1916, to Dec., 1918, Superintendent, District 1, Intercolonial Division, Canadian Government Rys., Levis, Que.

G. N. Palmer, who has been appointed Auditor of Disbursements, Canadian Government Rys., Moncton, N.B., was born at Hampstead, N.B., Feb. 22, 1873, and entered the Intercolonial Ry. service Sept. 28, 1898, since when he has been, to Feb. 1, 1907, clerk in Accounting Department; Feb. 1, 1907, to Oct. 16, 1918, Auditor of Disbursements, Moncton, N.B.

F. H. Phippen, K.C., who has retired as General Counsel, Canadian Northern Ry., Toronto, was born at Belleville, Ont., Aug. 26, 1862. He studied law with R. C. Clute, now one of the judges of the Exchequer Division of the High Court of Justice in Ontario, and subsequently in Blake, Lash & Cassel's and Barwick & Aylesworth's offices, Toronto. He was called to the Ontario bar Feb., 1885, passing first out of 60 candidates, and was called to the Manitoba bar in Aug., 1885, again passing first. He entered Macdonald, Tupper, McArthur & Dexter's firm in Winnipeg in May, 1885, and became a partner in Macdonald, Tupper & Phippen, which firm, with additions to its partnership, continued until he was appointed a judge of the Manitoba Court of Appeal in July, 1906, which position he resigned Apr. 12, 1909, on his appointment as General Counsel, Canadian Northern Ry., Toronto. He was formerly counsel for the Manitoba & Southwestern Ry. Co., and for the C.P.R. Land Department, and his practice was almost entirely devoted to corporation work. He is opening an office in Toronto and will practise there. He is one of the executors of Cawthra Mulock, of Toronto, who died in November, leaving a very large estate. He has been appointed a vice president of the National Iron Works, Ltd., Toronto, of which Mr. Mulock was President.

Arthur Skidmore, Chief Engineer of Power House, G.T.R., Stratford, Ont., was on Dec. 19 fined $500 and sentenced to 30 days imprisonment, for having in his possession several copies of a banned publication. He was released Dec. 31 and the fine remitted.

George Edward Smart, who has been appointed General Master Car Builder, Canadian National Rys., Toronto, was born at Edinburgh, Scotland, Dec. [illegible], 1876, and entered railway service in 1892, since when he has been, to 1897, in various positions in car shops, G.T.R., Montreal; 1897 to 1904, Car Inspector, G.T.R., Montreal; 1904 to 1906, General Inspector of Heating and Lighting, Eastern Lines, C.P.R., Montreal; 1906 to 1909, General Car Inspector, Eastern Lines, C.P.R., Montreal; 1909 to Sept. 30, 1913, Division Car Foreman, in charge of passenger and freight car work, Eastern Lines, C.P.R., Montreal; Oct. 1, 1913, to Feb., 1918, Master Car Builder, Canadian Government Rys., Moncton, N.B.; Feb. to Dec., 1918, Superintendent of Car Department, Canadian Government Rys., Moncton, N.B.

D. A. Story.
Ex Freight Traffic Manager, Canadian Government Rys.

R. Walton.
Master Mechanic, [illegible]

D. A. Story, who has retired as Freight Traffic Manager, Canadian Government Rys., Moncton, N.B., was born at Halifax, N.S., Oct. 26, 1855, and entered railway service, May 26, 1869, since when he has been successively, clerk in audit department, telegraph auditor, train despatcher, and secretary to Superintendent, Nova Scotia Ry., Halifax, N.S. After the taking over of the Nova Scotia Ry. by the government as a part of the Intercolonial Ry., he was clerk in the General Freight Agent's office, Moncton, N.B., and, later, freight agent and accountant, Halifax station, N.S.; from July 1, 1884, to Oct. 19, 1898, he was acting agent, Halifax, N.S.; Oct. 19, 1898, to Sept. 1, 1907, Division Freight Agent, Northern Division; Sept., 1907, to June 1, 1917, General Freight Agent, Intercolonial Ry.; June 1, 1917, to Dec. 31, 1918, Freight Traffic Manager, Canadian Government Rys., Moncton, N.B.

H. C. Taylor, who has been appointed Car Service Agent, Ontario District, C.P.R., Toronto, was born at Wingham, Ont., Nov. 5, 1887, and entered railway service in 1904, since when he has been, to 1906, operator, G.T.R.; 1906 to 1908, operator and agent, Temiskaming & Northern Ontario Ry.; 1908 to 1910, operator and agent, Lake Superior Division, C.P.R.; 1910 to Feb., 1917, despatcher, Lake Superior Division, C.P.R.; Feb. to Apr., 1917, Chief Traffic Supervisor, C.P.R., Montreal; Apr., 1917, to Nov. 15, 1918, Chief Despatcher, C.P.R., Smiths Falls, Ont.

L. C. Thomson, formerly General Storekeeper, Eastern Lines, Canadian Northern Ry., Toronto, who was loaned by the company to the Imperial Munitions Board, early in 1916, and who has since then been Superintendent of Transportation for the board at Ottawa, handling the transportation of all products ordered by the board, will probably return to his old position at Toronto in the near future, and it is likely that his former jurisdiction will be extended to cover all Canadian National Railways lines east of Port Arthur, Ont., and O'Brien, Que.

Guy Tombs, who has been appointed Assistant Freight Traffic Manager, Canadian National Rys., Montreal, was born near Lachute, Que., Nov. [illegible], 1877, and entered railway service in Sept., 1892, since when he has been, to Apr., 1896, junior deposit clerk, C.P.R., Montreal; Apr., 1896, to Aug., 1897, secretary to General Manager and Secretary, United Counties Ry., St. Hyacinthe, Que.; Sept., 1897, to May, 1899, chief clerk to Canadian Agent, Central Vermont Ry., Montreal; May, 1899, to June, 1901, rate clerk, Division Freight Office, G.T.R., Montreal; June, 1901, to Apr., 1903, Travelling Freight Agent, Central Vermont Ry., St. Johns, Que., and St. Albans, Vt.; May, 1903, to May, 1909, General Freight and Passenger Agent, Great Northern Ry. of Canada, Quebec, Que.; May, 1909, to June, 1912, General Freight and Passenger Agent, Canadian Northern Quebec Ry., also from Apr. 1, 1908, same position, Quebec & Lake St. John Ry., and also from Apr., 1910, Montreal Representative, Canadian Northern Steamships, Ltd.; June, 1912, to Nov., 1916, General Freight Agent, Quebec Division, Canadian Northern Ry., Montreal; Nov., 1916, to Feb., 1917, General Freight Agent, Eastern Lines, Canadian Northern Ry., Montreal; Mar. 1, 1917, to Dec., 1918, Assistant Freight Traffic Manager, Canadian Northern Ry., Montreal.

J. E. Walsh, who has been Manager, Transportation Department, Canadian Manufacturers Association, at Toronto, for 11 years, has been appointed General Manager of the association, succeeding J. F. M. Murray, who has been appointed as its Ottawa representative.

A. T. Weldon, who has been appointed Assistant Freight Traffic Manager, Canadian National Rys., Moncton, N.B., was born at Dorchester, N.B., Mar. 6, 1876, and entered transportation service in 1890, since when he has been, to Apr., 1900, in different capacities in the Freight Department, Intercolonial Ry.; Dec., 1901, to Aug., 1904, in Division Freight Agent's office, I.R.C., Halifax, N.S.; Aug., 1904, to May 1, 1907, Secretary, Halifax Board of Trade; May 1 to Nov. 18, 1907, General Sales Agent, Port Hood-Richmond Ry. Coal Co., Halifax, N.S.; Nov. 18, 1907, to 1909, Division Freight Agent, I.R.C., Halifax, N.S.; 1909 to Oct. 1, 1914, General Freight and Passenger Agent, Black Diamond Steamship Co., Montreal; Oct. 1, 1914, to June 9, 1917, Assistant General Freight Agent, Canadian Government Rys., Moncton, N.B.; June 9, 1917, to Dec. 31, 1918, General Freight Agent, Canadian Government Rys., Moncton, N.B.

E. R. Wood, President, Dominion Securities Corporation, and one of the Canadian Northern Ry. directors, left Toronto early in December for a holiday in California, where he has a house.

Traffic Orders by Board of Railway Commissioners.

Commodity Rates on Canned Goods.

The Chief Commissioner, Sir Henry Drayton, gave the following judgment Dec. 6:—This application was heard at Toronto, Oct. 17, 1918. It was represented by the Canadian Northern Ry. that these rates were cancelled by the Intercolonial Ry., and that the Canadian Northern, while perfectly willing to maintain rates, could not maintain them in view of the Intercolonial's attitude. At this time the Intercolonial was operated independently of the Canadian Northern, and the Intercolonial, as a government road, was not subject to the board's jurisdiction. The matter, however, was taken up by the board with the Intercolonial's management, with the view of adjusting the situation if possible. The Intercolonial's management has taken the stand that it did not cancel the rates or require their cancellation, but that they were cancelled by the Canadian Northern. It would appear that the real difficulty between the systems interested rests on divisions. The rates ought never to have been taken out. Whatever the merits may be as between the different systems, the matter is now entirely in the hands of the Canadian Northern management, which now controls and operates the Intercolonial. I am of the opinion that an order should go providing that the former joint rates, as increased by order in council P.C. 1863, should immediately be put into effect by the Canadian Northern. The district suffering is entitled to the service, and the necessary order ought now to go.

Order 27914. Dec. 7. Re complaint of Dominion Canners, Limited, against the cancellation by Canadian Northern Ry. of commodity rates on canned goods from points on its St. Catharines Division to points in the Province of Quebec and the Maritime Provinces on the Canadian Government Rys. Upon hearing the complaint at Toronto, Oct. 7, 1918, in the presence of counsel and representatives for the complainant, the Canadian Northern, the Grand Trunk, and the Canadian Pacific Railways, and upon reading the written submissions filed on behalf of the Canadian Government Rys., and upon the report and recommendation of the board's Chief Traffic Officer, it is ordered that the Canadian Northern Ry. be required to restore and put into effect, not later than Dec. 23, 1918, the commodity rates on canned goods from shipping points on its St. Catharines Division, to points on the Canadian Government Rys. in existence prior to Aug. 12, 1918, as increased by order in council P.C. 1863.

John Gunion Rutherford, C.M.G.
Who has been appointed a member of the Board of Railway Commissioners for Canada.

Rate on Nails from Collingwood.

27923. Dec. 12. Re complaint of Imperial Steel & Wire Co., that the Grand Trunk and Canadian Pacific Railways unjustly discriminate against Collingwood, Ont., in favor of Toronto, Hamilton and other points, in their published rates on nail shipments to Vancouver wharf for export. Upon reading the complaint, the written submission filed on behalf of the respondent railways, and the report of the board's Chief Traffic Officer, it is declared that the rate and minimum weight lawfully applicable from Collingwood, Ont., to Vancouver wharf, B.C., by the all rail route of the Grand Trunk and Canadian Pacific Railways from Dec. 5, 1917, to Oct. 31, 1918, on carload shipments of nails, in boxes or kegs, when destined to the foreign ports enumerated in the tariff, was the rate shown in Special Joint Export Freight Tariff, G.T.R., C.R.C. no. E. 3677, as applicable from Toronto and Hamilton.

Rate on Cordwood from Algonquin Park.

27924. Re application of cities of Kitchener and Guelph, and the towns Waterloo and Barrie, and the Lands, Forests and Mines Department for the Ontario Government, for an order fixing flat rates per cord or per carload, instead of by weight, upon shipments of firewood from Algonquin Park to municipalities and public institutions at cost. Upon reading what is filed in support of the application, and on behalf of the G.T.R. and the report of the board's Chief Traffic Officer, and upon its appearing that the board is without jurisdiction to make the order applied for, it is ordered that the application be dismissed.

Warnings of Switching in Cities, Towns and Villages.

The Board of Railway Commissioners passed general order 256, Nov. 20, as follows:—Re sec. 276 of the Railway Act, as amended by sec. 7 of chap. 37 of 7-8 George V, repealing subsec. 1 of sec. 276 of the said act, and substituting therefor the following:—

> "Whenever in any city, town, or village, any train not headed by an engine is passing over or along a highway at rail level which is not adequately protected by gates or otherwise, the company shall station on that part of the train, which is then foremost, a person who shall warn persons standing on, or crossing, or about to cross, the track of such railway."

And re rule 102 of the General Train and Interlocking Rules, paragraphs 1 and 2 of which read as follows:—

> "When cars are pushed by an engine (except when shifting and making up trains in yards where there are no public highway crossings at rail level), a flagman must take a conspicuous position on the front of the leading car.
>
> "Whenever in any city, town, or village cars are passing over or along a highway at grade not headed by an engine moving forward in the ordinary manner, a man must take a conspicuous position on the foremost car, or tender, if that is in front, to warn persons on the highway."

Upon the report and recommendation of the board's Chief Operating Officer, it is ordered that paragraphs 1 and 2 of rule 102 of the General Train and Interlocking Rules be rescinded and the following substituted therefor:—

> "1. When cars are pushed by an engine (except when shifting and making up trains in yards where there are no public highway crossings at rail level, or where there are public highways crossings at rail level adequately protected by gates, or otherwise), a flagman must take a conspicuous position on the front of the leading car.
>
> "2. Whenever in any city, town, or village, cars not headed by an engine are passing over or along a highway which is not adequately protected by gates, or otherwise, at rail level, a man must take a conspicuous position on the foremost car to warn persons on the highway."

The Prince Edward Island Aerial Transportation Co. is being projected, with $25,000 authorized capital and headquarters at Charlottetown, to operate an airplane service between Charlottetown, Summerside and Georgetown, P.E.I., Pictou, New Glasgow and Halifax, N.S., and Moncton, N.B., for the transportation of mails and express, and later on, passengers. A committee of five business men has been formed to take the matter in hand.

The Edmonton, Dunvegan & British Columbia Ry., with its subsidiary lines has brought about a considerable development of the fisheries on northern Alberta lakes. There are reported to be over 100 teams hauling fish from the different lakes to the shipping points at Lac la Biche, Enelda and Athabasca, on the railways. The shipments are principally to United States points.

Electric Railway Department

Increases in Electric Railway Freight and Passenger Rates.

British Columbia Electric Ry.—Burnaby municipality has decided to appeal against the Board of Railway Commissioners' decision raising the fares on the company's Burnaby Lake line, and notice of the appeal has been served on the company.

See also "The British Columbia Electric Ry.'s Victoria Franchise, Fares, etc.," on another page of this issue.

Edmonton Municipal Ry.—J. H. Moir, Superintendent, Edmonton Municipal Ry., presented the following report recently:—"As all the cars are one-man operated and giving excellent results, it gives me great pleasure to place the employes on record for services rendered in making this class of operation a success. We have a cleaner record than with the old system. The damage claims up to the present time in 1918 amount to $916.82; in 1917 they were $14,094.06.

"On the present schedule we are operating 620 car hours a day. The maximum wage per car hour for one man is 50c. This for 620 car hours totals $310. The maximum wage per car hour for 2 men (45c an hour each) is 90c. This for 620 car hours totals $558. The above figures show a saving of $248 a day, or $90,520 a year. Without a doubt, one-man operation is the only remedy at present, to keep the expenses at a minimum.

"By comparing 1917 with 1918, the revenue to the end of October shows a considerable improvement, and the expenses are somewhat lower, as follows:

	1917.	1918.
Expenditure	$540,281.07	$534,717.41
Revenue	427,995.96	396,162.76
Operating expenses	329,585.77	322,224.51
Deficit	144,118.31	106,721.36

"Deficits for five years to end of October:—

1914	$190,139.06
1915	126,652.20
1916	96,263.43
1917	144,188.31
1918	106,721.36

"The influenza epidemic cut into the revenue for October. The earnings dropped to $35,691.60, making a loss of approximately $6,000 for that month, and for November $12,000. The deficit for the next two months will be approximately $32,000, making a deficit for the 12 months of 1918 of $138,000. The revenue for the same period will be approximately $73,000, making the total revenue for the year $499,966.05. I gave an estimate at the beginning of the year of a deficit of $116,000, but without a doubt we will have a loss of about $22,000 owing to the epidemic alone. Had it not been for this, my estimate would have been correct.

"The total operating expenses for the year will be approximately $386,561.68, the total revenue $499,496, and the surplus on operation $112,934.32. The proportion of operating cost to revenue has as follows:—1915, 78%; 1916, 67%; 1917, 80%; 1918, 77%.

"During the first 10 months of 1918 we carried 8,453,224 passengers, an increase of 239,000 over the same period of 1917. In October there was a reduction of 83,302 over the previous month, owing to the closing of the churches, theatres, etc., and in November we anticipate a further decrease of approximately 200,000. Under the circumstances, it is doubtful if the total passengers for 1918 will reach the figures attained in 1917, viz., 10,086,213.

"For 1919 we expect much better results, as all cars operating will be of the one-man type, and the cost of material will probably be on the decline. We hope to have an increase in the passenger traffic, owing to the return of the soldiers who left this city to take part in the war. I have given next year's progress considerable thought, and have come to the conclusion that by very careful management and the co-operation of the city commissioners, it will be possible to make a record showing for this utility.

"I would certainly recommend that an adjustment be made in our fares as soon as possible. Every street railway from coast to coast is asking for an increased fare, in most cases to 6c or higher. The Boston Elevated Railway, representing $125,000,000 capital, has been taken over by the state, and the stockholders guaranteed a fair dividend. The fare charged is 7c and should this not cover the cost of operation, the deficit is to be charged to the community. Similar conditions apply to the Bay State Railway, with 900 miles of track, and many more roads would no doubt be glad to operate under similar conditions.

"Assuming that in 1919 we carry 10,200,000 passengers, and the fares are adjusted as follows:—5 tickets for 25c, good only until 8.30 a.m.; 4 tickets for 25c, or 7c cash fare, available from 8.30 a.m. until 11 p.m.; 2 tickets for 10c cash fare after 11 p.m.; children's tickets, 10 for 25c. The average fare would be 6c, and the passenger receipts for the year, $612,000. Adding $12,000 for miscellaneous revenue, the total revenue would amount to $624,000. As our total expenses would certainly be under this figure, the result would be a surplus."

Fort William Municipal Ry.—The Fort William, Ont., City Council has passed a bylaw authorizing the charging of increased fares on the municipal railway from Jan. 1, as follows:—Five cents cash, or 5 tickets for 25c; children from 5 to 12 years, 5c each, or 8 tickets for 25c; children under 5 years, free. Workingmen's tickets are abolished. These fares to be in effect from 5.30 a.m. to midnight, and double fares to be charged from midnight to 5.30 a.m.

Hamilton Radial Electric Ry.—See under "Hamilton Radial Electric Ry. Ceases Operation Owing to Low Fares," on another page of this issue.

The London & Port Stanley Ry., which is owned by the City of London, Ont., and operated by a commission, of which Sir Adam Beck is chairman, was heretofore authorized by the city to charge a 30c fare between London and Port Stanley and return on Wednesdays and Saturdays from May 15 to Oct. 15, for both adults and children. The distance between the two places being 26 miles, or 52 miles for the round trip, this fare has always been considered to be too low, and it has tended to concentrate the traffic on two days of the week. We are officially advised that during the summer of 1918, out of 81,[illegible] tickets sold at London for Port Stanley, [illegible] were sold on Wednesdays and Saturdays. The excess of traffic worked out in such a way that in addition to keeping a number of the company's own cars idle five days a week, provision had to be made to handle the extra traffic on the other two days of the week by renting from 6 to 12 steam railway cars. This was not considered a good arrangement, and the city council was asked to agree to the withdrawal of the 30c rate. The council consented and, on Dec. 17, authorized an amendment to the agreement, under which the Wednesday and Saturday fares will in future be 50c for adults and 25c for children, thus making the fare the same on all days of the week. This 50c fare for adults is still less than 1c a mile, and it is a question if that rate will pay.

Moncton Tramways, Electricity & Gas Co.—The New Brunswick Public Utilities Commission, on Nov. 27, made an interim order putting in operation a temporary schedule of rates, tolls and charges for natural gas, electric current and street railway fares, as set out in a schedule annexed to the company's application. Heretofore the company had a 5c cash fare and sold tickets, good at all hours, 6 for 25c, and workmen's tickets, good during limited hours, 8 for 25c. The order authorizes the company to charge a straight 5c fare and to abolish the workmen's tickets.

The order is based on an agreement between the company and the city council reached on Nov. 26, after a conference with E. B. Reesor, Vice President and General Manager. The matter had been under discussion for some time, the main difficulty in the way of a settlement having to do with the rates for gas. The new schedule is to remain in force for four months from the date of the order, unless a final decision of the board is given sooner. The board directed that R. Carter make an investigation and audit of the company's affairs and report to the board within three months, or sooner if practicable. He is a chartered accountant at Halifax, N.S.

Moose Jaw Electric Ry.—In a general statement on the civic affairs of Moose Jaw, Sask., by the mayor and city commissioner Mackie, the following reference is made to the Moose Jaw Electric Ry.'s affairs:—

"The company has been operating in the city since Sept., 1911, and by the agreement entered into between the city and the company, the company, at the expiry of five years after the signing of the agreement, to pay taxes on 60% of its real and personal property, and a rental of $100 a year for each mile of unpaved streets over which the company's lines run, and $[illegible] a mile on paved streets. The company, through its superintendent, advised the city that the railway was being operated at a loss and as there was no immediate prospect of the railway paying, the company desired some measure of relief from the city in the way of suspended taxes and a rebate of taxes. On Sept. 7, the city commissioners reported to the council fully in connection with the company's financial position and [illegible] should be granted.

"The operating expenditures would be reduced by at least $10,000 annually under the one-man system of operating were adopted, and the council should use every means in its power to secure legislation to make the one-man system made [illegible] as a means of conserving labor, which is admittedly scarce, but also because with the small cars in operation there would be no trouble in its working. It would also enable the company to employ a better type of motormen and pay increased wages. Wages have risen enormously in the last six years and there is no logical reason why the street railway fares should not be raised as a result of this. Indeed there is now hardly a city in Canada where a street railway is in operation where the rates have not been increased or where the increases are not under consideration. The city should place a bylaw before the ratepayers for the purpose of increasing the fare to a straight 5c ticket, which would yield an increase of revenue of about $12,000. If the above recommendations are carried out there is no reason why, if the council is so advised, the railway company should not, in the near future, carry out repairs to the 4th Avenue overhead bridge, but pending such repairs, it should be asked to extend the track along Coteau St. to 9th Ave. S.W. The city should also insist on a sum being set aside each year for depreciation, and no dividend paid until all legitimate charges are met. In connection with the street railway situation, the question of the safety of 4th Avenue overhead bridge also came up and the lumber is now on order to put this bridge in a safe and satisfactory condition."

The matter of the street railway's future was discussed in connection with the municipal elections. H. Bamford, one of the candidates for mayor, is reported to have said that the street railway had spent $[illegible]30,000 in the city and this was one of the concerns which had sunk their money and were looking for returns. He understood the company was losing from $100 to $200 a day. The city was lucky that the street railway was not publicly owned. Regina and Saskatoon had large deficits from their service and it was a good thing that Moose Jaw had not. He understood the council must do something to [illegible] or the railway would have to close down. Even if the company was permitted to charge a 5c straight fare, was exempted from taxation, and was permitted to use the one-man car, this would not meet the case, and the question was, does Moose Jaw want the street railway?

Ottawa Electric Ry.—Particulars of the company's application to the Board of Railway Commissioners for power to increase the fares charged on its Rockcliffe-Britannia line, were given in Canadian Railway and Marine World for Dec., 1918, pg. [illegible]. The company desired the new tariff to come into force Nov. 15, but at the hearing on Nov. 18, the tariff was [illegible] and after hearing part of the argument, the further hearing of the case was postponed to Dec. 2. On that date [illegible], K.C., for the company, put in a statement showing for the line in question a car mileage of 69,801 miles; cost of operation, $11,529.38; revenue, $[illegible]; deficit, $[illegible]3.04 for the two months ended Oct. [illegible], 1918. The representatives of the municipalities were heard at length, and the commission reserved judgment.

Sherbrooke Ry. & Power Co.—Negotiations between the company and the city council with respect to an increase of fares in Sherbrooke, Que., extending over several months, were brought to a termination Dec. 2, when the council passed the following resolution:—"That the city council prepare and submit to the ratepayers who are qualified on real estate a bylaw to amend the existing bylaw to the effect that the Sherbrooke Ry. and Power Co. be granted for five months the increased rates mentioned in its correspondence, and that the city council will within the next five months prepare a new contract on terms to be agreed upon between the city and the company."

The new fares agreed on between the company and the council are as follows:—Day, 6c cash, or 5 tickets for 25c; night, 15c cash. Limited tickets, good from 6 to 8 a.m. and from 4 to 7 p.m. on week-days, 6 for 25c. School children's tickets, good from 8 a.m. to 6 p.m. on week days, 7 for 25c.

The fares which have been in force for some time are: Day, 5c cash, or 6 tickets for 25c; night, 10c cash; workmen's tickets, good from 6 to 8 a.m., 12 noon to 1 p.m. and 6 to 7 p.m., 8 for 25c. School children's tickets, 10 for 25c.

The matter which caused the extension of the discussion of the matter over such a lengthened period was not so much the question of fares, as the improvement of the lines, etc. We are officially advised that negotiations with respect to details of the franchise have been going on in a more or less active form during the past seven years. On Nov. 1, the company notified the council that it would be necessary to have a new and workable franchise put into force, subject to revision by the Quebec Public Utilities Commission, every year if operations were to be continued. In the event of the council not being willing to grant a new franchise, the company offered to sell the lines at a price to be fixed by arbitration. The council allowed the matter to drift, the committee having the matter in charge, while admitting the necessity for increasing the fares, confining itself entirely to the matter of increased service and betterment of lines, in connection with which the company made a counter proposition. At a meeting of the council Nov. 18, this counter proposition was ignored, and a resolution was passed, without prejudice to an action pending against the company, and on condition that the company give guarantees that it will fix its track and roadbed in accordance with the terms of the contract of Oct. 3, 1910, within a month, and fulfil the other obligations of the contract when ordered to do so by the council, the council will pass and submit for the approval of the electors a bylaw granting increased fares on the scale mentioned above. The company's counter proposition was considered by the council Nov. 25, but was laid on the table. This proposition was to the effect that in consideration of the granting of increased fares, the company would, early next spring, lay a second track on Wellington St., from Strathcona Square to King St., and pay $1,000 a year for the upkeep of the roadbed between the tracks, no responsibility to be assumed by the city as a result of any interruption of the service. No further progress was made and on the following day the council was notified that unless an arrangement was made the car service would be stopped on the night of Nov. 30. On Nov. 29, the city proposed that the company continue operations under the original contract for two months, during which interval a new arrangement could be made. This the company refused to accept, and issued a statement to the public explaining its position. The service was stopped at midnight on Nov. 30, and on Dec. 2 the council passed the resolution above, with the result that the company resumed its service on the morning of Dec. 3.

Winnipeg Electric Ry.—As stated in Canadian Railway and Marine World for Dec., 1918, the Manitoba Public Utilities Commission is conducting an investigation into the company's affairs to ascertain at what figures the fares to be charged in future should be fixed. The investigation was opened Nov. 25, and subsequently it was claimed by the City Solicitor that the company was selling commercial light and power below cost and was forcing the deficit on its street car system. The city claimed that all parts of the company's undertaking should be investigated with a view to showing exactly how much money had been invested by the shareholders in each one of them.

Winnipeg, Selkirk & Lake Winnipeg Ry.—The Manitoba Public Utilities Commission began the hearing, on Dec. 2, of the company's application for power to charge increased fares. The company asks for permission to do away with family ticket books, and to increase the rates of both commutation tickets and ordinary fares by from 15 to 20%. In support of the application, E. Anderson, K.C., stated that the company was facing a deficit of $25,048.15 a year, and that if the increases asked for were granted, the deficit would still be in the neighborhood of $20,000 a year. The municipalities through which the company's lines pass challenged the commission's jurisdiction, holding that sec. 4, chap. 166, of the Public Utilities Act had never been extended by the municipalities in question to cover the operation of this utility. The representatives of the town of Selkirk and of one other municipality pointed out that the agreements with the company provided that there was not to be any increase of fares because of certain concessions made by the municipalities. The application was entertained by the commission and final judgment reserved.

Electric Railway Snow Plough.—The Hydro Electric Power Commission of Ontario is having a double end, double track snow plough built by Canadian Car & Foundry Co. It is of wood construction, equipped with arch bar trucks, with wheels 30 in. diar., and fitted with hand brakes. Following are the chief details:

Length over cutter plates	37 ft.	1½ in.
Truck centers	16 ft.	8 in.
Height from rail to top of plough at center	12 ft.	6½ in.
Height from top of rail to top of plough at ends	11 ft.	1½ in.
Height from rail to top of eave at center	12 ft.	3½ in.
Width at eaves	10 ft.	1⅞ in.
Truck wheel base	4 ft.	10 in.

Cost of Service vs. Service at Cost.—R. W. Perkins, President, Shore Line Electric Ry., Norwich, Conn., is reported as having said, in referring recently to the service at cost plan of electric railway operation, as authorized by the Massachusetts Legislature: "It is good so far as it goes, but it is just as important for the state to provide that the company gets the cost of service as that passengers get service at cost. The two expressions are not always synonymous."

Tramway Working Hours in Great Britain.—The National Transport Workers Federation has presented, to all the municipal and privately owned tramways, a demand for a working week of 44 hours, at the present weekly wages.

Hamilton Radial Electric Railway Ceases Operation Owing to Low Fares.

As stated in Canadian Railway and Marine World for Nov., 1918, the Board of Railway Commissioners directed the Hamilton Radial Electric Ry. to operate the minimum of service required by the franchises granted by the municipalities, and on Oct. 17, without making an order, advised the municipalities and the company to get together with a view of amending the franchise bylaws in such a manner that the passenger tariff might be increased. The company accordingly restored the train schedule as directed, and several meetings were held by the municipalities, but E. P. Coleman, General Manager, is reported to have said that at a meeting held Nov. 23, the municipalities asked for two weeks to consider the company's request that the question of rates be left to the Board of Railway Commissioners, and that any bylaws fixing fares be rescinded. A meeting of residents of Burlington was held Nov. 29, representatives of the company being present, when a committee was appointed to meet the company and discuss the best method of effecting a settlement. In the discussion the mayor stated that the council had decided to stand on the bylaw, and General Manager Coleman stated that he had received instructions to discontinue the service. A conference with the committee was held Nov. 30, but nothing was arrived at, as subsequently notice was given by the company that the service would be discontinued on Dec. 7 at 2 a.m. At a special meeting of the Burlington Town Council Dec. 2, a committee was appointed to take such action as might be desirable in order to preserve the town's rights under the bylaw. On Dec. 5, the company's General Manager stated that in view of the negotiations in progress, the date of the discontinuance of the service had been changed to Dec. 13, and he gave the town solicitor a copy of the proposed schedule of fares, including ordinary fares, workmen's monthly tickets and family commutation monthly tickets; fares for school children to remain as before. Representations were made to the Board of Railway Commissioners, which issued the following order, no. 27916, on Dec. 10:—

Re complaint of Burlington Beach Commission, the Town of Burlington, the townships of Burlington and Nelson, and the City of Hamilton, against the reduction in train service by the Hamilton Radial Electric Ry. between Hamilton and Burlington, in violation of the terms of the agreement entered into between the Town of Burlington and the railway under authority of a bylaw passed by the town. Upon hearing the complaint at Toronto, Oct. 17, 1918, in the presence of counsel for the complainants and the railway, the evidence offered and what was alleged at the hearing; and upon reading the written submissions filed in support of the complaint and on behalf of the railway; and its appearing that the proposed reduced train service is in violation of the said agreement, it is ordered that the railway be directed to carry out and perform the terms of said agreement by putting into force and effect forthwith the following train service, namely: To leave Burlington 6 a.m., 8 a.m., 10 a.m., 1 p.m., 5 p.m., and 7 p.m. To leave Hamilton 7.10 a.m., 9.10 a.m., 11.10 a.m., 4.10 p.m., 6.10 p.m., and 11.10 p.m. That the service provided at the hours named shall be adequate and suitable to accommodate all traffic offered for carriage upon the railway.

On Dec. 10, the Burlington Town Council considered a report from the committee appointed Dec. 2, in which it recommended the suspension of the bylaw for a year, during which period the rates prevailing on the steam railway should prevail on the H. R. Ry. This report was adopted.

The service was discontinued on Dec. 13, at 2 a.m., in accordance with the company's notice, and on the following day a protest was made to the Board of Railway Commissioners, and Sir Henry Drayton, Chief Commissioner, in a judgment, concurred by Commissioners McLean and Boyce, said:—"Since order 27916 was issued, requiring the Hamilton Radial Electric Ry. to carry out and perform the terms of its agreement with the municipality of Burlington by putting into force and effect forthwith the train service therein referred to, and since the board's reasons supporting this order were forwarded to the parties, telegrams have been received from the Burlington Beach Commission and the municipalities of Hamilton and Burlington to the effect that the company has ceased operating.

"At the time the municipalities' application was heard in Toronto, on Oct. 17, 1918, the position was made perfectly clear and understood by the municipalities. That position was that the H.R.E. Ry. had a large floating debt, was still losing money, and was living on advances made by the Dominion Power and Transmission Co., and that, unless the company's rates were increased as applied for, the company would be bound to stop operation.

"The hope was then expressed by the board that the municipalities would get together and either make some arrangement with the company for an advance in the rates, which, in view of municipal agreement, confirmed by Dominion statute, the board could not order, or that the municipalities would take over the property and operate it themselves. The company's representatives expressed themselves as willing that this should be done. At the hearing the municipalities were advised that, if they desired, notwithstanding the fact that the service was not a remunerative one and notwithstanding the fact that the company was financially embarrassed, as the company had entered into an agreement, the board would issue an order requiring the agreement to be carried out and the service required to be supplied under it given.

"Since the hearing, representatives of the municipality of Burlington, who are very largely interested, came to Ottawa and requested that a formal order, as indicated, should be issued. The telegrams received request the board to take action to enforce the order that has been made, and to require the company to continue its operations. In view, not only of what happened at the hearing, but also of the information that the Burlington representatives obtained at Ottawa, it might be thought that no further comment was necessary. It apparently is.

"The board's action in the present case is only taken, and can only be taken, under the jurisdiction vested in it to enforce agreements. The board's order already [illegible] defines the service that ought to be given under the agreement and directs that that service should be given. As explained to Burlington's [illegible] method in which the board's orders were enforced is covered by sec. 46 of the Railway Act, under which any party interested may make the board's order a judgment of the Exchequer Court or of any superior court in any of the provinces, when the order becomes immediately enforceable as an order of any of these courts. In addition to this, the company may be proceeded against under the provisions of sec. 427, providing for the collection of penalties.

"The real difficulty is that in all probability, as already pointed out, owing to the financial position of the company and the fact that the operation of the railway is carried on at a loss, no relief will be obtained by the parties who urgently require the continuation of the service. This conclusion has already been pointed out. In order to have the service it was necessary for the municipalities, in whose hands, in this particular case, the matter of rates rests, instead of with the board, so as to adjust the rate that the losses which the company was suffering, and which they endeavored to be relieved of, would disappear or else that the municipalities get together, take over the system and operate it themselves. Unfortunately, this has not been done. There is nothing more that the board can do, and it regrets that its efforts to bring the parties together have been unsuccessful.

"As already pointed out, the board's action is taken under the agreement. The provision in the agreement dealing with default provides that if the company neglects to run electric cars on the railway for the accommodation of the public as provided by the bylaw, etc., for three consecutive months, the company shall thereupon forfeit all privileges and rights which it may have acquired."

In order to provide to some extent for the traffic, motor busses, promoted by the Hamilton City Council, are being run at certain hours from Hamilton to Burlington; another service, promoted by the Burlington Beach Commission, is being operated at certain hours between Hamilton and Burlington Canal; and on Dec. 17, the Hamilton City Council decided to appeal to the Board of Railway Commissioners for an order directing the Grand Trunk Ry. to provide a service. The G.T.R. gave a suburban service prior to the building of the H.R.E. Ry., and early in 1917 the city applied to the board to have this service reinaugurated, but without effect.

The Burlington Town Council wrote General Manager Coleman, Dec. 18, calling attention to sec. 427 of the Railway Act, and stating that if the H.R.E. Ry. did not comply with the Board of Railway Commissioners' order, dated Dec. 10, the council would proceed under the section to recover penalties for every day not operated, and also to proceed against Mr. Coleman personally.

A Hamilton press dispatch of Dec. 27 says:—"After weeks of discussion and negotiation over the question of a service on the radial line between Hamilton and Burlington, the company, failing to get Burlington's consent to an increase in fares, or to leave the matter of service and fares in the hands of the Board of Railway Commissioners, has decided to place its affairs in the Exchequer Court and have the company declared bankrupt. The following telegram was sent to Ottawa Dec. 18:—Owing to cessation of operation of Hamilton Radial Electric Ry., we are obliged to declare that the company is unable to meet its engagements with its creditors, and proceedings are being taken to place the company in the hands of the Exchequer Court forthwith."

Accident Suit Against London Street Railway.

An action brought against the London St. Ry. by F. B. Jarvis, teamster, to recover $2,000 damages for injuries alleged to have been sustained in an accident on the company's railway, was taken from the jury by Mr. Justice Rose, at the High Court sittings at London, Ont., Dec. 10, and a non-suit was entered.

The plaintiff was a passenger on one of the company's p.a.y.e. cars, on Nov. 29, 1917. As the car was approaching one of the regular stopping places at Ashland Ave., the conductor thoughtlessly opened the rear exit door, before the car came to a stop, and the plaintiff stepped off. The plaintiff was thrown sideways, severely bruising his left shoulder and straining the muscles of his back and neck, no bones being broken. He was laid up for several weeks, after which he claimed damages for lost time at $10 a day, which he alleged was the rate he had been earning on contract work as a teamster, and contended that the company was liable for the exit door having been opened before the car came to a full stop. The company made liberal offers of settlement, but plaintiff would not accept any of them, and the action went to trial.

In directing the entry of a non-suit, the judge is reported to have held that the opening of the rear exit door on a car of the type in question was not an invitation to passengers to step off.

The Toronto Railway Car Shortage Penalty.

The Toronto Ry.'s appeal against the penalty of $24,000 imposed by the Ontario Railway and Municipal Board, for the company's non-compliance with the board's order to place 100 additional cars in service by Jan. 1, 1918, was dismissed by the First Appellate Court, Dec. 19, and the board's decision upheld. The amount of the penalty covers 24 days to, and including, Apr. 17, 1917, and, as the order has not been carried out, the company is apparently liable for $1,000 a day for each day since Apr. 17, until the order is carried out.

The Chief Justice's judgment held that the appellant did not comply with the order of Feb. 27, 1917, is admitted, but it is contended that it, in good faith, made all possible efforts to comply with it, but was unable to comply, owing to the impossibility, because of the war and other conditions, of getting the cars built for it, or to obtain the steel and the labor necessary for the building of them if that work had been undertaken by the appellant itself.

The Chief Justice continued: "It was no doubt shown that these difficulties existed to some extent, and were sufficient to have rendered the putting in service of 100 cars by Jan. 1, 1918, difficult, but it is undoubted also that the appellant took no proper steps to obtain contracts for the supply of the cars to be delivered at the earliest date at which car builders would have been willing to have delivered them, and it is clear, I think, from the statement of the appellant's General Manager that if it had been practicable to have obtained the cars in time the appellant would not have bought them because of the very large sum that it would be necessary to expend in the purchase of them. The position of matters today, as to the putting in service of the first 100 cars, is precisely the same as it was when the order of Feb. 27, 1917, was made, and, in my opinion, the appellant has not done all that it could and should have done to ensure the putting in service of these cars at the earliest possible moment."

The judgment points out that the proper course for the company to take was to apply to the board to rescind or vary the order. After dealing with the various arguments put forth by the company's counsel in regard to the validity of the order and the jurisdiction of the board, the Chief Justice concluded: "Applying this rule (referring to one as to the constitutional validity of a provincial enactment) we ought, in my opinion, to hold that in the Ontario Railway and Municipal Board Act, 1906, the legislature must be taken to have constituted a tribunal, the members of which should be appointed under its authority as provided by sec. 4 (2), rather than that the legislature created a superior court and usurped an authority which it did not possess, but which was vested in the Governor General."

It is reported that the company intends taking a further appeal to the Imperial Privy Council, on the question of the validity of the order.

Electric Railway Finance, Meetings, Etc.

British Columbia Electric Ry. and subsidiary companies.—

	Oct. 1918	Oct. 1917	4 months to Oct. 31, 1918	4 months to Oct. 31, 1917
Gross	$580,354	$491,964	$2,114,137	$1,842,476
Expenses	456,028	393,508	1,751,662	1,551,321
Net	124,326	98,456	362,475	291,155

Calgary Municipal Ry.—Total earnings for 10 months ended Oct. 31, $542,770.57; expenditures, $560,545.56; deficit, $17,740.99. Commissioner Graves is reported to have stated that the traffic was light during October, owing to the influenza epidemic and the enforcement of the mask bylaw, and that similar conditions prevailed during the earlier part of November. The commissioners expected that the December traffic would enable the year to be closed with a deficit of about $15,000.

Edmonton Radial Ry.—The report on the E. R. Ry. for the 9 months ended Sept. 30, issued by the city's public utilities department shows as follows:—

	1918.	1917.
Total revenue	$392,304	$357,830
Operating and maintenance charges	288,975	297,723
Net deficit after meeting capital charges	$87,914	$129,521

Lethbridge Municipal Ry.—The results of the operation of this municipal railway, as reported by the city commissioners, for 1917, as compared with 1916, were:—

	1917.	1916.
Earnings	$50,150.09	$47,812.55
Rental	2,053.79	1,826.99
Gross revenue	$52,203.88	$49,639.54
Expenses.	81,081.84	77,564.43
Deficit	$28,877.96	$27,924.89
Passengers carried	1,052,094	1,028,698
Car miles	262,812	280,391
Revenue per car mile .	19.86c	17.70c
Total cost per car mile	30.85c	27.66c
Passengers per car mile	4	3.66
Average fare per passenger	4.76c	4.06c

Niagara, St. Catharines & Toronto Ry.—The ratepayers of Niagara Falls, Ont., are to vote Jan. 1 on the question of purchasing the company's subsidiary, the Niagara Falls, Wesley Park & Clifton Tramway Co., with all its real and personal property, on payment of the actual value to be determined by the Ontario Railway and Municipal Board.

The railway extends from Bridge St., Niagara Falls, Ont., to Montrose, in Stamford Tp., 4.56 miles. The franchise expires in March and April, 1920. We are officially advised that there have not yet been any negotiations with respect to the purchase with the company.

Regina Municipal Ry.—The city auditor's report for the 10 months ended Oct. 31, laid before the Regina, Sask., City Council recently, said:—"The street railway deficit at the end of the 10-month period was $51,493.82, compared with an estimated deficit for the year of $46,824.82. The big addition of over $9,000 to the street railway deficit in the past month is principally attributed to the influenza epidemic which was responsible for heavily cutting into the traffic during the last two weeks of the month."

Regina Municipal Ry.—

Deficit for Nov., 1918..................	$9,449.38
Deficit, 10 months to Oct. 31...........	51,493.82
Total deficit for 11 months..........	$60,943.20

Toronto Civic Railway.—

	Nov., 1918	Nov., 1917
Revenue	$28,084.28	$24,850.69
Passengers	1,701,445	1,481,471

Toronto Ry.—The company was, on Dec. 9, reported to have sold to New York bankers $1,000,000 of 2-year 6% notes, to finance $1,500,000 of notes which matured Dec. 1. It is said that the company has agreed to pay to the trustees $43,500 in each month, beginning Jan. 1, for the retirement of the notes by purchase in the open market, at a price not exceeding par, and interest, making the total payments during the life of the notes sufficient to retire the entire amount. The company also agrees to pay as far as permitted, by law, all Canadian and U.S. taxes, including any normal U.S. income tax deductible at the source up to 4%. The balance of the money required to retire the old issue was appropriated from income.

Toronto Ry., Toronto & York Radial Ry. and allied companies.—

	Oct. 1918	Oct. 1917	10 months to Oct. 31, 1918	10 months to Oct. 31, 1917
Gross	$1,048,478	$1,043,886	$10,645,075	$9,934,998
Expenses	557,908	599,073	5,759,861	5,331,378
Net	490,570	444,813	4,885,214	4,603,620

Winnipeg Electric Ry., and subsidiary companies.—

	Oct. 1918	Oct. 1917	10 months to Oct. 31 1918	10 months to Oct. 31, 1917
Gross	$295,005	$301,722	$2,969,142	$2,733,516
Expenses	261,441	209,761	2,289,891	2,071,428
Net	33,564	91,961	679,251	662,088

The deficit for October, after allowing for fixed charges, was $23,235.39.

Coal Saving by "Skip-Stop."—Six months operation under the "skip-stop" system adopted by United States street railways as a coal conservation measure, shows a saving in coal, or its power equivalent, in 24 states of 687,122 tons, annually, according to the latest figures announced by the U.S. Fuel Administration. Reports from the other states are not yet available.

Four jitney drivers were fined in Vancouver recently for breaches of the bylaw stopping the operation of jitneys in the city on and since Sept. 13. Charges against ten other jitney owners were withdrawn, as they had ceased operating.

The Death of James D. Fraser.

Jas. Dewar Fraser, Secretary-Treasurer, and one of the directors, of the Ottawa Electric Ry. Co., died with startling suddenness in Ottawa on Dec. 17. Although he had not been quite in his usual robust health for some months previously, he was at his office regularly, and even his closest associates had no apprehension about him. He left his office about 5 p.m., and went to the Rideau Club, where he dined, as he frequently did, and at about 9.30, while playing billiards, he fell suddenly to the floor. Two doctors, who were watching the game, rushed to him, but he was dead, the cause being given as apoplexy.

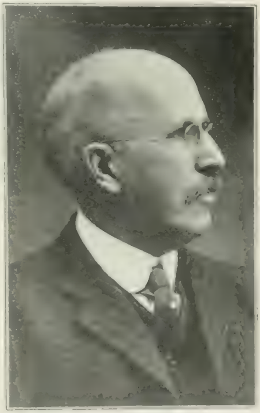
Mr. Fraser was born at St. Andrews, Que., Mar. 26, 1851. When 15 years old he started work as a clerk in the registry office at L'Orignal, at the same time learning telegraphy. He was employed subsequently by the W. C. Edwards Co., lumbermen, at Rockland and Thurso. From 1871 to 1882 he was accountant and telegraph operator for W. McClymont & Co., lumbermen, Ottawa, and from 1882 to 1891 was Secretary-Treasurer, Ottawa City Passenger Ry., which operated horse cars. In 1891 he was appointed Secretary-Treasurer, Ottawa Electric Ry. In 1893 he was also appointed Secretary-Treasurer, Ottawa Car Co., now Ottawa Car Manufacturing Co., and in 1906 was elected a director. In 1913 he was elected a director, Ottawa Electric Ry. Co., and in 1914 was also elected a director, Ottawa Traction Co., of which he was also Secretary-Treasurer. In addition to those positions, he was a director and Secretary-Treasurer, Wallace Realty Co. He was a member of the Canadian Electric Railway Association's executive committee continuously since 1911, was Vice President in 1914-1915 and President in 1915-1916.

Mr. Fraser never lost his interest in telegraphy. He had an instrument on the large office table used jointly by Thos. Ahearn and by him, and with the instruments in both their houses they used the telegraph for communicating with each other more than the telephone.

While Mr. Fraser was of a most unassuming, and almost retiring, disposition, he took an active interest in many matters pertaining to Ottawa's progress. He was a member of the city council in 1891, 1894 and 1896, and devoted considerable time to the Protestant General Hospital, of which he was a director. In his younger days he took a keen interest in sports, and was for some time President, Ottawa Amateur Athletic Club. He was a member of the Ottawa Golf Club, where he played considerably, and spent many evenings, and also a member of the Gatineau Fish and Game Club at Thirty-one Mile Lake, where he enjoyed frequent visits. He was a Presbyterian, and unmarried, and was most devoted to his three sisters, their families, and his deceased brother's family, and left his estate to be divided among them.

The news of Mr. Fraser's death caused very general regret in Ottawa, where he was well known and esteemed by thousands of citizens. It was a severe blow to Thos. Ahearn and Warren Y. Soper, President and Vice President of the Ottawa Electric Ry., with whom he had been associated in business for some 25 years and of whom he was a close personal friend. His associates in the Canadian Electric Railway Association, to whom he had endeared himself during a number of years, will miss him very much. To the writer of this article, who enjoyed his friendship for nearly 20 years, and who has spent considerable time with him in Ottawa during frequent visits there, his death is a great loss and personal grief. The writer will always cherish his memory as that of a true friend, a valued advisor and a most lovable character.

The funeral to Beechwood Cemetery, Ottawa, on Dec. 20, was attended by hundreds of Ottawa citizens of all classes, and by a number from outside places, among them J. E. Hutcheson, General Manager, Montreal Tramways Co., who was associated with Mr. Fraser for many years in the Ottawa Electric Ry.'s management. The Ottawa Electric Ry. and the Ottawa Car Manufacturing Co. were represented by a number of officials; the Board of Railway Commissioners by S. J. McLean, Commissioner, and A. D. Cartwright, Secretary; and the Canadian Electric Railway Association by two members of the executive committee, G. Gordon Gale, Vice President and General Manager, Hull Electric Co., and Acton Burrows, the association's Honorary Secretary-Treasurer. The association's President, A. Eastman, Vice President and General Manager, Windsor, Essex & Lake Shore Rapid Ry., much regretted being unable to attend, having to sit on that day as one of the members of a board of conciliation between the Niagara, St. Catharines & Toronto Ry. and its men.


James Dewar Fraser

The Ottawa Journal said editorially:—"The sudden death of J. D. Fraser must have come as a distressing shock to many of his friends because to all appearance he was still a man not very far past the prime of life. That he had nearly [illegible] years of age could have been suspected by but few of those who knew him. His cheeriness, general interest in life, and physical vigor did not seem to be abated. Perhaps it was a happy ending for Mr. Fraser, but not the less a distressing one to others who regarded him with affection as a valued friend, a kindly and generous gentleman and a public-spirited citizen. Mr. Fraser was one of the not too numerous men who never say an unkindly thing about anyone. Independent in his own judgments and firm in his views, he had a wide tolerance for all who thought differently to himself. Such men as he constitute a valuable asset to any community. The Journal begs to pay a tribute of heartfelt respect and esteem to his memory."

Proposed Purchase of Ottawa Electric Railway by City.

The Ottawa City Council, after having had under consideration for some time the question of a new franchise for the O. E. Ry., or its purchase by the city, has decided to submit three questions to be voted on by all municipal electors at the municipal elections on Jan. 6, as follows:

If not earlier acquired, are you in favor of the City of Ottawa acquiring the property and assets of the Ottawa Electric Ry. at the expiration of its franchise in 1923, by arbitration, as provided by the agreement between the city and the railway?

Are you in favor of the City of Ottawa acquiring the property and assets of the Ottawa Electric Ry. by arbitration, as provided by the agreement between the city and the railway, at such date prior to 1923, as may be mutually agreed upon?

Should the Ottawa Electric Ry. be acquired by the corporation, are you in favor of it being managed by an appointed commission?

Mainly About Electric Railway People.

A. S. Fraser, Master Mechanic, British Columbia Electric Ry., Victoria, B.C., has left the company's service, having received a civic appointment at Kamloops, B.C.

J. W. Lyon, of Guelph, Ont., one of the promoters of the proposed hydro electric radial railway system for Ontario, was one of the speakers at the dinner given the Hon. Robt. Rogers, ex Minister of Public Works, in Toronto, Nov. 28.

P. A. Moncrieff has been appointed assistant Traffic and Transportation Manager, Calgary Municipal Ry. The employes union grievance committee protested to the mayor and commissioners, Dec. 16, against the appointment, contending that he had been appointed over senior men.

R. C. Bisette, heretofore agent, Chatham, Wallaceburg & Lake Erie Ry., Chatham, Ont., has been appointed accountant, vice A. C. Johnstone, deceased. He entered the company's service in Jan., 1913, as stenographer to the General Manager, and in Dec., 1913, was appointed freight clerk; Aug., 1915, chief clerk, freight office, and was, from Mar., 1916 to Oct., 1918, agent, all at Chatham, Ont.

C. F. Waugh, heretofore traffic and freight claims clerk, Chatham, Wallaceburg & Lake Erie Ry., Chatham, Ont., has been appointed Agent. He entered the company's service in Dec., 1913, as baggage clerk, and was from Sept., 1914, to Jan., 1916, freight clerk; Jan. to Aug., 1916, chief clerk; Aug., 1916, to Mar., 1916, agent; and from Mar., 1916 to Oct., 1918, traffic and freight claims clerk, all at Chatham.

The British Columbia Electric Railway's Victoria Franchise, Fares, Etc.

One of the results of the granting increased wages to the B.C. Electric Ry. employes in early 1918, was that the company approached the Victoria City Council, asking for an amendment to its franchise to allow it to charge a 6c fare, instead of the existing 5c fare, in order to help to meet the increased wages. The council at first refused to consider the matter, but later on it decided to discuss it on condition that certain concessions in the way of reduction in lighting rates, maintenance of pavements, etc., should be made. The company's propositions in connection with these matters were outlined to the council in a letter by George Kidd, General Manager, on Aug. 30. He asked the city to pass a bylaw authorizing the company to charge a 6c fare, with transfer privileges, in return for which concession the company would put in force the recommendations of the Shortt report that the Victoria franchise be brought into harmony with the Vancouver franchise except as to the proportion of gross earnings paid, and to apply the Vancouver scale for lighting in so far as practical in Victoria. The principal change which this suggestion would make in the charter would be with respect to the maintenance of track allowance. The company would be prepared to take over the maintenance of the 5.33 miles of track allowance in macadam, and the 18.82 miles of permanent roadway which is in good or fair condition, leaving 4.85 miles of track allowance to be maintained by the city. The company would also desire the passing of a bylaw to eliminate the jitney traffic in the city.

The city council's committee held several meetings for the discussion of the proposition, and reached certain conclusions, which have been incorporated into a draft agreement which was laid before the council Nov. 26, and subsequently sent on to the company. This agreement, it was proposed to make for two years, after which it was to be subject to revision at the instance of either party. Certain sections of the proposed agreement practically embody the company's suggestions as to between-track maintenance of streets, but there are also included provisions for the construction of certain additional lines on a two-third majority vote in the city council; for the regulation of traffic; for the payment to the city of 5% of the gross annual of railway receipts within the city limits, monthly; for the charging of Vancouver rates for light, gas and power; and for the appointment of a receiver in case of violation of the terms of the agreement.

A letter from A. T. Goward, the company's Manager at Victoria, was laid before the council Dec. 10, in which he said: "After very careful consideration of the conditions proposed, it seems to us that the original reason for our request has been lost sight of. At the time of the strike last June demands made by the men for increased wages were so large that the company found it could not meet these demands unless it was able to take in more money on the rates; and to help the company to do this a request was made that it be allowed to charge a fare of 6c, with full transfer privileges. The company felt that it was entitled to this raise in fare, inasmuch as the price of all other commodities had gone up, even the price charged by the city for its domestic water supply, and because other cities in Canada and the United States had recognized the necessity of giving help and had granted similar and, in many instances, larger increases in the rate of fare.

"I refer to these things, as I am anxious to point out that it was because of the vital necessity of securing financial assistance that our company approached the council. Should the conditions laid down by the council have to be accepted before such assistance is granted, the position of the company would be worse than it is at present, inasmuch as the amount of increase in revenue to be derived through the 6c fare would be far more than given away in the concessions sought by the council.

"After very careful consideration, therefore, we have to say that, although we shall be only too pleased to discuss the various clauses with the mayor and council, should they so wish, still it seems to us that the council and ourselves are so far apart and the idea of giving us any help—as suggested by the conditions proposed by the council—so remote, that no good will be arrived at by further discussion unless the council is prepared to meet us with a desire of granting us relief."

The Hamilton Street Railway Situation.

The Hamilton City Council's special committee, which, under the chairmanship of Alderman Langs, has been investigating the street railway situation there during the last two years, presented a lengthy report to the council Dec. 20. It was not made public, but was laid over for the consideration of the council for 1919. In presenting the report, Alderman Langs expressed himself as being in favor of the city taking over the Hamilton St. Ry. lines upon the expiration of the franchise in 1928.

A press report says the committee in the report has arraigned the company in no uncertain manner. It calls for an improved service. It asked that all cars unfit for use be scrapped and that 25 new cars be provided. The report recommends that all faulty tracks be relaid, that a 10-minute service be given to the western city limits, that Sherman Ave. be double tracked, that the line on Stuart St. be extended to Queen St. and along Queen St. to King St., a crosstown service from the head of Wentworth St. to the York St. line, and the company to be asked to furnish daily statements of its operations. The city will also be required to renew pavements to Herkimer St., York St., Margaret St., Main St. and Wentworth St. Figures from government blue books showed a profit on the street railway for the fiscal year 1917 of $194,114, and a loss on the Brantford & Hamilton Ry. of $85,000. There was also a loss on the H. G. & B. E. Ry. of $11,500, and a loss of $28,000 on the Hamilton Radial Electric Ry. for the same period. There was a profit of $6,000 on the Hamilton & Dundas Electric Ry.

The Hamilton Spectator says editorially:—"This report, taken in conjunction with the radial impasse, makes it quite evident that, in justice to the city and the municipalities with whose interests Hamilton is so closely identified, a general clean-up of the present intolerable situation should be insisted upon. The suggestion we have formerly made that the municipalities and the city should get together and arrange first for an adequate service in consideration of reasonable rates still stands good. It seems the only fair way out of the trouble."

Electric Railway Employes Wages Arbitrations.

Grand River Ry., Lake Erie & Northern Ry.—The Minister of Labor has appointed a board of conciliation to deal with the question of wages, etc., for these companies' employes. F. H. McGuigan, Toronto, represents the companies, and J. G. O'Donoghue, Toronto, represents the men.

The Niagara, St. Catharines & Toronto Ry. board of conciliation, which sat during the early part of December, to deal with matters in dispute between the company and its employes, consisted of Judge Livingstone, Welland, Ont., chairman; Albert Eastman, Vice President and General Manager, Windsor, Essex & Lake Shore Rapid Ry., Kingsville, Ont., and President, Canadian Electric Railway Association, representing the company, and J. F. Marsh, on behalf of the employes. The conductors and motormen asked an increase of 13c an hour for the first six months, increasing to a maximum of 55c for passenger men and 60c for freight men, and a number of other concessions. The board unanimously recommended an increase of 7c an hour, making the new rates as follows:—

Passenger trainmen—1st year, 39c an hour; 2nd year, 41c; third year, 43c; after third year, 45c; after 10 years continuous service, a bonus of 2c an hour.

Freight conductors and engineers—First, second and third years, 47c; after third year, 48c; after 10 years continuous service, a bonus of 2c an hour.

Freight brakemen and polemen—First 6 months, 40c; second 6 months, 41c; after first year, 43c.

Barnmen, shopmen and linemen were increased 7c an hour, section foremen to $10 0a month, regular section men, 35c an hour; sub-station operators, $100 a month; towermen, 1st class, $85 a month; towermen, 2nd class, $75 a month.

Toronto Railway.—The Minister of Labor in Nov., 1918, established a board of conciliation to deal with a dispute concerning wages between the company and its employes, the members being J. A. Barron, County Judge, Stratford, Ont.; F. H. Phippen, K.C., Toronto, representing the company, and H. A. Harper, representing the men. Several sittings have been held, but the proceedings had not been completed up to Dec. 31.

London & Lake Erie Ry. & Transportation Co.'s Dismantling.—The London, Ont., City Council has been offered by the company its right of way to Grand Ave., with the bridge, for $8,750. The section of the right of way offered is said to have cost $4,000, and the bridge $16,000. The company having paid the taxes, etc., due the city of St. Thomas, Ont., the connection between its lines and those of the St. Thomas Municipal Ry. was not removed, and the removal of the rails, etc., which are being taken up, to the steam railway yards for shipment was continued.

The Kitchener & Waterloo St. Ry. service between Kitchener and Waterloo, Ont., was suspended, Oct. 14, until further notice, owing to the influenza epidemic.

Electric Railway Problems and Operation in Montreal.

By W. P. Graves, Chief Engineer, Montreal Tramways Co.

The following address was made at a luncheon of the Kiwanis Club, in Montreal recently, by Mr. Graves:—

Electric railways on this continent have suffered immeasurably by conditions which have prevailed during the past world war, on account of the high prices which have been and are prevalent, for material used, in the operation and maintenance of the properties, also in the high rate of wages. In some instances an increase of 700% in the price of material has been noted. The industry, unlike private or quasi public enterprises, has not been able to adjust the selling price of its commodity to meet these unforseen conditions—the result is obvious, maintenance of the physical property has lagged and any of you who have to do with operating properties know that maintenance is cumulative and, if not currently cared for, results ultimately in complete renewals at a much increased cost. I have noted recently an article on tramway maintenance in a current magazine, in which it is stated that no reconstruction of track had been undertaken in England in the past four years, and that in the next three years there will be required 320,000 tons of rail, when normally only 20,000 tons were required annually. The same conditions apply in both Canada and the United States, only to a lesser degree.

The electric railways in this country and in the United States have also suffered through over regulation by governmental and local governing bodies and commissions, with the net result that it scarcely knows where it stands. Their revenues have been regulated, the disposition of their revenue has been regulated, the operation in detail has been regulated; and last, but not least, the returns to the shareholders have been regulated until, I am quite sure, the industry is just on the point of going into retreat to recuperate, but thanks to the indomitable spirit of its several managements, it has been able to "carry on," but I can assure you that it, as an industry, is sick, and the one large factor in this particular disease is regulation, and the one specific cure is more revenue, until such time as more normal conditions prevail.

Many plans of regulation have been predicated by regulating bodies, on the theory that the service should be furnished to the public at cost and without profit to anyone. Included in this cost of service is the cost of the capital necessary for furnishing such service. It is evident that the term cost, as applied to the operation of an electric railway, represents, under a flat rate of fare, the aggregate cost of the service, and not the cost to each individual; since the difference in the length of haul, and the difference in cost of operation upon various parts of the same system, make it impossible to charge each passenger in accordance with the service rendered. By this general and brief statement of the end which regulating bodies desire to attain, you can readily see that the more bodies appointed to consider the affairs of electric railways, the more plans of operation and regulation we will have, and in the ultimate, the confusion resulting has left the affairs and policies of the companies in a chaotic state. Fortunately, in Montreal this matter of regulation has been definitely settled for a long term of years.

Few people realize the amount of capital invested in the transportation of the public to and from its daily vocations. In this city, which is probably a fair average example of the larger cities on this continent, this investment reaches $[illegible] per capita, or in other terms, $200,000 per mile of track operated.

Under the recent contract entered into between this company and the City of Montreal, there are certain provisions rewarding good management. The first is through an allowance of an operating profit of one-eighth of 1%, which the company receives if it keeps its operating expenses within the amount fixed by the Tramways Commission; this percentage being in the total amount of the operating expenses. The second is a three way division of surplus, after paying the cost of the service rendered as fixed by the terms of the contract, the reserve fund receiving 50%, the city 30% and the company 20%.

One might discuss at length, various other phases of electric railway and public utility operation, but my purpose is only to call your attention to the several salient features of this ultra modern contract under which this company is operating, and the fact that its affairs in detail are supervised by a very able commission, whose members give their entire time to the problem confronting it, assures to the public the maximum of service at the lowest cost, and it is, of course, the management's endeavor to earn the reward offered.

Traffic.—The Montreal Tramways Co. has a personal dealing with some 650,000 people daily, and for sake of comparison, we may say, with every man, woman and child in Montreal, although this is not strictly true, and from that statement, you who are accustomed to dealing with the public can particularly realize, owing to the perversities of human nature, that from 650,000 view points we cannot be perfect; but as a manufacturer and producer of that necessary commodity, transportation, we endeavor, as in other manufacturing industries, to maintain efficiency, in all details, that our earning power may be maintained.

To carry on this business, the company has available some 1,200 passenger and freight cars, of which a large majority are in service at some time during the day, running in the course of a year [illegible],000,000 car miles, and in this latter statement is one of the greatest bugbears of the management of a street railway service, that is, that for about [illegible] of the time an enormous investment in equipment is tied up with no producing and therefore no earning capacity. Can you imagine the plant of the Steel Co. of Canada, of the Canada Cement Co., or any other large industry, shut down for [illegible] of their [illegible] hour operating day and for the other [illegible] hours running at [illegible] to [illegible] overload? You will readily see that the problem of giving the trainmen sufficient hours of work to enable them to earn in total a living wage is a serious one and involves an immense amount of labor in the making of running schedules and assignment of the men to the best advantage both to themselves and the company. Each and every car has a schedule prepared for its operation and in the ultimate this schedule works very much the same as a steam railway timetable, and it is the endeavor of the operating department to [illegible]. [illegible] ly.

Power.—[illegible] the company [illegible] power stations, [illegible] with a total output of [illegible] maximum output [illegible] a large investment [illegible]

We are, as rapidly as circumstances permit, enhancing our use of hydro power, but due to interruption of supply from various causes, we have found that to protect ourselves and maintain the uninterrupted service which our patrons, the public, demand, it is necessary to practically duplicate the power output in steam generation as a [illegible] largest steam turbine generators manufactured and have the same in operation, and more recently have duplicated that generator, and the additional one is now delivered to us and will be installed in the future. These generators have an output of 17,500 h.p. at normal load.

During the past few years the problem of obtaining [illegible] enormous output of energy has been a serious one, [illegible] doubled, but fortunately, through foresight, [illegible] was necessary. [illegible] purchasing power of the small fare which we receive; and the result has been that there has been practically no interruption due to lack of power.

Mileage.—The Montreal Tramways Co. operates a total of 270 miles of single track in the city and on Montreal Island. The investment in tracks alone amounts to upwards of $70,000 a mile at this time. Compare this with the cost of steam railway trackage of $18,000 to $20,000 a mile. I cite these figures to illustrate how little conception the public in general has of the costs entering into a property of this size.

Recently a prominent chief engineer of a steam railway, while observing the installation of a large intersection at [illegible] and St. Catherine Streets, remarked to me that it must have cost the company [illegible]

Within recent years the installation [illegible] the company, with the [illegible] of the City of Montreal, has adopted a grooved girder rail weighing [illegible] lb. a yard and would, under normal conditions, have installed many [illegible], but the steel mills have been unable to roll it on account of war demands, and the result is that we have outstanding orders for several thousand tons since [illegible]

Under the recent contract with the city, the company has been obliged to take over and maintain approximately 1,000,000 sq. yd. of paving in and between its tracks. This has added a very serious maintenance expense to our operation, but we hope in time to have it in such condition that the public may well be proud of its streets.

On the whole, and in conclusion, it is the company's endeavor to give to Montreal's citizens the best street railway service on the continent, and we feel that we are coming measurably close to that goal. We invite constructive criticisms; and complaints, however small, are promptly investigated, and, if justifiable, are remedied; but to finally accomplish this result, we must have the support of the public, and in addition to such support, we must have adequate revenue from fares.

Electric Railway Projects, Construction, Betterments, Etc.

Brantford Municipal Ry.—Brantford, Ont., ratepayers were asked to vote, Jan. 1, on a bylaw authorizing the issue of $125,000 to be expended upon the extension and improvement of the municipal railway, and for additional equipment. The Terrace Hill extension which is proposed, would start at the junction of Market and Marlboro Sts. and extend to St. Paul and Brant Avenues, the exact route, however, not being definitely settled. The amount asked for would also provide for the additional equipment necessary for this line, and for two cars ordered already.

The city council has ordered an investigation to be made by the city engineer as to the condition of the line to Paris. (Nov., 1918, pg. 505.)

The Hull Electric Co., during 1918, laid [illegible] mile of new track on St. Joseph Boulevard, Hull, Que., from Montcalm St. to Montclair Ave., and reconstructed 0.734 mile of old single track on Montcalm St., from Main St. to St. Joseph Boulevard, the new line being a double track one. (July, 1918, pg. 308.)

London St. Ry.—A London, Ont., press report of Dec. 13 stated that a petition was being circulated for presentation to the city council asking that the company be called upon to construct an extension of its line on Quebec St., from Dundas St. to Lorne Ave., and across that avenue to join the north belt route at Adelaide St. Under the company's contract with the city, an additional mile of line has to be built for every increase of 2,000 in the city's population, and it is claimed that the company ought to build several miles of lines in order to meet its obligations. This matter appears to have been discussed by several associations in the city, and it also appears that there has been some informal discussion with the company. The President of the company was reported Dec. 13 to have stated that there [illegible] some trouble in financing new [illegible] the company had not paid any dividends during the past two years, and while it was in a non-dividend paying condition it would not be able to raise new capital. (Feb., 1918, pg. 77.)

Moncton Tramways, Electricity & Gas Co.—At a recent meeting of the Moncton, N.B., City Council, the question of suburban extension was raised. E. B. Reesor, Vice President and General Manager, stated that the suburban line had been abandoned, and the wires and poles removed. The line was unsafe, and did not pay. He hoped the abandonment of the line was not final. If the council would meet the company something might be done, as he thought the people would agree to a 10c rate for the line. If a line was again to be run to the suburban district, the Church St. route was the only possible one. No definite action was taken. (Sept., 1918, pg. 403.)

New Brunswick Power Co.—The New Brunswick Public Utilities Commission concluded its hearing, and reserved judgment, Nov. 27, on the company's application for authority to remove the rails and trestle from Rodney Wharf, West St. John, and the city's counter application asking the re-establishment of the car service on the wharf. The company contended that the wharf was unsafe, that it would cost a prohibitive amount to repair it, and that the traffic did not pay. It is said that before giving judgment the commission will have an engineer report on the wharf condition. (Dec., 1918, pg. 559.)

Nova Scotia Tramways & Power Co.—Controller Murphy, reporting to the Halifax, N.S., Board of Control, Dec. 10, said: "The growing traffic north of Young St. has been called to my attention with a view of asking the N.S.T. & P. Co. to continue its Barrington St. line north from Young St. to Roome St. I would suggest that this matter be placed before the company with a request that the service to the end of their old line be re-established. I feel that the public demand now justifies this being done." The report was approved. (Sept., 1917, pg. 369.)

Toronto & York Radial Ry.—Work is reported to have been started south of Aurora, Ont., on the short piece of line which will connect the company's Metropolitan Division with the G.T.R. This will enable the company to give a freight connection to factories located in the western part of the town. (Dec., 1918, pg. 560.)

Electric Railway Notes.

The London, Ont., city board of control decided recently to ask the London St. Ry. if it would consider favorably a proposition to have it operate a London-Lambeth line.

The Lethbridge, Alta., Municipal Ry. is, we are officially advised, contemplating the purchase of a 300 k.w. d.c. generator, 600 volts, for direct connection to its present engine, 360 r.p.m.

British Columbia Electric Ry. employes on the mainland contributed $128,500 to the Victory Loan through their own organization. One hundred per cent. of the employes of the head office took bonds.

Calgary Municipal Ry. put a new car schedule into effect Dec. 2, including extra cars on a number of lines for the rush hours. A report stated that 20 extra cars would be put on for the rush hour traffic.

The Montreal Tramways Co. has put on sale books of 50 regular tickets, and books of 60 limited tickets, at $2.50 each. This is no reduction in the regular rates and books are only on sale at the company's offices.

The Dominion Trades and Labor Congress' Ontario Executive has asked the Ontario Government to fix an 8-hour day instead of 10 for electric railway employes, and to abolish running boards on electric railway cars.

A large body of citizens has petitioned the Regina, Sask., City Council to restore a full service to the Scarth and Fifteenth Street route, or at least a full service on the route from the C.P.R. station to the Legislative Buildings, between certain hours daily. A one-car service is being given on the line.

Sir Adam Beck and J. E. Richards, Manager of the London & Port Stanley Ry., appeared before a London, Ont., City Council committee recently, and asked for power to fix the holiday rates for 1918 between London and Port Stanley at 50c for adults and 25c for children. The matter was left over until the regular meeting of the committee.

The Toronto Ry. appeal against the judgment in favor of the City of Toronto, to recover $14,391.47 for removal of snow thrown on the sides of streets by the company's sweepers in cleaning the tracks, came before the Appeal Court at Toronto, Dec. 17. The company was given 10 days to take a reference if it so desires, but if not, the appeal is to be dismissed with costs.

The Montreal Tramways Co. has divided its Notre Dame St. line into two sections, the eastern and western, with a common central terminus at Place d'Armes. The eastern section runs from Place d'Armes to First Avenue, and to Dominion Park as needed, and the western section runs from Place d'Armes to Church Ave., Cote St. Paul. The new arrangement was put into effect Dec. 1.

The arbitration proceedings relative to the taking over by the City of Toronto, of the Toronto & York Radial Ry.'s Metropolitan Division were adjourned recently to Jan. 7, owing to the absence of A. B. Ingram, Vice Chairman, Ontario Railway and Municipal Board, through illness in his family, and of Prof. Swain, one of the witnesses, who was overseas dealing with projected reconstruction matters for the American Society of Civil Engineers, but who was expected to return early in January.

A report has been current for some time that the Montreal Light, Heat & Power Co. is negotiating with the Montreal Tramways Co. to acquire the power part of the latter's undertaking, and M.L.H. & P. Co.'s shares have steadily advanced in price during the time the report has been in circulation. The negotiations are said to be semi-official and to be confined to a study of the values of the different properties and the possible benefits that would result to both companies if the M.L.H. & P. Co. became the sole distributor of electricity for power and suchlike purposes, and the M. T. Co. confined itself to the electric railway.

The London, Ont., City Council had a discussion on Dec. 16 on its differences with the London St. Ry., which was raised on a motion to cancel the franchise, on the ground that the company was disobeying the city's regulations. The motion, which also suggested the operation of the line as a municipal undertaking, was rejected, but a resolution endorsing the spirit of the original motion and passing the question on to the new council was adopted.

One-Man Cars for Saskatchewan.—The Regina City Council was informed Dec. 18, by the Deputy Minister of Railways for Saskatchewan, that the Legislature would be asked to amend the Railway Act, so as to permit the operation of one-man cars on electric railways in the province, and the city was invited to send representatives to state its views on the matter when the measure comes before the committee.

Marine Department

Canadian Government Merchant Marine, Ltd., Shipbuilding, Operation, Etc.

Classification.—All vessels ordered by the Department will be loaded to a freeboard mark, in accordance with the British Board of Trade's rules, as arranged by the classification authority. They will all have wireless equipment and apparatus.

Flags for Steamships.—The Marine Department has had designed a house flag to be flown on all its merchant marine vessels. The flag is 12 x 6 ft., and the design consists of a Greek cross in blue on a white ground, with a ball 18 in. diar. in the center, carrying a yellow anchor, and in the upper staff quarter is shown the Canadian beaver. The burgee pennant is 14 x 6 ft., and has the name of the vessel in blue letters on a white ground. The vessels will, of course, also fly the blue ensign, with the Canadian insignia in fly.

Hull of the Steel Cargo Steamship, Canadian Pioneer, for Dominion Government, by Canadian Vickers, Ltd., Montreal, leaving the ways, Dec. 3, 1918.

Hull of Steel Cargo Steamship, Canadian Pioneer, for Dominion Government, launched at Montreal, Dec. 3, 1918, by Canadian Vickers, Ltd.

Operation of Steamships.—As announced previously in Canadian Railway and Marine World, the steamships being built for the Dominion Government will be operated in connection with the Canadian National Railways and under the same management. A general holding company, the Canadian Government Merchant Marine, Limited, is being incorporated under the Dominion Companies Act, the stock of which will be owned by the Dominion Government. Subsidiary companies, Canadian Voyageur, Limited, and Canadian Pioneer, Limited, are also being incorporated to own those vessels respectively, and other subsidiary companies will be incorporated to own each of the other vessels separately as they are built.

Orders for Steamships.—Canadian Railway and Marine World for December contained particulars of orders placed by the Marine Department for 39 steel cargo steamships. Since then orders have been authorized for 6 more, making 45 in all. Full particulars of the orders are given in tables 1 and 2 on the next page.

Following is the summary of orders given the various builders, the tonnage stated being dead weight.

	No.	Tons each	Tons total
British American Shipbuilding Co., Welland, Ont.	[illegible]	[illegible]	[illegible]
Canadian Vickers, Ltd., Montreal	[illegible]	[illegible]	[illegible]
Canadian Vickers, Ltd., [illegible]	[illegible]	[illegible]	[illegible]
Collingwood Shipbuilding Co., Collingwood, Ont.	[illegible]	[illegible]	[illegible]
J. Coughlan & Sons, Vancouver, B.C.	[illegible]	8,100	[illegible]
Davie Shipbuilding & Repairing Co., Lauzon, Que.	2	[illegible]	[illegible]
Halifax Shipyards, Ltd., Halifax, N.S.	2	[illegible]	[illegible]
Halifax Shipyards, Ltd., Halifax, N.S.	2	[illegible]	[illegible]
[illegible] Prince Rupert, B.C.	2	[illegible]	[illegible]
Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.	2	[illegible]	[illegible]
Port Arthur Shipbuilding Co., Port Arthur, Ont.	[illegible]	[illegible]	[illegible]
Port Arthur Shipbuilding Co. [illegible]	[illegible]	[illegible]	[illegible]
Tidewater Shipbuilders, Ltd., Three Rivers, Que.	[illegible]	[illegible]	[illegible]
Victoria Machinery Depot, Victoria, B.C.	[illegible]	[illegible]	[illegible]
[illegible], Ltd., Vancouver, B.C.	[illegible]	[illegible]	[illegible]
Wallace Shipyards, Ltd.	[illegible]	[illegible]	[illegible]
	39		[illegible]

Order in Council re Halifax Shipyards, Ltd., Order.—Canadian Railway and Marine World for December, 1918, stated that the Dominion Government had passed an order in council authorizing the Minister of Marine to make a contract with Halifax Shipyards, Ltd., for 2 steel cargo steamships of 10,500 tons d.w. each at $197.50 a ton. We have since received a copy of the order in council passed Nov. 20, as follows:—

The committee of the Privy Council have had before them a report, dated Nov. 18, 1918, from the Minister of Marine and Fisheries, submitting that he has had under consideration a memorandum prepared by the Naval Constructor in the Marine Department, relative to shipbuilding, and submitted by the Deputy Minister of Marine and Fisheries, stating that, under date of May 15, 1918, the Halifax Shipyards, Ltd., placed a proposal before the department offering to construct, at works to be established in Halifax, 2 steel cargo vessels of the shelter deck type of approximately 10,500 tons d.w. capacity, and having a speed on trial of 11 knots at least, at a cost of $197.50 per long ton dead weight each.

That as the design for this new type

could not be completed in sufficient time to permit of the first shipbuilding berths being occupied when available, the Halifax Shipyards, Ltd., accepted from the department, in lieu of their proposal, a contract for 2 vessels of the standard 2 deck type of about 8,100 tons d.w. capacity which could be proceeded with immediately, and 2 vessels of approximately 10,500 tons d.w. capacity. That the new design has been sufficiently advanced to permit of a contract now being entered into with the Halifax Shipyards, Ltd., and is of the following leading particulars:—

Length b.p.	430 ft.
Breadth moulded	56 ft.
Depth moulded to upper deck	30 ft.
Depth moulded to shelter deck	38 ft.
Deadweight capacity in tons	10,500

That all other general features are in accordance with modern practice in cargo boat construction; that the vessels are designed to Lloyd's highest class, British Board of Trade and Canadian steamship

Orders for Steel Cargo Steamships for Dominion Government. Table 1.

[illegible]	[illegible]	Builder	Yard No	Tonnage d.w.			speed, Knots
1	Mar. 4, 1918	Canadian Vickers Ltd., Montreal	66	4,300	Single deck, poop, bridge and forecastle	Lloyd's 100A1	11
2	Mar. 22, 1918	Canadian Vickers Ltd., Montreal	67	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
3	Mar. 18, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	61	3,750	Lake type, single deck, poop, bridge and forcastle	Brit. Corporation	9
4	Mar. 27, 1918	Wallace Shipyards Ltd., Vancouver, B.C.	100	4,300	Single deck, poop, bridge and forecastle	Lloyd's	11
5	Nov. 27, 1918	Wallace Shipyards Ltd., Vancouver, B.C.	106	4,300	Single deck, poop, bridge and forecastle	Lloyd's	11
6	Nov. 25, 1918	Wallace Shipyards Ltd., Vancouver, B.C.	101	5,100	Single deck, poop, bridge and forecastle	Lloyd's	11
7	Nov. 25, 1918	Wallace Shipyards Ltd., Vancouver, B.C.	102	5,100	Single deck, poop, bridge and forecastle	Lloyd's	11
10	Jan. 3, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	62	3,750	Lake type, single deck, poop, bridge and forecastle.	British Corp.	9
11	Oct. 17, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	63	3,750	Lake type, single deck, poop, bridge and forecastle	British Corp.	9
12	Oct. 17, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	64	3,750	Lake type, single deck, poop, bridge and forecastle.	British Corp.	9
13	Aug. 9, 1918	Tidewater Shipbuilders Ltd., Three Rivers, Que.	5	5,100	Single deck, poop, bridge and forecastle	Lloyd's	11
14	Aug. 9, 1918	Tidewater Shipbuilders Ltd., Three Rivers, Que.	6	5,100	Single deck, poop, bridge and forecastle	Lloyd's	11
15		Tidewater Shipbuilders Ltd., Three Rivers, Que.	7	5,100	Single deck, poop, bridge and forecastle	Lloyd's	11
16		Tidewater Shipbuilders Ltd., Three Rivers, Que.	8	5,100	Single deck, poop, bridge and forecastle	Lloyd's	11
17	Sept. 4, 1918	Davie Shipbuilding & Repairing Co., Lauzon, Que.	459	5,100	Single deck, poop, bridge and forecastle	Lloyd's	11
18	Sept. 4, 1918	Davie Shipbuilding & Repairing Co., Lauzon, Que.	460	5,100	Single deck, poop, bridge and forecastle	Lloyd's	11
19	Sept. 4, 1918	Port Arthur Shipbuilding Co., Port Arthur, Ont.	39	3,400	Lake type, single deck, poop, bridge and forecastle.	Lloyd's	9
19a		Port Arthur Shipbuilding Co., Port Arthur, Ont.	41	3,400	Lake type, single deck, poop, bridge and forecastle	Lloyd's	9
20	Sept. 4, 1918	Port Arthur Shipbuilding Co., Port Arthur, Ont.	40	3,400	Lake type, single deck, poop, bridge and forecastle.	Lloyd's	9
20a		Port Arthur Shipbuilding Co., Port Arthur, Ont.	42	3,400	Lake type, single deck, poop, bridge and forecastle.	Lloyd's	9
21	Sept. 13, 1918	Halifax Shipyards Ltd., Halifax, N.S.	1	8,100	Two deck, poop, bridge and forecastle	Lloyd's	10
22	Sept. 13, 1918	Halifax Shipyards Ltd., Halifax, N.S.	2	8,100	Two deck, poop, bridge and forecastle	Lloyd's	10
23	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	68	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
24	Oct. 11, 1918	Canadian Vickers, Ltd., Montreal	69	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
25	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	70	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
26	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	71	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
27	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	72	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
28	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	73	4,300	Single deck, poop, bridge, and forecastle	Lloyd's	11
29		Victoria Machinery Depot, Victoria, B.C.	1	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
30		Victoria Machinery Depot, Victoria, B.C.	2	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
31	Dec. 11, 1918	Collingwood Shipbuilding Co., Kingston, Ont.	15	3,750	Lake type, single deck, poop, bridge and forecastle	British Corp.	9
32		Port Arthur Shipbuilding Co., Port Arthur, Ont.	43	4,300	Single deck, poop, bridge and forecastle	Lloyd's	11
33		Port Arthur Shipbuilding Co., Port Arthur, Ont.	44	4,300	Single deck, poop, bridge and forecastle	Lloyd's	11
34	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	11	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
35	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	12	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
36	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	13	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
37	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	14	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
38	Dec. 10, 1918	Halifax Shipyards Ltd., Halifax, N.S.	3	10,500	Three deck, poop and forecastle	Lloyd's	12
39	Dec. 10, 1918	Halifax Shipyards Ltd., Halifax, N.S.	4	10,500	Three deck, poop and forecastle	Lloyd's	12
40		Nova Scotia Steel & Coal Co., New Glasgow, N.S.	5	2,800	Single deck, poop, bridge and forecastle	Lloyd's	8½
41		Nova Scotia Steel & Coal Co., New Glasgow, N.S.	6	2,800	Single deck, poop, bridge and forecastle	Lloyd's	8½
42		John L. Mullen Construction Co., Prince Rupert, B.C.	1	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
43		John L. Mullen Construction Co., Prince Rupert, B.C.	2	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
44		British American Shipbuilding Co., Welland, Ont.	4	4,350	Single deck, poop, bridge and forecastle	British Corp.	10
45		British American Shipbuilding Co., Welland, Ont.	5	4,350	Single deck, poop, bridge and forecastle	British Corp.	10

Orders for Steel Cargo Steamships for Dominion Government. Table 2.

[illegible]	Builder	Price per d.w. ton	Total Price	Approximate Delivery Date	Keel Laid	Launched	Name
1	Canadian Vickers Ltd.	$207.	$ 890,100	Dec. 31, 1918	June 11, 1918	Nov. 23, 1918	Canadian Voyageur
2	Canadian Vickers Ltd	180.	1,458,000	Jan. 31, 1918	July 17, 1918	Dec. 3, 1918	Canadian Pioneer
3	Collingwood Shipbuilding Co	205.	768,750	May 1, 1919			
4	Wallace Shipyards Ltd	207.	890,100	Mar. 31, 1919	Oct. 1, 1918		
5	Wallace Shipyards Ltd.	217.	933,100	May 31, 1919	Nov. 15, 1918		
6	Wallace Shipyards Ltd	210.	1,071,000	July 31, 1919			
7	Wallace Shipyards Ltd	210.	1,071,000	Sept. 30, 1919			
10	Collingwood Shipbuilding Co	205.	768,750	May 15, 1919		Dec. 21, 1918	Canadian Warrior
11	Collingwood Shipbuilding Co	205.	768,750	July 15, 1919			
12	Collingwood Shipbuilding Co	205	768,750	July 1, 1919			
13	Tidewater Shipbuilders Ltd	200.	1,020,000	Aug. 1, 1919			
14	Tidewater Shipbuilders Ltd	200.	1,020,000	Sept. 1, 1919			
15	Tidewater Shipbuilders Ltd	200.	1,020,000	May 1, 1919			
16	Tidewater Shipbuilders Ltd.	200.	1,020,000	July 1, 1919			
17	Davie Shipbuilding & Repairing Co.	200.	1,020,000	Nov. 1, 1919			
18	Davie Shipbuilding & Repairing Co	200.	1,020,000	Nov. 8, 1919			
19	Port Arthur Shipbuilding Co.	205.	697,000	June 1, 1919	Dec. 9, 1918		
19a	Port Arthur Shipbuilding Co.	210.	714,000	Sept. 30, 1919			
20	Port Arthur Shipbuilding Co.	205	697,000	July 1, 1919	Dec. 10, 1918		
20a	Port Arthur Shipbuilding Co.	210	714,000	Oct. 31, 1919			
21	Halifax Shipyards Ltd.	195	1,579,500	Dec. 19, 1919			
22	Halifax Shipyards Ltd	195.	1,579,500	Apr. 1920			
23	Canadian Vickers Ltd	188	1,522,800	May 1, 1919	Aug. 26, 1918		
24	Canadian Vickers Ltd.	188.	1,522,800	June 1, 1919	Nov. 30, 1918		
25	Canadian Vickers Ltd.	188	1,522,800	July 1, 1919	Dec. 2, 1918		
26	Canadian Vickers Ltd	188	1,522,800	Aug. 1, 1919			
27	Canadian Vickers Ltd	188	1,522,800	Sept. 1, 1919			
28	Canadian Vickers Ltd	215	924,500	May 27, 1919			
29	Victoria Machinery Depot	198	1,603,800	Jan. 31, 1920			
30	Victoria Machinery Depot	198	1,603,800	Nov. 30, 1920			
31	Collingwood Shipbuilding Co	205	768,750	Nov. 1, 1919			
32	Port Arthur Shipbuilding Co	215	935,250	Nov. 1, 1919			
33	Port Arthur Shipbuilding Co	215.	935,250	Nov. 15, 1919			
34	J. Coughlan & Sons	198	1,603,800	July 31, 1919			
35	J. Coughlan & Sons	198	1,603,800	Aug. 31, 1919			
36	J. Coughlan & Sons	198	1,603,800	Sept. 30, 1919			
37	J. Coughlan & Sons	198	1,603,800	Oct. 31, 1919			
38	Halifax Shipyards Ltd	197½	2,073,750	Aug. 1, 1920			
39	Halifax Shipyards Ltd	197½	2,073,750	Nov. 1, 1920			
40	Nova Scotia Steel & Coal Co	210	588,000	Oct. 1919			
41	Nova Scotia Steel & Coal Co	210	588,000	Nov. 1919			
42	John L. Mullen Construction Co	198.	1,603,800	Feb. 1920			
43	John L. Mullen Construction Co	198	1,603,800	June 1920			
44	British American Shipbuilding Co.	215	935,250	Nov. 1919			
45	British American Shipbuilding Co.	215	935,250	June 1920			
			$52,691,450				

inspection requirements; that a third deck has been added in the new design in excess of the number of decks stipulated by the Halifax Shipyards, Ltd., in its original offer; that it is estimated on the present cost of materials and labor that the value of the vessels is increased $2.50 a ton d.w. each through this addition; that the Halifax Shipyards, Ltd., offers to construct and deliver to the department 2 vessels of this type at a cost of $197.50 a long ton ascertained d.w.; that the company states that one berth will be available for construction during Feb., 1919, and one berth during Mar., 1919; that having regard to the large initial expenditures to be made by this company in laying out and developing the new plant at Halifax, the erection of workshops and the purchase of machinery, the cost of which is upward of 200% in excess of the cost of similar shops and machinery three years ago, and the value to Canada and to the Empire of such an efficient plant for new construction and general repairs at an open port on the Atlantic seashore, the price quoted is considered fair remuneration; that it is considered advisable, owing to the prevailing shortage in tonnage, to utilize to the fullest extent shipbuilding berths as they become available for new construction;

That as the price quoted is considered fair, the Naval Constructor to the department recommends the acceptance of the offer. That the Deputy Minister concurs in the above. The Minister, approving, recommends that he be authorized to enter into a contract with Halifax Shipyards, Ltd., for the construction of 2 steel cargo steamers of approximately 10,500 tons d.w., three-deck type, at the price named. The committee concurs in the foregoing and submits the same for approval.

Pulp and Paper Freight.—The Minister of Marine is reported to have notified the Canadian Pulp and Paper Association of his willingness to do everything possible to facilitate the shipping of Canadian pulp and paper products to foreign countries and to have asked for definite information as to the tonnage required, the destination of the proposed shipments, etc.

Canadian Vickers, Ltd., Montreal.—The first of the ocean going steamships to be built in Canada for the Dominion Government, was launched at this yard, Nov. 28, and the second one was launched there Dec. 3, both being christened on the latter date by Lady Borden, wife of the Dominion Premier. The names given were, Canadian Voyageur and Canadian Pioneer respectively. The Canadian Voyageur has has the following principal dimensions: length 320 ft., breadth 44 ft., depth moulded 25 ft., tonnage d.w. 4,350. The keel was laid June 10, and she proceeded to Quebec under her own steam, Dec. 11, for completion there. A full description of this type was published in Canadian Railway and Marine World for August, 1918. The Canadian Pioneer's dimensions are as follows: length 400 ft., breadth 52 ft., depth moulded 31 ft.; tonnage d.w. 8,100. The keel was laid July 17, and she proceeded to Quebec, Dec. 6, in tow, for completion there.

CANADIAN WARRIOR

Canadian Government Merchant Marine Cargo Steamship, Canadian Warrior, immediately after launching by Collingwood Shipbuilding Co., Dec. 21, 1918.

The keels of three other vessels of the two-deck type, 8,100 tons d.w. capacity each, were laid Aug. 26, Nov. 30 and Dec. 2, respectively.

Collingwood Shipbuilding Co., Collingwood, Ont.—The first of the steel steamships under construction at this plant for the Dominion Government was launched Dec. 21, and named Canadian Warrior. She is of the single deck, lake type, 3,750 tons deadweight capacity, a complete description of which has been given in a previous issue. Three other vessels of this type to be built at Collingwood will be named Canadian Recruit, Canadian Signaller and Canadian Gunner. The company is also building a similar vessel at its Kingston plant, but no name has yet been decided on.

John L. Mullen Construction Co., Prince Rupert, B.C.—The Dominion Government has given a contract to this company, which has its headquarters at Pittsburg, Pa., for the construction of 2 of the standard type steel cargo steamships of 8,100 tons d.w. capacity each.

Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.—The 2 steel cargo steamships of 2,800 tons d.w. capacity each, which have been ordered by the Dominion Government, are specially designed for the West Indies trade. The company will build the machinery for these vessels, as well as the hulls. The hull angle frames have been rolled and the general structural work is passing through the shops. The engines and boilers are also under construction. Both keels will be laid during January, and it is expected that delivery will be made in the early autumn. The general dimensions will be as follows: length between perpendiculars 270 ft., beam 38 ft., depth moulded 20½ ft.

Port Arthur Shipbuilding Co., Port Arthur, Ont.—A contract has been given this company by the Dominion Government for two steel cargo steamships of the 4,300 ton type. The dimensions will be: length 320 ft., breadth 44 ft., depth 25 ft., draft, loaded. 21 ft. 2 in. This is the first of the government orders to be placed at any yard on the Great Lakes, for vessels of this size, and they will each have to be taken through the Welland Canal in two sections, and joined on the St. Lawrence.

The Victoria Machinery Depot, Victoria, B.C., is reported to be considering the lease of a site on the old Songhees Indian Reserve, from the B.C. Government, for the construction of a modern steel shipbuilding plant, where it will build the 2 steel steamships of 8,100 tons d.w. capacity ordered for the Dominion Government. C. J. V. Spratt, President, is reported to have stated that the company is prepared to take over about 6 acres for extensions to its plant, and that vessel construction will be commenced as soon as the steel begins to arrive. The plates and other materials are expected during January.

Wallace Shipyards, Ltd., Vancouver, B.C.—Keels for the 2 steel cargo steamships for the Dominion Government, each of 4,300 tons d.w. capacity, were laid on Oct. 1 and Nov. 16 respectively. It is expected that the first of these vessels will be launched about the middle of February, and the second one about the middle of March. As soon as these vessels are off the ways keels will be laid for the 2 steamships of 8,100 tons d.w. capacity, and launchings are anticipated in June and August.

Trent Canal Construction.—The Dominion Government is considering proceeding with the completion of the construction of the Trent Valley Canal, to connect Lake Ontario with Georgian Bay. The first section, from Lake Ontario to Lake Simcoe, was opened to navigation, June 3, 1918, and portions of the second section, from Lake Simcoe to Georgian Bay, were under contract, but work was suspended in consequence of the war. It is proposed that the suspended contracts be proceeded with until things become normal, when further contracts will be let to enable the completion to be made. The idea of connecting Lake Ontario and Georgian Bay, via the Trent Valley, was mooted in the early days of the 19th century, and construction was commenced in 1837.

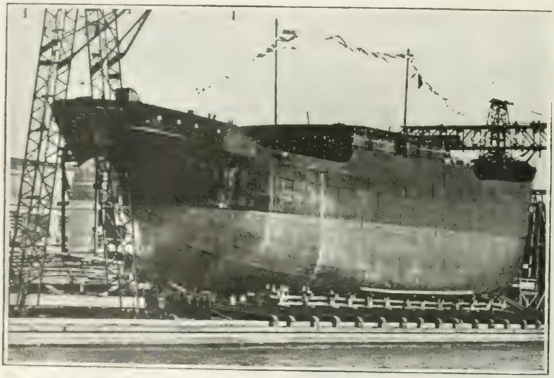
Cargo Steamship Building in Canada for British Government.

Polson Iron Works, Ltd., Toronto.—The third of the steel cargo steamships being built by this company for the British Government under order from the Imperial Munitions Board, was launched Dec. 21, and named War Aquila by Lady [illegible]. The War Aquila is 3,500 tons d.w. and is of the following dimensions: length over all 261 ft., beam moulded 44½ ft., depth moulded 23 ft. She is equipped with triple expansion, surface condensing engines, with cylinders 20½, 33 and 54 in. diar. by 36 in. stroke, supplied with steam by 2 Scotch boilers 14 by 12 ft. at 180 lb., and has complete electric lighting plant, winches, windlasses, steam and hand steering gear and evaporating machinery. Keels for 2 other vessels for the British Government are being laid for delivery in the early part of the current year.

Launchings of Steamships.—Following are particulars of steamships ordered by the Imperial Munitions Board for the British Government, and which had been launched up to Nov. 15, giving in each case the date of the launching, the name of the steamship, the name and address of the building company and the deadweight tonnage:—

Steel Steamships.

May [illegible], 1917	War Dog, Wallace Shipyards North Vancouver, B.C.	4,500
July [illegible], 1917	War Wasp, Nova Scotia Steel & Coal Co., New Glasgow, N.S.	1,800
Aug. [illegible], 1917	War Fish, Port Arthur Shipbuilding Co., Port Arthur, Ont.	4,300
Nov. [illegible], 1917	War Dance, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
Mar. [illegible], 1918	War Camp, J. Coughlan & Sons, Vancouver, B.C.	8,800
Mar. [illegible], 1918	War [illegible], Wallace Shipyards, North Vancouver, B.C.	4,600
Apr. [illegible], 1918	War [illegible], Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
May [illegible], 1918	War [illegible], Collingwood Shipbuilding Co., Collingwood, Ont.	2,900
May [illegible], 1918	War [illegible], Nova Scotia Steel & Coal Co., New Glasgow, N.S.	2,400
May [illegible], 1918	War [illegible], Port Arthur Shipbuilding Co., Port Arthur Ont.	3,400
June [illegible], 1918	War Earl, Canadian Vickers Ltd., Montreal	7,000
June 29, 1918	War Duchess, Canadian Vickers, Ltd., Montreal	7,000
July 20, 1918	War Hathor, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
July 29, 1918	War Charger, J. Coughlan & Sons, Vancouver, B.C.	8,800
Aug. 19, 1918	War Chief, J. Coughlin and Sons, Vancouver, B.C.	8,800
Aug. 21, 1918	War Weasel, British-American Shipbuilding Co., Welland, Ont.	3,500
Sept. 6, 1918	War Witch, Collingwood Shipbuilding Co., Collingwood, Ont.	2,900
Sept. 19, 1918	War Taurus, Polson Iron Works, Ltd., Toronto	3,500
Sept. 28, 1918	War Faith, Canadian Vickers Ltd., Montreal	7,000
Sept. 28, 1918	War Noble, J. Coughlan & Sons, Vancouver, B.C.	8,800
Sept. 28, 1918	War Storm, Wallace Shipyards, Ltd., Vancouver, B.C.	4,600
Oct. 5, 1918	War Horus, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
Oct. 15, 1918	War Hydra, Polson Iron Works, Ltd., Toronto	3,500
Oct. 24, 1918	War Fiend, Midland Shipbuilding Co., Midland, Ont.	3,400
Oct. 26, 1918	War Karma, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
Oct. 29, 1918	War Joy, Canadian Vickers, Ltd., Montreal	7,000
Dec. 21, 1918	War Aquila, Polson Iron Works, Ltd., Toronto	3,500
	Total, 27 steel steamships	129,000



Steel cargo steamship, Le Quesnoy, 4,300 tons d.w., just prior to launching by Dominion Shipbuilding Co., Toronto, for private owners.

Wooden Steamships.

Dec. 28, 1917	War Songhee, Foundation Co., Victoria, B.C.	3,080
Jan. 4, 1918	War Nootka, Western Canada Shipyards, Vancouver, B.C.	3,080
Jan. 24, 1918	War Yukon, Cameron-Genoa Mills Shipbuilders, Ltd., Vic-	
Feb. 16, 1918	War Puget, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
Mar. 6, 1918	War Selkirk, Western Canada Shipyards, Vancouver, B.C.	3,080
Apr. 10, 1918	War Caribou, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
Apr. 11, 1918	War Comox, New Westminster Construction & Engineering Co., New Westminster, B.C.	3,080
Apr. 11, 1918	War Masset, Foundation Co., Victoria, B.C.	3,080
Apr. 13, 1918	War Tyee, Pacific Construction Co., Coquitlam, B.C.	3,080
Apr. 25, 1918	War Haida, Cameron-Genoa Mills, Victoria, B.C.	3,080
Apr. 27, 1918	War Cayuse, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
May 11, 1918	War Mohawk, Quinlan & Robertson, Ltd., Quebec, Que.	3,080
May 11, 1918	War Sioux, Port Arthur Dredging Co., Port Arthur, Ont.	3,080
May 21, 1918	War Atlin, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
May 23, 1918	War Tatla, Western Canada Shipyards, Ltd., Vancouver, B.C.	3,080
June 12, 1918	War Skeena, Cameron-Genoa Mills Shipbuilders, Ltd., Victoria, B.C.	3,080
	ertson, Quebec, Que.	3,080
June 14, 1918	War Edensaw, New Westminster Construction & Engineering Co., B.C.	3,080
June 15, 1918	War Babine, Foundation Co., Victoria, B.C.	3,080
June 24, 1918	War Nicola, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
June 28, 1918	War Quebec, Quebec Shipbuilding & Repairing Co., Quebec, Que.	3,080
June 29, 1918	War Ontario, Toronto Shipbuilding Co., Toronto	3,080
July 5, 1918	War Huron, Fraser, Brace & Co., Montreal	3,080
July 5, 1918	War Erie, Fraser, Brace & Co., Montreal	3,080
July 6, 1918	War Casco, Western Canada Shipyards, Ltd., Vancouver, B.C.	3,080
July 12, 1918	War Sumas, Pacific Construction Co., Port Coquitlam, B.C.	3,080
July 24, 1918	War Suquash, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
July 27, 1918	War Gaspe, Quinlan & Robertson, Quebec, Que.	3,080
July 27, 1918	War Ottawa, Fraser, Brace & Co., Montreal	3,080
Aug. 5, 1918	War Chilkat, Western Canada Shipyards, Vancouver, B.C.	3,080
July 29, 1918	War Stikine, Cameron-Genoa Mills Shipbuilders, Victoria, B.C.	3,080
Aug. 31, 1918	War Camchin, Foundation Co., Victoria, B.C.	3,080
Sept. 7, 1918	War Sorel, Quebec Shipbuilding & Repair Co., Quebec	3,080
Sept. 8, 1918	War Nanoose, Foundation Co., Victoria, B.C.	3,080
Sept. 19, 1918	War Niagara, Fraser, Brace & Co., Montreal	3,080
Sept. 21, 1918	War Halifax, Southern Salvage Co., Liverpool, N.S.	3,080
Sept. 22, 1918	War Nipigon, Great Lakes Dredging Co., Port Arthur, Ont.	3,080
Sept. 23, 1918	War Matane, Quinlan & Robertson, Quebec, Que.	3,080
Sept. 26, 1918	War Ewen, New Westminster Construction & Engineering Co., New Westminster, B.C.	3,080
Oct. 15, 1918	War Mingan, Three Rivers Shipyards, Ltd., Three Rivers, Que.	3,080
Oct. 26, 1918	War Toronto, Toronto Shipbuilding Co., Toronto	3,080
Nov. 2, 1918	War Radnor, Three Rivers Shipyards, Ltd., Three Rivers, Que.	3,080
	Total, 45 wooden steamships	138,600

Aggregate deadweight tonnage of 27 steel and 45 wooden steamships launched, 267,900 tons.

Steamship Management.—The various vessels built for the British Government, under contracts placed by the Imperial Munitions Board, are, on completion, registered in the name of the Shipping Controller, London, Eng., and are then assigned by him to different firms in the United Kingdom, which act as managing owners on behalf of the British Government. Following are vessels built in British Columbia, which have been completed and assigned to managing owners:

War Cariboo, War Nootka, War Puget, War Selkirk, War Songhee, War Yukon. Managing owners, H. Fernie & Sons, 7 Rumford St., Liverpool, Eng.

War Comox, War Tyee. Managing owners, R. & J. H. Rea, 20 Water St., Liverpool, Eng.

War Atlin, War Cayuse, War Edensaw, War Ewen, War Kitimat, War Sumas. Managing owners, J. Cook & Sons, 62 Marischal St., Aberdeen, Scotland.

War Babine, War Camchin, War Haida, War Masset, War Nanoose, War Skeena, War Stikine. Managing owners, Easton, Grieg & Co., 30 George Square, Glasgow, Scotland.

War Casco, War Chilcat, War Nicola, War Suquash, War Tanoo, War Tatla. Managing owners, John Hardie & Co., 11 Bothwell St., Glasgow, Scotland.

Dominion Wreck Commissioner's Judgments on Casualties, Etc.

Judgments have been delivered recently, in connection with investigations into the causes of the following casualties:—

Stranding of s.s. Siberian Prince.

Held at Montreal before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Commander G. E. Bridge and C. J. Stuart, R.N.R., as nautical assessors. The s.s. Siberian Prince, British owned, stranded on Egg Islet, N.S., June 29, bound from Newport News, Va., to Halifax, N.S., for convoy. Dirty weather was met off the Nova Scotia coast. The court found that while the master, H. A. Camp, who had not been on the coast before, had taken casts at different times, and seeing that the depth decreased from 23 to 10 fathoms, he should, at the last sounding, have stopped ship and anchored, or awaited developments. Instead, he continued at half speed, which the court considered was a thoughtless action, and also that there was no show of seamanship subsequent to the ineffective use of the kedge, when the vessel touched her port side to a bank. The court expressed the opinion that the vessel could have been extricated from her position, but no attempt appeared to have been made to do so. It is fortunate that the vessel rested on a soft bottom, and that she suffered no damage. The master has, since the beginning of the war, been in constant active service, experiencing at one time heavy shell fire from a submarine for nearly two hours, and in another instance, by quick manoeuvering of his vessel, avoided a torpedo. These facts being taken into consideration, the court did not deal with his certificate, but found him in default and reprimanded him severely for lack of prudence, and for not exercising the seamanship required by a master in such a case, being of opinion that if a little resourcefulness had been shown, the vessel could have been floated off the following day. The court also considered that at least one officer should have been on the bridge with the master, to attend to the telegraph and steering, and while the first officer, D. Shaw, was exonerated, he showed in some respects a lack of loyalty and was lukewarm in meeting his responsibilities, having already frequented the coast, whereas the master had not. He was therefore cautioned to act up to his responsibilities in future. There was nothing in the evidence indicating other than bad judgment and lack of proper seamanship.

Grounding of s.s. Celtic Prince.

Held at Montreal, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capts. C. Lapierre and F. Nash, as nautical assessors, into the causes of the grounding of the British s.s. Celtic Prince on Barnaby Island, off Rimouski, Que., on July 8. The evidence showed that the vessel was carefully navigated from the time of leaving Newcastle upon Tyne, Eng., up to a very brief period before grounding. Although thick and misty weather was encountered in the St. Lawrence, points of land were discerned and the bearings taken placed the distances as intended. Metis fog signal was heard, and the shore sighted, and speed was reduced by one half. Varying depths were obtained by soundings, and when 14 fathoms were found, the speed was further reduced to slow, and when land was perceived, the engines were ordered full speed astern, but without avail. The court held that when 14 fathoms was obtained, the vessel should have been stopped, especially as the Father Point signal had not been heard, which of itself should have caused apprehension and called for the exercise of greater prudence. The plea that there was an unusual set of the current inshore could not be entertained, as the log showed that the vessel was set inshore at every course. The court therefore held that the master, A. H. McKegg, erred in judgment in proceeding at half speed in such shallow water, under the conditions shown in the evidence, and therefore censured him. The evidence as to the operation of the Father Point lighthouse fog horn was contradictory, but no information was obtained by which criticism of a direct nature could be made against the assistant keeper, but the court made the following comments thereon: The keeper was absent and left his son in charge; the son is not a qualified man, and had for his assistant a boy of 16 or 17, who kept watch and operated the fog horn while the son was asleep; that instead of keeping watch in the tower or the immediate vicinity, the boy was on the wharf, some 1,500 ft. from his post, near the vessel Eureka, apparently relying on a call from the Eureka should necessity arise. On these grounds the court criticized the absence of the keeper from his post during the navigation season, and considered it a most serious matter to leave the operation of such an important lighthouse in the hands of one whose knowledge of the [illegible] is unknown, and worse still that such a responsibility should rest on a boy. There is too much property at stake for such important posts to be left in charge of what the court considered irresponsible and incompetent. Incompetent, because the trend of the evidence caused the court to surmise and rightly, that the assistant was not observant enough nor sufficiently experienced to decide for himself when it was time to operate the signal. On the statement that the fog horn is 50% less in sound this year than last, the court suggested that a competent engineer examine the machinery and remedy the defect, if any.

Tide Tables for Canadian Eastern Coasts, prepared by the Tidal and Current Survey of the Naval Service Department, of which W. Bell Dawson, M.A., D.Sc., is Superintendent, have been published in pamphlet form for [illegible], and can be obtained on application to the department at Ottawa.

Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marie canals during 1918

Eastbound.

ARTICLES.		Can. Canal.	U. S. Canal.	Total.
Lumber	m. ft. b. m.	[illegible]	[illegible]	[illegible]
Flour	Barrels	[illegible]	[illegible]	[illegible]
Wheat	Bushels	[illegible]	[illegible]	[illegible]
Grain, other than wheat	Bushels	[illegible]	[illegible]	[illegible]
Copper	Short tons	[illegible]	[illegible]	[illegible]
Iron Ore	Short tons	[illegible]	[illegible]	[illegible]
Pig Iron	Short tons	[illegible]	[illegible]	[illegible]
Stone	Short tons	[illegible]	[illegible]	[illegible]
General Merchandise	Short tons	[illegible]	[illegible]	[illegible]
Passengers	Number	[illegible]	[illegible]	[illegible]

Westbound.

Coal, soft	Short tons	[illegible]	[illegible]	[illegible]
Coal, hard	Short tons	[illegible]	[illegible]	[illegible]
Iron Ore	Short tons	[illegible]	[illegible]	[illegible]
Mfgd. Iron and Steel	Short tons	[illegible]	[illegible]	[illegible]
Salt	Short tons	[illegible]	[illegible]	[illegible]
Oil	Short tons	[illegible]	[illegible]	[illegible]
Stone	Short tons	[illegible]	[illegible]	[illegible]
General Merchandise	Short tons	[illegible]	[illegible]	[illegible]
Passengers	Number	[illegible]	[illegible]	[illegible]

Summary.

Vessel passages	Number	[illegible]	[illegible]	[illegible]
Registered tonnage	Net	[illegible]	[illegible]	[illegible]
Freight—				
Eastbound	Short tons	[illegible]	[illegible]	[illegible]
Westbound	Short tons	[illegible]	[illegible]	[illegible]
Total Freight	Short tons	[illegible]	[illegible]	[illegible]

COMPARATIVE STATEMENT FOR [illegible] AND [illegible]

			[illegible]	[illegible]
Vessels	Steamers	[illegible]	[illegible]	[illegible]
	Sailing		[illegible]	[illegible]
	Unregistered		[illegible]	[illegible]
	Total		[illegible]	[illegible]
Lockages			[illegible]	[illegible]
Tonnage	Registered	[illegible]	[illegible]	[illegible]
	Freight	[illegible]	[illegible]	[illegible]
Passengers		[illegible]	[illegible]	[illegible]
Lumber		M. ft. B. M.	[illegible]	[illegible]
Flour		[illegible]	[illegible]	[illegible]
Wheat		[illegible]	[illegible]	[illegible]
Grain		[illegible]	[illegible]	[illegible]
Copper		[illegible]	[illegible]	[illegible]
Iron Ore			[illegible]	[illegible]
Mfd. Iron and Steel			[illegible]	[illegible]
Coal, soft			[illegible]	[illegible]
Coal, hard			[illegible]	[illegible]
Salt			[illegible]	[illegible]
Oil			[illegible]	[illegible]
Stone			[illegible]	[illegible]
General Merchandise			[illegible]	[illegible]

The Canadian canal was opened April [illegible] and closed Dec. [illegible], 1918, season [illegible] days.

The U.S. canal was opened April [illegible] and closed Dec. [illegible], 1918, season [illegible] days.

The Minister of Marine on the Dominion Government's Shipbuilding Programme, Etc.

The Minister of Marine, the Hon. C. C. [illegible], M.P., in speaking in Montreal [illegible] after the launching of the steel cargo steamship Canadian Pioneer, by Canadian Vickers, Ltd., congratulated the company on the manner in which it was performing its contract for building that [illegible] tons d.w., and also the Canadian Voyageur, of 4,300 tons d.w., which was launched a short time before, and which, he said, would be ready to proceed to sea under her own steam in a [illegible] thereafter. The Canadian Voyageur's [illegible] was laid June 11, and the Canadian Pioneer's on July 18. Mr. Ballantyne, in continuing, said:—

I am reminded that when I was one of the harbor commissioners for the port of Montreal from 1907 to 1912, with my late colleagues, G. W. Stephens and L. E. Geoffrion, after long negotiation with the Vickers Co. of London, Eng., we concluded satisfactory arrangements with them, whereby they decided to establish a branch of their business at Montreal, and not only erect the splendid modern shipbuilding plant that we are now in, but also the large floating dock that has a lifting capacity of 25,000 tons. It is interesting to know that the 30 acres of land that the Vickers works are situated on were reclaimed from the bed of the river by dredging.

It is a special pleasure for me to witness the development of steel shipbuilding in Canada, not only in the Vickers works, but in the other 16 yards that are building steel ships for the Government, from Nova Scotia to British Columbia. I am pleased to announce that the government has under construction at present 39 steel steamships, viz., lake type, 9 vessels; 4,300 ton type, 6 vessels; 5,100 ton type, 8 vessels; 8,100 ton type, 14 vessels; 10,500 ton type, 2 vessels.

I have always been a great believer in Canada possessing the necessary enterprise, skill and ability to build steel ships and I am naturally very pleased and proud that our country is making such progress in this new enterprise; and I hope that as the builders of steel ships in Canada gain more experience and knowledge they will be able to compete more effectually with other countries that have been so long in the shipbuilding industry. Canada requires tonnage and very badly. It is estimated that owing to losses by enemy submarines the world's tonnage is at least 10,000,000 tons short of what it was when war broke out. We must also take into consideration that nearly every ship which is in service today requires repairs and docking, owing to the fact that while the war was on these vessels could not be spared to go into dry dock, and these conditions make the world's tonnage of shipping very much short of what it should be.

Canada requires ships as speedily as they can be built, in order that they can be placed on the Atlantic and Pacific Oceans [illegible] the Great Lakes, to complete the Government's transportation system, and work in conjunction and co-operation with our transcontinental railway system. I have already announced that the government's ships will be managed and operated by D. B. Hanna, President of the Canadian Northern Ry., and his board of directors by the creation of a steamship company, the stock of which will be all owned by the government; in order that the government and the people may know what profit or losses the government ships are making. Mr. Hanna and his board of directors have been given a free hand by the government to manage the government's system of railways and they will be given an absolute free hand also in the management of the Canadian Government's mercantile marine.

Happily war is now practically at an end, and Canada and its government are confronted with the tremendous peace problems. To retain our present volume of trade and to take the place of the vast sums of money that have been spent during the last few years in Canada for the making of munitions, it is imperative that Canada should vigorously go after export trade. The government has laid the way for this by providing ships. The responsibility now rests upon Canadian manufacturers to rise to the occasion and use every energy to secure export business. The United Kingdom, overseas dominions and our allies are more sympathetically inclined than ever to buy Canadian products, and I hope that the manufacturers and business men of this country realize that this is the most favorable opportunity they have ever had to go after export business. The government is fully seized with this possibility and has a trade commission in London to see that the way is made easy for Canada to get her full share of the vast amount of materials that are going to be required for the restoration of devastated France and Belgium, and also to get her share of the vast amount of products of all kinds that will be wanted by these countries which have been engaged in war for the last four years, to replenish their stocks.

I wish to refer to the splendid part that the mercantile marine has taken in this war. There has been altogether too little reference to it. The British mercantile marine has played a most important and noble part in bringing about the splendid victory that Great Britain and her allies have secured. I wish to take this opportunity, as Minister of Marine, to pay my tribute to the brave men of England's huge mercantile marine, who manned her ships during these four terrible years of war, and so successfully have carried across the oceans millions of soldiers, immense quantities of munitions and provisions and have made it possible for us to so utterly defeat the enemy, with the aid of our allies.

I consider this day is an epoch in the history of Canada, when for the first time a Canadian mercantile marine flag has fluttered to the breeze on the Canadian Pioneer, just launched. With the lead that the government has given and its determination to assist Canada in every way to do a large export trade, I hope that in the very near future the flag of Canada's merchant marine may be seen in every important port throughout the world, carrying to those distant countries Canada's production of the mine, field, forest and our industries, and bringing back the importations that Canada will find it necessary to make. All this is possible by co-operation of all of Canada's diversified interests. I wish every success to the Canadian Pioneer, the Canadian Voyageur and the other government mercantile marine ships that are to be launched in the very near future.

Suspension of Marine Wartime Regulations.

The British Admiralty has suspended the following regulations, restrictions, etc., which were made or imposed owing to war conditions:—

Restriction of the publication of shipping intelligence and the cabling of shipping information.

Restriction of the use of cameras on board ships.

Order requiring special masthead lookouts, except in areas liable to be mined.

Orders for ships to be dazzle painted, subject to proviso that should necessity arise for ships to be again dazzled, cost will fall on the owners.

Instructions for guidance in care and maintenance of armament, except in so far as they relate to discipline, pay and victualling of gun crew, and care and maintenance of armament. Subject to this latter primary duty, gun crews may be employed on watch keeping duties at sea, and quartermaster's duties in harbor, provided mercantile crew not reduced naval crew not employed on manual labor, below Board of Trade requirements, and except in connection with armament, and their mess, berths, and their duties are not in excess of those required of the mercantile crew.

C.B. 415 war instructions for British merchant ships, except so far as they require arrangements to be made for safety of ship life and confidential documents, and compliance with orders of riers by land and water, and for such British or allied naval authorities. Masters to obtain and comply with instructions regarding routes and movements generally and to take all precautions by use of Otter gear, if fitted, keeping a good lookout and strictly following instructions for the avoidance of mined or possibly mined areas.

As regards C.B. 733, wireless telegraph instructions, certain restrictions on the use of wireless telegraphs are suspended, in that British naval shore stations will accept, without coast charge, for the present, messages addressed to, or sent by, owners and agents regarding the safety and working of ship. Private messages are not admissible. Regulations requiring lowering of aerial in British ports are suspended, as is also the use of secret call signs.

All the foregoing provisions apply to allied vessels so far as practicable.

The Edgewood Shipping Co., Ltd., which has been incorporated under the Dominion Companies Act, with $40,000 capital and office at 220 Board of Trade Bldg., Montreal, was organized to own and operate the schooner Edgewood, under construction by the Quebec Shipbuilding & Repairing Co., Quebec. The price to be paid for the vessel is said to be $160,000, of which $100,000 has been paid, the balance being due on completion and delivery of the vessel. The directors are: R. A. Carter, shipping, etc., broker, Montreal, President; James Playfair, President and General Manager, Great Lakes Transportation Co., Midland, Ont., Vice President; W. C. Job, President and Manager, Job Bros., St. John's, Nfld., Halifax, N.S., and Liverpool, Eng., and of S. Job, Inc., New York, Second Vice President; G. A. Wood, shipping, etc., broker, Montreal, Secretary-Treasurer; and M. P. Connolly, Quebec.

Welland Ship Canal Construction Resumption.

The following order in council was passed at Ottawa Dec. 9:—"The committee of the Privy Council have had before them a report, dated Dec. 6, 1918, from the Minister of Railways and Canals representing that, in pursuance of the general policy of immediately resuming construction upon public works of a necessary character, consideration has been given to the condition of the Welland Ship Canal. The Minister states that contracts had been let for 4 of the 9 sections into which this work has been subdivided; the percentage of the work contracted for that has been performed being respectively 69, 59, 32 and 64% under these contracts. That, owing to war conditions, work under these contracts was suspended by order of the minister in Jan., 1917, and the contracts were subsequently cancelled by agreements entered into in the spring of 1918. The total expenditure that has been made aggregates approximately $16,000,000, which sum included upwards of $2,000,000 incurred in the acquirement of plant, and settlements of other matters incidental to the suspension of the work. That in view of the special knowledge, experience, organizations and facilities possessed by the former contractors, it was deemed advisable to ascertain terms upon which they would be willing to carry on the work of construction upon the respective sections hitherto held under contract by them. That all the contractors have declined to resume the work under the terms of the original contracts, and have pointed out the impracticability of submitting tenders based upon schedule rates, under the uncertain conditions respecting labor and supplies. They have, however, expressed their willingness to resume work upon a basis of cost plus 8%. The Minister, upon the advice of the Chief Engineer of the Railways and Canals Department, recommends that he be authorized to enter into agreements for the resumption of work upon the respective sections formerly held under contract upon the basis of actual cost, plus a percentage nót to exceed 8%, materials, supplies and plant furnished by the department to be excluded in computing cost. The Minister further recommends that such terms, stipulations, conditions and definitions as may to him appear to be in the public interest be included in the foregoing agreements. The committee concur in the foregoing recommendations, and submit the same for approval."

A. J. Grant, heretofore Superintending Engineer, Trent Canal, Peterborough, Ont., has been appointed Engineer in Charge, and John L. Weller, formerly Engineer in Charge, has been appointed Consulting Engineer.

At the time of the suspension of the work on May 2, 1917, it was estimated that contracts on secs. 1, 2 and 5 would have been completed that year, and sec. 3 during 1918, or about a year behind the date specified in the contract.

Sec. 1 extends from Lake Ontario for about 3 miles, and includes pier and trestle work at the entrance to the canal, the construction of lock 1, and canal work to bridge 2. The contract was awarded Aug. 1, 1913, to the Dominion Dredging Co., and the date for completion was set as Apr. 1, 1917. The amount of the contract, as based on schedule rates, was $3,487,727, and the work is about 69% completed.

Sec. 2 covers the work from bridge 2 to bridge 5, about 4½ miles, including locks 2 and 3. This contract was let Dec. 31, 1913, to Baldry, Yerburgh & Hutchinson, Ltd., for completion by Apr. 1, 1917. The amount of the contract, as based on schedule rates, was $5,377,185.75, and the work was 59% completed.

Sec. 3, from bridge 5 to about half way between bridges 9 and 10, covers the heaviest portion of the whole route, and includes the erection of twin guard gates at Thorold, the single lock 7, the construction of a short stretch of canal below lock 7, and also the three twin locks 6, 5 and 4 in flight, one flight for downbound vessels and the other for upbound vessels, overcoming a descent of 139½ ft. The contract was let Oct. 4, 1913, to O'Brien & Doheny, for completion by Apr. 1, 1917. The amount, based on schedule rates, was $9,540,050, and it was about 32% done.

Sec. 5, from just above bridge 12 to just above bridge 13, about 2¾ miles, was let to the Canadian Dredging Co., for completion by Apr. 1, 1918, and was about 64% done. The amount of the contract, as based on schedule rates, was $1,945,788.

A press dispatch from Ottawa, Dec. 26, stated that work on sec. 3 will be continued by Doheny, Quinlan & Robertson, Senator M. J. O'Brien retiring from his connection with the contract.

A Strained Interpretation of Salvage Laws.

Ottawa press dispatch, Dec. 18.—Alex. Johnston, Deputy Minister of Marine, states that the salvage laws of Canada and the United States do not apply to rescue work or sending of assistance to vessels in distress. He was shown an article appearing recently in a United States magazine, which intimated that the Princess Sophia disaster might have been greatly alleviated if the salvage laws of the two countries had permitted Canadian vessels to go to the assistance of the sinking vessel. The vessels which were standing by the Princess Sophia were U.S. boats, he said, and as they were in U.S. waters, there was absolutely nothing to prevent them from acting [illegible].

With regard to the salvage laws of the two countries, he stated that they are intended to apply only to the salvaging of wrecks, and not to the rescue of passengers from sinking boats. An extremely strained and unnatural interpretation of the statute might be said to [illegible] the other meaning, but to intimate that this was in any way the intention of the law was quite incorrect. There was no law to prevent a U.S. vessel entering Canadian waters and assisting a vessel in distress, or vice versa.

It is claimed in the article in question that as under existing laws, both of Canada and the U.S., a U.S. vessel cannot salvage a wreck in British Columbia waters, nor a Canadian vessel do salvage work in U.S. waters, masters of ships are unable to render assistance in cases of dire necessity. Otherwise, it is stated, it is extremely difficult to draw the line between what would be considered a work of humanity and that which would infringe on salvage laws.

Capt. Victor Blue, commanding the U.S. battleship Texas, has been appointed Chief of the U.S. Bureau of Navigation, succeeding Rear Admiral Palmer.

A Question of Jurisdiction Over Water Traffic.

The complaint of C. E. Porteous, that the Compagnie Maritime de Levis was not giving the necessary ferry boat service between the Island of Orleans and Quebec City, came before the Quebec Public Utilities Commission recently. Objection was raised to the commission's jurisdiction, even in a limited degree, over vessels engaged in the carrying trade within the province.

The company's counsel gave argument on this point on Dec. 17, 1918. It was contended that article [illegible] of the act appointing the commission did not originally include any jurisdiction over any means of carriage by water, while the amending statute covering vessels engaged in the conveyance of passengers "across or along lakes, rivers or streams" was not intended to cover lines of vessels employed in the carrying trade. The most important point raised was contained in the second objection, which was, whether the authority conferred by the amendment to the act could be exercised in view of the fact that the British North America Act placed navigation under the Dominion's legislative control. Subsection 10, sec. 92, of the B.N.A. Act, however, gave the provinces control of navigation in local waters, and under the authority of that subsection the provinces licensed ferries, and made regulations for the carrying on of navigation in provincial waters.

The commission held that the part of the St. Lawrence River on which the company's vessels traded was part of the territory of the province. The control which the commission had over the provincial waters was only such as would not trespass on the authority of the Dominion, which, under sec. 91 of the B.N.A. Act, has control over decked boats or [illegible] and over their navigation. The commission held that in anything that does not relate purely to navigation, it has authority. The commission decided that it had authority to act in the matter, but as its decision would probably be appealed, a decision upon the merits of the application would be postponed.

Instructions for Sailing Vessels on the Atlantic Routes.

The British Admiralty has issued orders regarding sailing vessels, which cancel all previous orders regarding routes and orders for such ships, as follows:— Sailing vessels may sail direct for the United Kingdom, and French and other European ports, as follows, being warned of all dangerous areas now or subsequently notified in current notices. For the Mediterranean, call at Gibraltar for orders regarding dangers and routeing. In the United Kingdom and France: (a) Vessels bound for west coast ports, or ports east of Beachy Head or Pointe d'Ailly, must call at Channel port for orders and pilotage, which is compulsory in those waters; (b) Vessels to other United Kingdom or French ports should, at [illegible], give the coast and navigation marks a good offing, at least 10 miles, until morning, and on reaching offing of their ports should, before attempting to enter, ask patrol vessel for instructions. As these approaches may be closed by the time vessels arrive, they are intended as a guide if no notice issued in time.

General Shipbuilding Notes Throughout Canada.

Chester Basin Shipbuilding Co., Malagash, N.S., launched the 4-masted schooner Arthur H. Zwicker, Dec. 4. Her dimensions are: length 180 ft., breadth 36 ft., depth 15 ft.

Cholberg Ship Co., Victoria, B.C.—Of the 9 auxiliary powered schooners which are under construction at this yard, for Norwegian interests, two hulls were reported in frame during December, and a third as one half framed. Ways are reported to be under preparation for a fourth vessel.

S. M. Fields, Parrsboro, N.S., launched the schooner Cape d'Or Dec. 18. She is classified with the American Record, is 373 tons register and is fitted with power for hoisting. On completion, she went to St. John, N.B., to take cargo for the south, on account of La Have parties.

Foundation Co., Victoria, B.C., announces that P. B. Thompson, formerly Superintendent of the company's Portland, Ore., plant, has been appointed Manager, Point Hope and Point Ellice yards, Victoria, vice H. B. Pickering, transferred to Savannah, Ga. He took charge of the plants, Dec. 10, and is superintending the building of 20 wooden steamships for the French Government.

Fraser Brace Shipyards, Ltd., Montreal, —The incorporation of this company, which was mentioned in our last issue, is chiefly for the object of taking over the shipbuilding interests of Fraser Brace & Co., Ltd., as a matter of business convenience. The personnel of the company is the same in each case. The company has an order for 8 wooden steamships for the French Government, some details of which were given in our last issue.

The Harbor Grace Shipbuilding Co., Harbor Grace, Nfld., expected to launch a second schooner during December, of about 300 tons. She was fully rigged with hoisting machinery aboard, and was to be launched all ready for sea. A third vessel is expected to be ready for launching early this year.

Polson Iron Works, Ltd., Toronto.—Keels are being laid for 2 steel cargo steamships for Norwegian interests.

Port Arthur Shipbuilding Co., Port Arthur, Ont.—Following are complete particulars of this company's organization: President, James Whalen, Port Arthur; 1st Vice President, P. G. Chace, New York, N.Y.; 2nd Vice President, R. D. Hubbart, Chicago; Third Vice President and Counsel, A. J. McComber, Port Arthur; other directors: Jas. Playfair, Midland, Ont.; Jno. Burnham and E. W. Rogers, Chicago; General Manager, J. F. Paige; Secretary, A. B. Conmee; Treasurer, A. T. Giles; Assistant Secretaries, E. W. Rogers, Chicago, and F. J. Dolan, Port Arthur; Counsel, A. J. McComber, Port Arthur, and R. A. Pringle, K.C., Ottawa; Purchasing Agent, N. S. Thrasher; Shipyard Superintendent, Jno. Miller; Master Mechanic, Jno. Aldridge; Boiler Shop Superintendent, Jas. Whiteacre; Foundry Superintendent, A. Congdon; Superintendent Engineering Department and Chief Draftsman, L. E. Tornroos.

In our last issue, mention was made of the launching of the ocean steam tug Victoria, and also of a similar tug to be named Murray Stewart, to be delivered before the close of lake navigation. The names given refer to one and the same vessel, the confusion having arisen owing to the Marine Department's refusal to accept the name, Victoria, and her consequent registration under the name, Murray Stewart. She was built for J. F. M. Stewart, Toronto, to Lloyd's classification for ocean going tugs, and has the following dimensions: length over all 126 ft., length between perpendiculars 119 ft., breadth moulded 26 ft., depth moulded 16 ft. 5 in.; tonnage, 240 gross, 80 net. She is equipped with triple expansion engines with cylinders 15, 29 and 47 in. diar. by 36 in. stroke, 850 i.h.p. at 80 r.p.m., and supplied with steam by 2 Scotch boilers each 11 by 11 ft., at 175 lb., and she also has surface condenser, evaporator and dynamo.

Ocean going tug, Murray Stewart, built for J. F. M. Stewart, Toronto, by Port Arthur Shipbuilding Co.

Pugsley & Robinson, Diligent River, N.S., launched the 4-masted schooner Eugenie Mackay, Dec. 18, for A. B. Mackay, Hamilton, Ont. She is 560 tons register, and is equipped with power for hoisting, stockless anchors, etc., and is classified for 13 years with Bureau Veritas.

The Quebec Shipbuilding & Repairing Co., Quebec, Que., has sold the schooner Edgewood, which is approaching completion at its yard, to the Edgewood Shipping Co., Ltd., Montreal, for, it is reported, $160,000. She will be equipped with auxiliary power. The company is reported to have decided to commence building, at once, an auxiliary powered schooner of 2,200 tons, similar to the M. P. Connolly, which was wrecked on Sable Island, on her maiden trip a few months ago, and an auxiliary powered schooner of 1,240 tons, similar to the Edgewood, launched recently. It is intended to push these vessels so that they will be ready for service on the reopening of St. Lawrence navigation.

T. H. Rawding, Allandale, N.S., expects to launch a tern schooner during January. She is reported to have been sold to F. H. Ellis and Co., St. John's, Nfld.

Licenses for Clearance of Sailing Vessels.

The Commissioner of Customs issued the following notice Dec. 18:—"An order in council has been passed, as set forth below, rescinding the order of Feb. 21, 1918, as published in memo. 2177-B, which memo. is hereby cancelled. In future licenses from the Minister of Customs for the clearance of sailing vessels, as called for in that memo., will not be required. Collectors are to note, however, that memo. 2204-B, requiring a license from the Ships' Licensing Committee for any sailing vessel proceeding on a voyage to a destination outside of Canada, is still in effect."

The order in council referred to above, passed Dec. 16, is as follows:—"The Governor General in council, in view of the changed war conditions, is pleased to order that the restriction upon sailing vessels in order in council 436, of Feb. 21, 1918, prohibiting such vessels from clearing from a port in Canada on any voyage in the prosecution of which the vessel would, in the ordinary course, enter, navigate, or pass through the war zone of enemy submarine activity surrounding the British Islands, or in the waters adjacent thereto, unless a license permitting the vessel to clear on such voyage shall have first been granted by the Minister of Customs, is hereby withdrawn, and the said order in council is rescinded."

The Canadian Northern Ry. Car Ferry Canora arrived at Victoria, B.C., Dec. 7, at 7 p.m., on her trip from Lauzon, Que., where she was built, for the car ferry service between Port Mann and Patricia Bay. She left Lauzon Sept. 30, arriving at Sydney, N.S., Oct. 3, left Sydney Oct. 8 and arrived at Halifax, N.S., the same day, where she remained until Oct. 24. She arrived at Colon, Panama, Nov. 6, and left the Panama Canal Nov. 12, passing San Francisco Dec. 3. The distance between Halifax and Victoria, via the Panama Canal, is approximately 7,550 miles. She would have sailed considerably earlier in the year, but was delayed by an accident in Quebec harbor, the s.s. Sicilian colliding with her on Aug. 6, causing considerable damage, which had to be repaired before she could proceed to sea.

Tidewater Realties, Ltd., Three Rivers, Que., which was incorporated recently, with a capital of $100,000, to carry on a general real estate business, and primarily to develop St. Maurice Park, Three Rivers, as residential property, is closely associated with Canada Steamship Lines, Ltd., and Tidewater Shipbuilders, Ltd. Special inducements are being offered to employes of the latter company, to acquire houses on the property. The directors are: J. W. Norcross, President; A. J. Gouin, Managing Director; Jacques Bureau, M.P., H. W. Cowan and F. P. Smith. J. I. Hobson is Treasurer.

Ocean Cargo Carriers Co., Ltd., has been incorporated under the Dominion Companies Act, with capital stock of 1,000 shares without nominal or par value, provided that it shall carry on its business with a capital of $5,000, the company being deemed a private company under the Companies Act and amendments. The head office is to be in Toronto. Power is granted to own and operate steam and other vessels, carry on any other business incidental thereto, and conduct a general navigation business.

Atlantic and Pacific Ocean Marine.

The Dominion Shipping Co. has been awarded $183,354 for the loss of its s.s. Heathcote, through collision with Furness Withy & Co.'s s.s. Kelbergen, in the Bay of Fundy in July, 1918.

The St. Lawrence navigation season was officially closed at Montreal, Dec. 17, ten days later than in 1917. The last vessel to pass through was the s.s. Natironco, one of the lake steamships, bound for Halifax, N.S., for ocean service.

The Harrison Line was announced to have resumed its sailings between United Kingdom ports and British Columbia, by way of the Orient, during December, with the s.s. Professor. It is reported that about 20 of the company's steamships were lost during the war, through the enemy submarine campaign.

The master of the s.s. Olympic, Capt. F. Hayes, C.M.G., D.S.O., was presented with a silver salver and an address by the City of Halifax, N.S., Dec. 16, and with a silver loving cup by the Halifax Board of Trade. In making the presentation, the mayor pointed out that during the war, the Olympic had carried more Canadian troops than any other one vessel.

Canadian Robert Dollar Co., which operates the steamships Bessie Dollar, Melville Dollar and Harold Dollar, on a monthly schedule from Vancouver to Shanghai, Hong Kong and Manila, has under consideration the inauguration of a steamship service between Vancouver and India, but we are officially advised that no details have been worked out regarding it.

The Canadian Pacific Ocean Services' s.s. Minnedosa, which arrived at Halifax, N.S., recently from Great Britain, on her maiden trip, was launched by Barclay, Curle & Co., Glasgow, Scotland, Nov. 17, 1917. Her dimensions are: length 520 ft., breadth 67¼ ft., depth 43 ft.; tonnage, 14,000; sea speed, 17 knots. She has passenger accommodation for 503 cabin and 1,470 third class.

The Royal Mail Steam Packet Co., which operated a steamship service between Halifax, St. John and the West Indies, has been advised that the British Admiralty has released its steamships Chaudiere and Chignecto from war time service. These vessels were requisitioned early in the war, and taken to England for service there. They were expected to leave England about the end of December, and on arrival at Halifax, they will resume service on their old route.

The Canadian Pacific Ocean Services' Atlantic service is in course of being resumed on a pre-war basis. The steamships Minnedosa, Melita, Metagama, Scandinavian, Scotian, Grampian, Corsican and Tunisian, are being operated between West St. John, N.B., and Liverpool, Eng., on the one class cabin plan, and it is announced that the steamships Alsatian and Empress of Britain will be in service shortly on the three class plan.

The White Star-Dominion Line s.s. Regina, which arrived at Halifax, N.S., Dec. 20, with returning troops, was on her maiden trip to Canada, having been built during war time. She is to be run between Montreal, Quebec and Liverpool, during the St. Lawrence navigation season, and from Halifax, N.S., and Portland, Me., during the winter. She was built by Harland & Wolff, Belfast, Ireland, and is about 16,500 gross tons, 600 ft. long, 68 ft. beam, and has accommodation for cabin and third class passengers.

P. V. G. Mitchell, Assistant General Manager, White Star-Dominion Line, Montreal, left there, Dec. 17, for Antwerp, Belgium, on behalf of the International Mercantile Marine Co., to take charge of the company's business there during the reorganization of local conditions. Prior to leaving Montreal, he is reported to have said that the company's interests in Europe, before the war, were very large and that to a great extent they centered on Antwerp. Owing to the German occupation and consequent isolation of Antwerp, the business became disorganized and his task is to find out just what the condition of affairs there is, and to re-establish business connections throughout the continent.

C. E. Benjamin, Passenger Traffic Manager, Canadian Pacific Ocean Services, Ltd., who arrived in Montreal, Dec. 16, from London, Eng., is reported to have said that the steamships Empress of Asia and Empress of Russia, which were transferred from the Pacific to the Atlantic to facilitate the transport of U.S. troops to Europe, had been restored to commercial service and would resume their service between Vancouver and the Orient early in the year. They were then being refitted in an English port, and the first named was to return to the B.C. coast by way of the Panama Canal, carrying returning troops to that province. The second named vessel will return by the Suez Canal, returning troops to Australia on the way.

The Canadian Pacific Ocean Services' s.s. Empress of Britain, which has been engaged on war work practically since the outbreak of war, had, up to the end of November, covered 173,130 miles, while in Admiralty service, and carried 110,000 troops overseas. She took Australian and British troops to Gallipoli, and took them away again, and during the period the Suez Canal was closed to traffic, she made a trip round the Cape of Good Hope, with troops for what was then German East Africa, and also for Mesopotamia. She made eight trips with Canadian troops, and for the first seven months of the war patrolled the South Atlantic as an Admiralty cruiser. She was attacked by submarines about a dozen times and had two narrow escapes. She is at present engaged in repatriating U.S. troops, and is expected to return to her commercial service shortly.

Ontario and the Great Lakes.

The quantity of grain held in storage on vessels in Port McNicoll harbor, is 7,927,186, the largest yet held there during the winter.

Passenger service on Lake Ontario closed Dec. 21, with the sailing of the Canada Steamship Lines' s.s. Macassa from Toronto for Hamilton.

Canada Steamship Lines' s.s. W. Grant Morden, is reported to have made a record showing for her season's operations, with freight earnings on her final round trip larger than any ever made by any other vessel on the one trip.

The Empire Elevator Co. has deposited plans with the Dominion Public Works Department, giving description of site and plan of works, docks and elevator which it has built in Thunder Bay at the mouth of the Kaministikwia River at Fort William.

The mine sweepers Cerisoles and Inkerman, which were built recently by the Canadian Car & Foundry Co. at Fort William, for the French Government, are reported to have been lost, together with their crews totalling 76 persons, during a storm on Lake Superior about Nov. 24. A search party has failed to get any trace of them, but some wreckage, which appears to be part of these vessels, was found during December, off Grand Marais.

The s.s. Atikokan has been docked at the Collingwood Shipbuilding Co.'s plant at Kingston, for structural alterations. She passed through the Welland Canal recently from the Great Lakes, in two sections, and while being rejoined, it has been thought advisable to make certain alterations in the deck design to enable her to encounter a high sea with comparative safety. She is of the whaleback type of construction, and it is said that the designers' ideas have not been fully realized.

The Toronto Harbor Commissioners interviewed the Minister of Public Works, at Ottawa, Dec. 18, when it was reported that assurances were given that the work to be done in the harbor during 1919, would be sufficient to keep about 500 men fully engaged. The chief work to be undertaken, is the concrete superstructure of the breakwater at the western extremity of the harbor, to protect work already done at that point. A turning basin will also be taken in hand, and located in the industrial area at the east end.

British Columbia and Pacific Coast.

The Dominion Public Works Department will receive tenders to Jan. 23 for the reconstruction of the [illegible] wharf at Esquimalt, B.C.

The C.P.R. has deposited with the Dominion Public Works Department a description of site and plans of a wharf or transfer slip proposed to be built in Burrard Inlet, in Vancouver harbor, slightly west of the prolongation of Thurlow St., northerly to Burrard Inlet.

The Marine Department has decided that the enquiry into the loss of the C.P.R. s.s. Princess Sophia, with approximately 346 lives, on the Vanderbilt Reef, in the Lynn Canal, Oct. 24, will be held at Victoria, Jan. 6, in the Admiralty Court, before Mr. Justice Martin.

A press report from Vancouver, Dec. 16, stated that the 12 auxiliary powered schooners, which were built for Canada West Coast Navigation Co. at Vancouver and Victoria, during 1917, had been purchased by the French Government, and that those not already taken over, will come under the French flag on the completion of their present voyages.

Caution re Floating Mines.—The Naval Service Department has been advised that about 30 floating mines were sighted Dec. 8, covering an area of about 15 miles, in the North Atlantic, in lat. N. 36 deg., long. W. 65 deg. 30 min. Vessels are advised to keep a lookout for them and to destroy them by gun fire. If seen, vessels should report by wireless to the U.S. Navy Department.

Shipbuilding in the United States.—C. P. Piez, General Manager, U.S. Shipping Board, Emergency Fleet Corporation, advised the Senate, Dec. 17, that from Aug. 1917, to Nov. 30, 1918, that construction had been commenced for the building of [illegible] steamships, aggregating [illegible] gross tons.

The Dominion Government's Shipbuilding and Canal Policy.

[illegible] White, Finance Minister, and acting Prime Minister, when in Toronto, Dec. 16, gave out a statement calling attention to the things accomplished by the Union Government during its first year of office. Among other things he said:

"An outstanding feature of the government's policy has been the establishment of a great shipbuilding industry. Over 40 [illegible] vessels for government account are now under order, the total estimated programme for this and the coming year aggregating over $60,000,000. The activities of all Canadian shipyards are being maintained at their highest capacity, furnishing employment for an army of workmen and sustaining many subsidiary enterprises of an important national character.

"To provide employment during the periods of demobilization, the Railways and Canals Department is proceeding with the construction of the Welland Ship Canal, work on which has been shut down because of the war. In the same way work will be resumed on the final section of the Trent Canal."

Mainly About Marine People.

Jas. McShane, who died at Montreal, Dec. 14, aged 85, was at one time a member of the old Montreal Harbor Board, and later, harbor master there.

Jas. Carruthers, President, Canada Steamship Lines, Montreal, was one of the speakers at the dinner given the Hon. Robt. Rogers, ex Minister of Public Works, in Toronto, Nov. 28.

August Bedard, Montreal representative of the Ottawa Transportation Co., died at the Royal Victoria Hospital, Montreal, Dec. 10, aged 68, after about two weeks illness from heart trouble.

Hon. C. C. Ballantyne, M.P., Minister of Marine, was reported, Dec. 27, to be confined to his home at Montreal with appendicitis. An operation was performed and he was reported to be progressing satisfactorily.

Frank McDonnell, heretofore Assistant to Chairman, Board of Steamship Inspection, Marine Department, Ottawa, who was appointed Chairman, Board of Steamship Inspection, Sept. 23, 1918, to succeed T. R. Ferguson, deceased, was born Oct. 18, 1877, and first entered government service, Mar. 6, 1905, receiving a permanent inside appointment Sept. 1, 1908, being appointed Assistant to Chairman, Board of Steamship Inspection, Oct. 1, 1912. This is a correction of an item published in Canadian Railway and Marine World for Dec., 1918, in which the dates of birth and previous appointment were incorrectly stated, having been copied from erroneous official information.

John L. Weller, who has been appointed Consulting Engineer, Welland Ship Canal, was born at Cobourg, Ont., Feb. [illegible] government service [illegible] he has been, to 1885, Assistant Engineer, Trent Canal, Peterborough, Ont.; 1885 to 1888, Assistant Engineer, Murray Canal, Brighton, Ont.; [illegible] Resident Engineer, St. [illegible] Ont.; 1900 to 1912, Superintending Engineer, Welland Canal, St. Catharines, Ont.; 1912 to May 2, 1917, Engineer in Charge, Welland Ship Canal, St. Catharines, Ont.

Miles A. Overend, Freight Agent for Ontario, White Star-Dominion Line, Toronto, died there, Dec. 28. He was born in England, and came to Canada in 1872, entering the Great Western Ry. service, Hamilton, Ont., in the mechanical department, and continued in that service until the absorption of the road by the G.T.R. in 1884, since when he was, to June, 1885, clerk in General Freight Agent's office, G.T.R., Hamilton, Ont.; June, 1885, to June, 1892, clerk in District General Freight Agent's office, same road, Toronto; June, 1892, to Nov., 1893, clerk in same office, Toronto; Nov., 1893, to May, 1895, Ontario Agent, Canada Atlantic Fast Freight Line, Toronto; May, 1895, to Sept., 1896, City Freight Agent, G.T.R., Toronto; Sept., 1896, to Apr., 1898, Ontario Agent, Canada Atlantic Fast Freight Line, Toronto; Apr., 1898, to Oct., 1905, Foreign Freight Agent, Canada Atlantic Ry., Montreal; Oct., 1905, to Apr., 1906, in private business; Apr., 1906, to Aug., 1911, Travelling Freight Agent, White Star-Dominion Line, Toronto, at which latter date he was appointed Freight Agent for Ontario, for that line.

Restoration of Canada's Shipping Facilities to a Pre-war Basis.

London, Eng., cablegram, Dec. 12.—Some progress has been made in the work of restoring Canada's shipping facilities to a pre-war basis. Sir George Foster, Minister of Trade and Commerce, has been dealing with the question in conference with the British Minister of Shipping. An agreement on a number of important points has been reached.

Freight and passenger service between Canada and the Orient is to be re-established. The Canadian Pacific Ocean Services steamships, Asia and Russia, which have been employed in European waters in transportation work, will be back with cargoes to Vancouver or Hong Kong, and will then be released to their owners. The 6 freight steamers formerly plying between Vancouver and Australia were all requisitioned by the Admiralty and 5 of these were lost. It is arranged that these are to be replaced as rapidly as possible and a beginning in the freight service will be made at once.

Service between Halifax and the West Indies has already been re-established. The former shipping service between Canada and South Africa was one ship a month. The British Shipping Ministry promises 3 ships between now and May and thereafter a resumption of old service.

In all these services private control of rates will be resumed, as they are re-established. The North Atlantic freight service is likely, however, to remain for a considerable time under the control of the International Maritime Transport Council, which has been co-ordinating and controlling the shipping resources of the allied nations. Rates and cargoes will remain in control of this body, but the amount of space allocated for private commercial business, which was limited last year to from 2 to 5% of the cargo space, will be considerably increased, especially in eastbound ships.

The consent of the Shipping Control to imports into England will be required, but it is thought the disposition will be to encourage the resumption of private trading in goods required here, so far as exigencies of the exchange situation will permit. License to import requires the endorsement of the Treasury, and this may not be forthcoming in cases where the present disadvantageous position of England with respect to exchange would be accentuated. But despite this, opportunities and facilities for private trading between Canada and Great Britain will steadily increase from this time forward. It is expected that Canada will be given a representative on the International Maritime Transport Council, probably Lloyd Harris, chairman of the Canadian Mission to Great Britain.

Wooden Shipbuilding in Canada for Foreign Countries.

Following is a complet list of licenses granted by the Dominion Marine Department up to Dec. 9, 1918, for building wooden steamships for export:—

1918.	Builder.	Vessels.	Tons d.w.	For
Mar. 11	British American Shipbuilding & Engineering Co., Vancouver, B.C.	20 steamships	3,000	Norway
June 3	LeClaire Shipbuilding Co., Sorel, Que.	4 aux. schooners	1,200	Norway
July 18	Three Rivers Shipyards, Ltd., Three Rivers, Que.	25 vessels	3,000	France
July 18	LeClaire Shipbuilding Co., Sorel, Que.	3 motor vessels	1,000	Norway
Aug. 5	Cholberg Shipyard Co., Victoria, B.C.	3 steamships	1,500	Norway
Sept. 6	LeClaire Shipbuilding Co., Sorel, Que.	2 aux. schooners	1,200	Norway
Sept. 12	Davie Shipbuilding & Repairing Co., Lauzon, Que.	12 steam barges	1,500	France
Sept. 12	—Fraser, Brace & Co., Montreal	8 steam barges	1,500	France
Sept. 12	New Westminster Engineering & Construction Co., New Westminster, B.C.	5 steam barges	1,500	France
Sept. 12	Wm. Lyall Shipbuilding Co., Vancouver, B.C.	8 steam barges	1,500	France
Sept. 12	Pacific Construction Co., Port Coquitlam, B.C.	2 steam barges	1,500	France
Sept. 12	Northern Construction Co., Vancouver, B.C.	5 steam barges	1,500	France
Sept. 12	National Shipbuilding Corporation, Three Rivers, Que.	10 steam barges	1,500	France
Oct. 12	Foundation Co., Victoria, B.C.	20 steamships	3,000	France
Oct. 12	Davie Shipbuilding & Repairing Co., Lauzon, Que.	1 steamship	1,500	Greece
Nov. 2	New Westminster Engineering & Construction Co. New Westminster, B.C.	3 steamships	3,200	Belgium
Nov. 2	Northern Construction Co., Vancouver, B.C.	4 steamships	3,200	Belgium
Nov. 2	Pacific Construction Co., Port Coquitlam, B.C.	3 steamships	3,200	Belgium
Nov. 15	Pacific Construction Co., Port Coquitlam, B.C.	2 steamships	2,800	Greece
Nov. 17	Wm. Lyall Shipbuilding Co., North Vancouver, B.C.	6 aux. schooners	2,500	Belgium
Dec. 19	—LeClaire Shipbuilding Co., Sorel, Que.	2 aux. schooners	1,200	Norway
Dec. 19	—LeClaire Shipbuilding Co., Sorel, Que.	2 aux. schooners	1,200	France

Total, 147 vessels; 339,100 tons d.w. capacity.

The Deputy Minister of Marine on the Shipbuilding Contracts.

Alex. Johnston, Deputy Minister of Marine, is reported to have stated to the Toronto Globe's Ottawa correspondent recently that in concluding contracts for 45 steel steamships, with an aggregate tonnage of 263,850 tons d.w., to cost $52,691,450 in all, the department contended that it had made arrangements as good as could possibly be made in this country. Mr. Johnson referred to a statement made recently by C. F. Piez, now at the head of the U.S. Emergency Fleet Corporation, when giving testimony before a Senate committee at Washington, to the effect that the cost of ships in construction in the U.S. would be $225 a ton.

"But why should the price in Canada and the U.S. be so much more than it is in the British Isles?" he was asked.

"It is almost entirely on account of the greater cost of labor to us," said Mr. Johnson. "Just to show you the impossibility of our producing vessels at the same price as they do in the British Isles, let me quote you some comparative figures of wages paid in our shipyards and in those of Great Britain. Shipwrights in Great Britain are paid $16.50 a week of 50 hours, while in Vancouver, for less efficient labor, we have to pay $36.30 for a week of 44 hours, an increase of 120%. In the lake yards $34.45 is paid to shipwrights, and in Montreal $27.80. This is not an isolated instance, but applies to all kinds of shipbuilders. Take riggers, who get $13.20 a week of 50 hours in Great Britain, while in Vancouver they are paid $33 for a 44-hour week, or 140% more; in the lake yards $31.50 a week is paid to riggers. Machinists, who get $14.40 a week of 50 hours in England, get $29.25 in Montreal, $35.75 a week in Port Arthur and the lake yards generally, including Toronto, and about the same on the Pacific coast. Riveters are paid $15.55 for a 50-hour week in England, and $33 generally throughout Canada."

"Is there a similar difference in the price of steel?" he was asked.

"Our information is that the price of steel in Great Britain is $53 a ton delivered to shipyards, whereas steel is being delivered at Vancouver for $102.25 a ton, at Port Arthur for $89.37, at Toronto for $78.84, and at Montreal for $96.89."

On being asked to explain the difference between the price at Pittsburg for steel plates of $65 a ton and the guaranteed price to the new ship plate mill being erected in Sydney at $85 a ton, Mr. Johnson said: "You must remember that we made that arrangement before there was any prospect of an armistice, and when the military situation was such that an early ending of the war was very improbable. It was a war expenditure, which we would not have been justified in neglecting at the time. The situation in the U.S. at that time was such that we succeeded in getting only 6,000 tons of plates from March last to the time the armistice was signed. The united efforts of the Marine Department, the War Trades Board and the Canadian War Mission at Washington could not make it any better than this, and if the war had continued the situation would have been worse instead of better. It was intimated to us on more than one occasion that, instead of looking for an improvement, we could expect worse deliveries. The efforts of R. H. McMaster, who was on the Canadian War Mission at Washington, deserve all praise, as through his efforts we got more than we could possibly have obtained otherwise under those circumstances. If the shipbuilding industry were to continue in Canada we had to have a mill to manufacture our own plates.

"You say that we will have to pay $85, when U.S. plates will be offered at $65, and we must admit that at once, it is regrettable and unavoidable. We had to do it at the time, and the extra price which we will continue to pay in peace times is really a war expenditure, in that we agreed to pay it on account of conditions made by the war. However, it made the establishment of that industry possible, and will help it to establish itself in the next five years, the price diminishing every six months if the cost of ingots as determined at the end of each six months' period justifies it."

Questioned as to the ratio between the cost of labor to that of material in the construction of ships, Mr. Johnson said that the cost of labor in producing certain sets of boilers and engines amounted in England to $43,140, compared with $95,000 in Canada, while the materials for the same engines and boilers in Great Britain would cost $98,600, and in Canada approximately $160,000.

"Mr. Piez told the U.S. Senate committee in his evidence that England was paying $140 a ton. Taking into account the differences in the cost of material and labor here, and the experience of shipbuilders here that labor in England is 25% more efficient, you will see that $199 a ton as an average condition price is far from being exorbitant. The United States pay more than we do, and their labor costs about the same. They get their steel for the same price at the mill, but the freight is cheaper. The freight rate from Pittsburg to the coast is $13.80 a ton, and to Halifax only $11.87 a ton."

It is probable that the plate mill at Sydney will compete at market prices with U.S. mills in Canada and the U.S. for business over and above the Government's requirements. When normal conditions are restored, and there are abundant supplies of steel, coal and ore to enable the general steel plant at Sydney to maintain a maximum production, the cost of producing pig iron and steel, and consequently the cost of producing ingots, will decline. Under the government contract it will get the benefit of any decline in the price of steel ingots which these or any other conditions may bring about. There is little probability, however, that the price paid by the government will ever get as low as the market price until five years have gone by. The government's requirements will not be only for ship's plates, but for plates for many railway purposes as well. Until the ship plate mill begins manufacturing next autumn the government will have to depend on supplies from the U.S. Last autumn delays in deliveries held up shipbuilding, but hereafter no such trouble is anticipated by Mr. Johnson.

W. Grant Morden, of the Canada Steamship Lines, London, Eng., Advisory Committee, has been elected to the British House of Commons for the Brentford and Chiswick Division of Middlesex as a supporter of the Unionist Government.

The North Atlantic Passenger Services.

Belfast, Ireland, press despatch, Dec. 20, 1918.—Contrary to what had generally been anticipated, some large liner tonnage is coming off the ways of British shipyards. Since the signing of the armistice half a dozen large ships have made their maiden voyage or are about to do so.

Recently among the British men filtered the information that some months ago the British Admiralty decreed that naval construction was in such shape as to permit a switch from naval to mercantile construction. On the strength of this the British shipyards quickly proceeded, it is stated, to complete liner tonnage contracted for long ago, and left in various stages of completion.

The White Star and Dominion lines figure chiefly in the most recent liner deliveries. The Vedic, a new White Star steamship, is a 10,000 ton vessel, and will be operated in one or other of the line's North Atlantic services. The Vedic, which has not yet made her maiden trip to America, was built at the Queen's Island Shipyard of Harland & Wolff, Belfast.

The Dominion Line has two new ships, the Regina, 16,314 gross tons, and the Rimouski, of 10,000 tons, both built by Harland & Wolff. The Rimouski is a sister ship of the Vedic. Besides being important cargo carriers both the Vedic and the Rimouski will carry one-class passengers, these boats having been specially designed to provide accommodation for those desiring to travel comfortably, but economically.

Another new liner delivered recently by Harland & Wolff is the Minnedosa, of the Canadian Pacific Ocean Services. She is a vessel of 14,000 gross tons, with triple screws. She left Liverpool on her maiden trip Dec. 5, and reached St. John, N.B., on Dec. 14, carrying 808 troops and 498 civilians. The Minnedosa is a sister ship of the Melita, which first crossed the ocean in Jan., 1918.

The Alsatian, 18,000 tons, the largest vessel in the Canadian Pacific Ocean Services fleet, will probably be returned to her regular run in the near future. The Empress of Britain will also be restored shortly to the Canadian North Atlantic service. On the other hand, the Empress of Asia and the Empress of Russia will return to the trans-Pacific run.

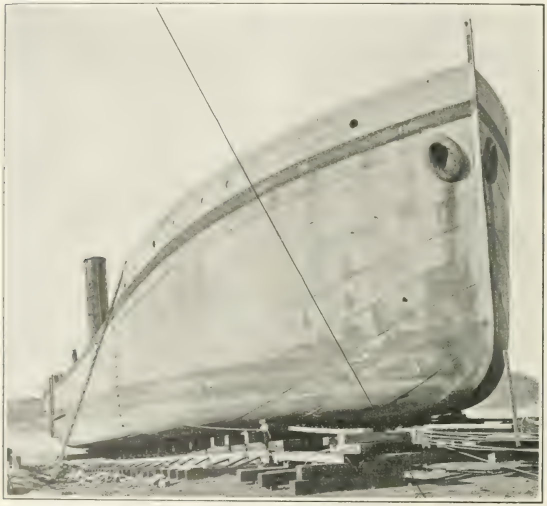
Other liners of the C.P.O.S. which have survived the war are: the Virginian, 12,000 tons; the Victorian, 12,000 tons; the Metagama, 12,000 tons; the Scandinavian, 12,100 tons; the Grampian, 10,187 tons; the Scotian, 11,000 tons; the Corsican, 10,000 tons and the Tunisian, 10,000 tons. Sunk during the war were: the Calgarian, 18,000 tons; the Missanabie, 12,000 tons; the Hesperian, 10,920 tons, and the Ionian, 9,000 tons.

St. Lawrence River Improvements Temporarily Disapproved by U.S. Authorities.—A report submitted to Congress by the War Secretary, Dec. 16, contained the statement by the Chief of Engineers, that "until the actual completion of the enlarged Welland Canal, and [illegible] of the deepening of the Canadian St. Lawrence River channel and canals from St. Regis to Montreal indicate a reasonable [illegible] by vessels of deeper draft than those now on the Great Lakes, any proposed improvements in the St. Lawrence River between [illegible], N.Y., and Montreal, to make those waters navigable for ocean going vessels, be disapproved.

Conversion of an Ocean Steel Dredge into a Freight Steamship at Levis, Que.

An interesting operation in marine work was carried out recently by the National Shipbuilding Co., of Goderich, Ont., at its St. Lawrence dock, Levis, Que. Having undertaken to convert an ocean going steel dredge into a freighter for French shipowners, a quick delivery being especially called for, and there being no drydock available in which to carry out the work, the company decided to bring the vessel out of the water on a marine railway.

A site having been selected on the St. Lawrence River opposite Quebec, active operations were commenced on the construction of the slipway, together with all the necessary shops and buildings required in a modern shipyard. Owing to the impossibility of securing the necessary machinery and appliances for a regular marine railway in the limited time available, it was decided to use greased ways, instead of the usual steel rollers. The grade of the slipway was fixed at 4%, and it was found that if advantage was taken of the highest tides for floating the vessel on to the cradle, a total vertical lift of 11 ft. would be sufficient to ensure the stern being above high water mark for the balance of the season. This lift, on a 4% grade, fixed the hauling distance as 275 ft. and the length of the slip at 508 ft. (viz., length of ship 233 ft., plus haul 275 ft.). The length of the slip, however, was subsequently reduced to 485 ft., as the bow of the ship was allowed to overhang the cradle by 23 ft.



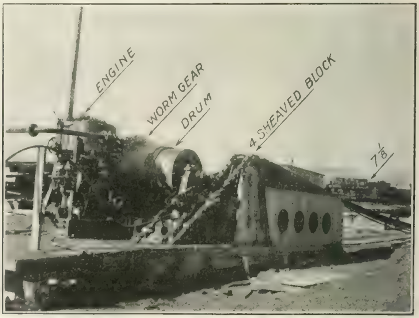
Dredge Galveston, being hauled up the marine railway.

The site selected for the operations contained a wharf of sufficient width to allow of the upper portion of the slip being excavated for a length of 225 ft., the material with which the wharf had been filled originally being shale debris from the adjoining cliffs, provided a good foundation for the ways. Beyond the wharf, soundings taken in the river showed from 4 to 5 ft. of mud and blue clay overlying the rock, and although it would have been preferable to have carried the foundation of the ways down to rock, it was realized that as work could only be carried on during low tide, it would require the remainder of the season to clear the site, consequently the mud only was removed and the cross timbers laid on the blue clay, which on closer inspection proved quite suitable for a solid foundation.

The cross timbers, 12 x 12 in. x 40 ft. long, of B.C. fir, were laid at 4 ft. centers, the next course above being composed of longitudinals, and above this cross timbers again, the whole cribwork being filled in with rock and shale from the wharf excavation. The standing ways were constructed of two 12 x 12 in. oak baulks bolted together with 1 in. bolts at 5 ft. centers, the bolts also passing through the 6 x 15 in. oak guides fixed on the outside of the ways and projecting 3 in. above the surface of same to hold the sliding ways in position.

A center way was also provided for a certain distance, to carry the stern of the vessel where the engines and boilers were situated, and where the lines of the hull did not allow of it being supported on the side ways. The sliding ways carrying the cradle, 210 ft. long, were also of oak, a center way 75 ft. long being also provided to carry the stern of the vessel where the greatest weight was concentrated. Timbers 12 x 12 in. x 24 ft. long were laid across the sliding ways at 10 ft. centers, with short blocks in between, so that the vessel would be supported by blocking at 5 ft. centers throughout the length of the cradle. This blocking was carried up to a height of 4 ft. above the standing ways at the after end of the cradle and 2½ ft. at the forward end,

Construction of the cradle at low tide, for hauling up the Dredge Galveston.



Hauling apparatus, engine, worm gear, drum, 4-sheaved block, ⅞-in cables.

these heights being fixed by the draught of the vessel fore and aft and the estimated elevation of the tide on the day fixed for the hauling operation. A margin of 2 ft. was allowed between tide and darught for clearance and vagaries of tides, which were found to vary considerably from the tide tables when the wind was in certain directions.

During the construction of the slipway a large gang was employed cutting away and removing all parts of the vessel not required in the reconstruction; the engines and boilers, however, remained in position, and the total weight when placed on the cradle was approximately 1,000 tons, the dimensions of the vessel being 233 ft. between perpendiculars and 39 ft. beam.

A somewhat difficult problem to solve was the pull required to overcome the initial inertia on greased ways on a 4% grade, though it was considered that once this inertia was overcome the coefficient of friction would not be higher than .10, which, on the 4% grade, represented a total pull of about 140 tons. This difficulty, however, was successfully overcome in the manner described later on in this article. The hauling engine and drum were bolted down to a heavy concrete foundation, weighing approximately 150 tons, and also anchored back to same with 1¾ in. steel rods. Two 2½ in. steel cables were attached to the rear end of the cradle, and passed forward beneath same to the forward end, where they were shackled to two heavy 4 sheaved steel blocks; $\frac{7}{8}$ in. steel cables were reaved over 3 sheaves in each block, making a 7 part line on either side, extending to similar blocks fixed in front of the winding drum, the distance between the blocks being 313 ft., each cable being 2,500 ft. long. The cradle was erected in position at the lower end of the ways and weighted with rails and rock; 3 timber uprights bolted on one side of same 50 ft. apart and exactly 19½ ft. from the centre line, acted as guides for bringing the vessel into correct position, a fourth one being fixed on the centre line 23 ft. forward of the cradle for locating the position of the bows.

The high tide, occurring at night, made the operation a more difficult one. The vessel was warped into position by cables attached to the wharf on one side and to an anchor and tug on the other, and at 8 p.m. (high tide) was over the submerged cradle, at 8.45 the bows had settled on the blocks at the forward end, and at 9 p.m. the hauling winch commenced to pull on the cradle. As almost the entire weight of the vessel was still water borne, the initial inertia was small and easily overcome, and the cradle moved forward up the ways, with the vessel gradually settling down on same until entirely supported. During this operation very great care had to be exercised in manipulating the mooring cables at the stern, which was subsequently found to have settled within a few inches of the center of the blocks. The cradle steadily mounted the ways, with its huge burden, until the entire hull became visible, looking in the dim light like some monster of the deep rising from the sea with the water dripping from its sides. The total distance of 275 ft. was covered in 40 minutes, at a mean speed of approximately 7 ft. a minute, and the vessel was high and dry in position adjacent to the shops all ready for reconstruction work. No camber had been given to the ways, but there was no settlement, neither was anything displaced or broken.

Dredge Galveston, in yard, after having been hauled up the marine railway.

In the accompanying illustrations the vessel is shown stripped of bulwarks, bridge deck and all top hamper down to the main deck. The alterations and reconstruction call for increasing the moulded depth by 8 ft., remodelling the stern, new bottom for half the length of the vessel, construction of cargo holds, crew quarters, etc., providing masts, booms, deck winches and all fittings necessary for relaunching completely ready for sea. Within 2½ months of taking possession of the site the necessary machine shops, carpenter shops, moulding loft stores, offices, etc., had been installed and the vessel brought out of the water. The operations here described were carried out under the direction of D. A. Andrus, the company's Manager and Engineer at Levis.

The Gulf of St. Lawrence Shipping & Trading Co., Ltd., the incorporation of which, with $1,000,000 capital and office at 147 Mountain Hill, Quebec, Que., has been announced previously, is reported to have been granted a subsidy by the Dominion Government for a steamship service during the navigation season, for 5 years, to 1923, at $70,000 a year, to operate 4 vessels to the west shore of Newfoundland, making four trips a month, and one trip to Gaspe, Prince Edward Island and Pictou, and one between Pictou and Magdalen Islands, on a semi-weekly schedule. One steamship, Gaspe, was operated at the end of the past season, and it is said that arrangements are being made for the chartering or purchasing of other vessels for service in the spring. The company intends doing a general trading business, in addition to carrying on a passenger, mail and freight service. The officers are: President, C. A. Barnard, K.C., Montreal, a director of Canada Steamship Lines, Ltd., and President, Davie Shipbuilding & Repairing Co., Lauzon, Que.; Vice President, A. E. Doucet, Quebec, formerly District Engineer, National Transcontinental Ry.; Secretary-Treasurer, H. P. Hamel, Quebec; Marine Superintendent, Capt. J. E. Bernier, Arctic explorer; General Manager, J. de S. Bosse.

Steamship Corinthian Wrecked.—Canadian Pacific Ocean Services' s.s. Corinthian, outward bound from St. John, N.B., from Glasgow, Scotland, with general cargo, on Dec. 14, struck on [illegible] Ledge, commonly known as the northwest ledge, Brier Island, at the entrance to the Bay of Fundy, and became a total loss. The crew of 86 were rescued Dec. 15, by the Dominion Government s.s. Aberdeen and patrol s.s. Festubert. The weather at the time of the casualty was reported as dense fog with a heavy sea running. The master reported that when he left the vessel, the holds were full of water, and that it was impossible to salve anything. She was built at Belfast, Ireland, by Workman, Clark & Co., in 1900, for the Allan Line, and was 446 ft. long, with a gross tonnage of 7,332. Included in the cargo was 120,000 bush. of wheat. An enquiry was held at St. John, N.B., Dec. 20, when it was reported that the court had decided that the loss was due to indifferent seamanship, and suspended the certificate of the master, Capt. Tannock, for three months, and that of chief officer [illegible] for six months.

Dry Dock for Vancouver.—It is reported that a company is about to apply to the Dominion Government under the Drydock Subsidy Act for a subsidy for the construction of a first class drydock at Vancouver. The report states that the interests concerned in the proposed company include the Wm. Lyall Shipbuilding Co. and the Pacific Construction Co., both of which carried out wooden shipbuilding contracts for the British Government, through the Imperial Munitions Board, and are now building wooden steamships for the French Government. So far as the Pacific Construction Co. is concerned, Stuart Cameron, Vice President, is reported to have stated Dec. 13, that this is an old story revamped, that the company has no plans in this connection whatever, and though it has been asked to consider a proposition, nothing at all has been decided. Some years ago the company carried on some investigations with the view of establishing a dry dock on the north shore.

Steamship Control Relinquished in United States.—The Clyde, Mallory, Merchants & Miners and Southern Steamship Companies were relinquished from U.S. federal control Dec. 5 by order of the Director General of U.S. Railroads. Steamship companies owned by railways will be retained under management of the Railroad Administration. The four lines turned back to private management were taken over by the government, April 13, under war powers of the President, and their operation consolidated with other steamship lines under the Railroad Administration.

Manchester Liners, Ltd., report for the year ended June 30, 1918, mentions that the operations were satisfactory. All of the company's vessels were under requisition and operated on government account, though several were retained in the Canadian trade. The fleet, at the outbreak of war, consisted in 15 vessels, and of these, 8 were sunk by mines or submarines. Two new vessels were built, and five others were purchased. The new vessels, Manchester Brigade and Manchester Division, with capacity for 9,000 tons each, were both in Montreal during the past season.

Among the Express Companies.

Robt. J. Timpson, heretofore stenographer, has been appointed chief clerk, Superintendent's office, Canadian Ex. Co., Toronto. He entered the company's service Feb. 5, 1907.

Canadian Railway and Marine World for November, 1918, announced that J. H. Chadwick had been appointed agent, Canadian Northern Ex. Co., Edmonton, Alta. We have been officially advised that this is incorrect, J. H. Morrison being the company's agent there.

John T. Madigan, heretofore chief clerk, Superintendent's office, Toronto, has been appointed route agent, Canadian Ex. Co., Hamilton, Ont. He entered the company's service Dec. 1, 1911, as clerk in the Superintendent's office at Toronto, and was promoted to chief clerk Nov. 18, 1912.

F. G. Airy, who was, until recently, in charge of the joint agency, maintained in New York, by the various companies operating in the U.S., for the purpose of publishing tariffs in which all the companies were interested, is now chief clerk in the American Railway Ex. Co.'s tariff bureau.

The Board of Railway Commissioners has fixed hearings for the application of the Express Traffic Association of Canada, on behalf of all express companies operating in the Dominion, for an increase in rates, for the following dates: Jan. 7, at Ottawa; Jan. 13, at Toronto, and Jan. 16, at Montreal.

Henry Samuel Julier, who retired as Vice President and General Manager, American Ex. Co., New York, a few years ago, and Mrs. Julier, celebrated the 50th anniversary of their wedding, Dec. 15. In his early days of service with the company, he was train messenger on the old Buffalo & Goderich Ry., prior to its acquisition by the G.T.R. On his retirement from active service, he was one of the most widely known express officials on the continent.

The Court of Review at Montreal gave judgment Dec. 19, on Omer Jolicoeur's appeal against the Dominion Ex. Co., claiming $150 for the loss of a trunk and contents, in transit between L'Epiphanie and Montreal, Aug. 13, 1917, in favor of the appellant, thus reversing the Superior Court's judgment, which limited the company's liability to $50, in accordance with the company's conditions as set out on its receipt form. The appellant claimed that the conditions were printed in English, which he did not understand, that they were not explained to him, and that the law required the conditions to be printed in both English and French, which contentions were upheld by the Court of Review.

Telegraph, Telephone and Cable Matters.

The Bell Telephone Co.'s application for increased rates will be heard by the Board of Railway Commissioners at Ottawa, Jan. 8; Toronto, Jan. 13, and Montreal, Jan. 16.

C. W. Macdonald, local agent, C.P.R. Telegraphs at London, Ont., since 1911, has been appointed chief operator at Montreal, and N. Souch from the Toronto office has been appointed local agent at London, Ont.

The Great North Western Telgraph Co. has opened offices at Cartierville, Grenville, La Forest, St. Andrews East and St. Benoit, Que.; Ostrom, Ont., and has closed its offices at Mechanics Falls, Me., Beaumaris, Bedford Mills, Rosseau and Smiths Falls, Ont.

Trade and Supply Notes.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers distinctly to understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

The Edison Storage Battery Co., Orange, N.J., has appointed G. F. Simons, District Sales Manager, Detroit District, succeeding Bertram Smith, who has been appointed Assistant General Sales Manager, at Orange.

V. I. Smart, B.A., C.E., formerly Professor of Railway Engineering and Transportation, McGill University, and J. A. Burnett, E.E., formerly Electrical Engineer, G.T.R., have associated themselves as consulting civil, electrical and mechanical engineers. Office, 821 New Birks Building, Montreal.

The Brown Hoisting Machinery Co., Cleveland, Ohio, announces the following changes in its organization:—Harvey H. Brown, Chairman of Board of Directors; Alex. C. Brown, President; Melvin Pattison, Vice President, General Manager and Director; Robt. G. Clapp, director; John F. Price, director; Ewen C. Pierce, General Manager of Sales.

Edison Storage Battery Co.—Bertram Smith, heretofore District Sales Manager, Detroit District, has been appointed Assistant Sales Manager, at the main office, Orange, N.J. J. K. Mahaffey, who has been representing the company in Washington, D.C., in connection with Government business, has been appointed District Sales Manager, Pittsburg District.

Vapor Car Heating Co.—R. P. Cooley, heretofore in charge of sales in southwestern region, at Chicago, has been appointed Eastern Sales Manager, at 30 Church St., New York, N.Y., succeeding G. T. Cooke, resigned. N. T. Burns, formerly with the New York Central Rd., has been appointed to the Vapor Car Heating Co.'s sales department at Chicago.

Robert W. Hunt & Co.—A reception was held at Chicago, Ill., Dec. 9, in honor of the 80th birthday of Robert Woolston Hunt, President, R. W. Hunt & Co., and a memorial was presented by the board of direction of the American Institute of Mining Engineers, congratulating him on "his notable achievement as a pioneer in the manufacture of iron and steel, and his long and admirable service as a pracical director and as a wise critic and counsellor in that art." Other congratulatory messages were received from other engineering societies. He established his bureau of inspections, tests and consultation, in Apr., 1888, was President of the American Society of Mechanical Engineers in 1890, and of the American Society for Testing Materials in 1912, and in the last mentioned year, was awarded the John Fritz medal for his contributions to the early development of the Bessemer process.

Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries unless otherwise stated:

Canadian Car Service Bureau—W. J. Collins, Manager, 401 St. Nicholas Building, Montreal.

Canadian Electric Railway Association—Acton Burrows, 70 Bond Street, Toronto.

Canadian Freight Association (Eastern lines)—G. C. Ransom, Canadian Express Building, Montreal.

Canadian Freight Association (Western lines)—W. E. Campbell, 305 Boyd Block, Winnipeg.

Canadian Railway Club—J. Powell, St. Lambert, Que. Meetings at Montreal 2nd Tuesday, each month, 8.30 p.m., except June, July and August.

Canadian Railway War Board—W. M. Neal, Montreal.

Dominion Marine Association—F. King, Counsel, Kingston, Ont.

Canadian Ticket Agents' Association—E. de la Hooke, London, Ont.

Eastern Canadian Passenger Association—G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Montreal—R. W. H. Smith, 9 Beaver Hall Square, Montreal.

Engineers' Club of Toronto—R. B. Wolsey, 94 King Street West, Toronto.

Engineering Institute of Canada—F. S. Keith, 176 Mansfield St., Montreal.

Express Traffic Association of Canada—C. N. Ham, Montreal.

Great Lakes and St. Lawrence River Rate Committee—James Morrison, Montreal.

Hydro-Electric Railway Association of Ontario—T. J. Hannigan, Guelph, Ont.

International Water Lines Passenger Association—M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee—James Morrison, Montreal.

Quebec Transportation Club—A. F. Dion, Quebec.

Shipping Federation of Canada—Thos. Robb, Manager, 42 St. Sacrament Street, Montreal.

Toronto Transportation Club—W. A. Gray, 143 Yonge Street, Toronto.

Transportation Club of Vancouver—H. W. Schofield, 553 Church Street, Vancouver, B.C.

LACHINE, JACQUES CARTIER AND MAISONNEUVE RAILWAY COMPANY.

Notice is hereby given that the Lachine, Jacques Cartier and Maisonneuve Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time for the completion of the construction of the railway referred to in section 1 of chapter 55 of the Statutes of 1917, and for other purposes.

Dated at Montreal, this 25th day of November, A.D. 1918.

W. H. BIGGAR,
Solicitor for the applicants.

Canadian Railway and Marine World

February, 1919

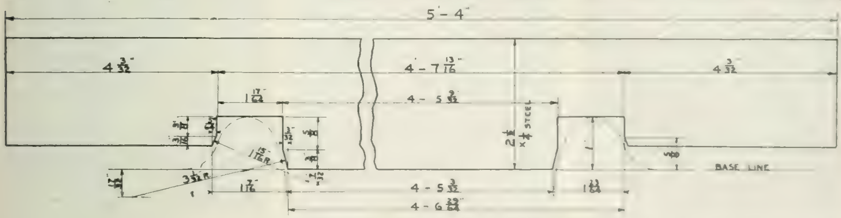
Railway Car Trucks.

By L. Brown, Supervisor, Angus Car Shops, Canadian Pacific Ry.

A car truck is mechanically a small 4 or 6-wheel car under each end of a railway car and carries the latter as a dead load by means of two swiveling center plates connected by a center pin or king bolt. The purpose of the truck is to enable short wheel bases to be used in connection with long car bodies. In England such trucks are called bogies.

Trucks form an important part of railway car equipment. Their weight is approximately one-half that of the body or one-third of the total weight of the car. If they are good, almost any kind of car has a reasonable chance of reaching its destination safely, but when they fail, the result is usually a train wreck with serious loss. They are located near the ends of the cars, so that they will be near the draft gears, and one of the ideals for a draft gear would be for it to pivot directly over the center of the truck. The farther the draft gear is away from the center of the truck, the more strain is placed on the truck laterally, and consequently there is more danger of derailment. The trucks in further relation to the car body are as the supports of a bridge are to the superstructure, but they are also required to be capable of moving forward and backward, rotate horizontally under the superstructure, adjust themselves to uneven tracks and withstand severe strains from heavy loads, high speeds and sudden stops.

The usual construction of trucks consists of two or more pairs of wheels, each pair being connected together by an axle, and the axles are held together by a frame, which carries springs and other parts on which the car body rests. The wheels have smooth rolling surfaces and they are kept from sliding down inclined track rails by the friction caused by their own weight and by the load they carry, and are prevented from slipping off the rails sideways by their flanges, which engage with the inner edges of the rails. The larger the diameter of the wheel, the less revolutions there are at the journals and the better the bearing on and against the track rail. The materials of which wheels are usually made are cast iron for freight cars and steel for passenger cars. Cast iron wheels are much cheaper than steel wheels and give excellent service under heavy loads running at moderate speeds, but they have not the tenacity to withstand shocks like those made of steel. The treads of cast iron wheels are chilled while in the molten state of casting, which gives them a harder wearing surface than the best steel has. The hubs are soft like ordinary cast iron and can be easily bored to fit the axles. Steel wheels are usually made by being forged, but some are cast. Some makers of light cast wheels endeavor to get a hard wearing tread as in the cast iron wheels by mixing manganese in the molten steel, in such a way that it will appear in the tread but not at the hub. The forged wheels are made with thicker treads, so that they can have their wearing surfaces renewed repeatedly, and this to a considerable extent offsets their larger cost when new. Tires which can be replaced by other tires after they are worn out are largely used on steel centers, and in some cases on cast iron centers. The usual method of securing tires is to bore them about one thousandth smaller in diameter than the outside of the centers and then by heating so expand them that they will fit over the centers and tighten on them as they cool. If the tire is shrunk on much tighter than mentioned, the steel is too much strained and is liable to break or the tire becomes loose in service.



The wheels are mounted on the axles by hydraulic pressure of approximately 10 tons for each inch of wheel seat diameter, thus making them solid with the axles, which is very different to the method used on road vehicles, where the wheels usually rotate on axles which are fixed. The distances apart at which wheels may be mounted on axles is limited to a total variation of one-eighth of an inch, which makes it necessary for very careful work to be done, not only when mounting, but also when [illegible] flanges, boring hubs and [illegible] axles.

The M.C.B.'s standard mounting and check gauge for wheels is used in two ways: by measuring from the back of one flange to the throat of the other, when mounting; and by measuring between the backs and over the throats of the two wheels, when checking, after they have been in service. The method of measuring when mounting is correct, but the method of measuring when checking wheels in service is open to question because it allows wheels to be out of gauge, according to fig. 9 on pg. 69 of the M.C.B. rule book. The rule book may be wrong in stating so positively that wheels are out of gauge if more than 4 ft. 6 29/64 in., because wheels when mounted to this dimension exceed it as soon as the treads start to wear. The distance of 4 ft. 6 29/64 in. is a standard dimension and if wheels do not exceed it when mounted, they ought not to be condemned for exceeding it in service, as long as they are within the limits intended by the check gauge. That the check gauge does the work it is intended to do is not apparent when wheels which have been correctly mounted are condemned as soon as the treads start to wear, because on account of its design it condemns the wheels when it cannot touch the treads of both of them and that this is wrong is proved by the fact that a large proportion of wheels in service are running safely which would be condemned by the gauge if it was tried on them; also, the gauge cannot measure on worn wheels the distance of 4 ft. 5 3/32 in. at the original base line, as required by fig. 9, on pg. 68 of the rule book. Worn wheels are intended to be limited by the wheel defect gauge, and the purpose of the check gauge should be limited to providing that wheels which were correctly mounted shall not be condemned by it, unless they move from their original locations in relation to each other. This purpose can be accomplished by a gauge of the same limiting dimensions as the present gauge, but stopped by the apex of the wheel flange instead of by the tread. In cases of derailment, the blame is very liable to be unjustly put against the wheels by the present gauge.

A small mounting defect will cause the flange of the opposite wheel to gradually wear itself away against the inside edge of the track rail. A wheel with a sharp flange is dangerous, because of the greater liability for the flange to break off and also to mount the rail and climb a [illegible]. Sharp flanges are generally caused by wheels of unequal diameter being mounted on the same axle. The treads of the wheels are coned and the larger wheel in finding a diameter equal to the smaller wheel tracks nearer the outer rim thus forces the smaller wheel to track nearer the flange. Curvature of tracks also has considerable effect in causing sharp flanges. The wheels on one side of a six wheel truck are frequently forced ¾ in. out of line with each other, by the curvature of the track rails. A great saving of material in steel wheels can be made by taking those with worn flanges out of service before they reach the limits allowed by the M.C.B. wheel defect gauge. Steel wheels are frequently found on which the flanges are so much worn that ¾ in. of metal has to be turned off the tire thickness in order to restore the tread and flange to the standard shape, while the opposite wheel on the same axle, which generally wears hollow, does not require more than ¼ in. to be turned off. When we consider that ⅛ in. of tire thickness is worth a day's wages, it is well worth while to inspect wheels closely under cars at home terminals for evidences of worn flanges. The M.C.B. wheel defect gauge is the only gauge in regular use for detecting worn flanges, but it was primarily intended for limiting the wear on cast iron wheels which cannot be re-turned, and it is unsuitable for gauging the flange thickness on wheels which can be re-turned, because it allows such wheels to get in the condition before mentioned. A very suitable gauge for limiting the flange wear of wheels which can be re-turned is the M.C.B. flange limit gauge for remounting cast iron wheels for cars of 80,000 lb. capacity and over. When the bottom inside corner of this gauge (which is nearest the throat of the wheel flange) rests on the wheel tread, the flange is usually so worn that seldom more than ⅜ in. is required to be turned off to restore the standard shape. The use of this gauge will save further waste of good material and frequently prevent the necessity for remating wheels. A similar advantage, but somewhat less, could be obtained by limiting the worn vertical height of flanges to ⅞ in. instead of 1 in. on wheels which can be re-turned.

The axles are made of steel, and are of sufficient strength to carry the loads, and to withstand the shocks they are liable to get under ordinary conditions. The shocks received from the track strain the axles as much as the load. All other parts of the truck which have to carry the load of the car should be proportionately strong with the axle. The whole load of the car is distributed on the axle journals, which are located outside the wheels. These are finished smooth, by rolling, so as to reduce friction and prevent heating. Axles are also becoming universally used as a source of power to generate electricity for lighting passenger cars. The revolving axle is harnessed to drive a dynamo which is frequently supported by the truck frame. The journals are enclosed by a metal box which also holds a brass bearing on the journal, a wedge to keep the bearing in place and the oil and waste necessary to keep the journal and bearing lubricated. The purpose of the box is not only to hold these parts, but also to keep out dirt and water. The causes of hot boxes are numerous, but the troubles may generally be attributed to lack of proper movement of the parts in relation to each other, or to lack of proper lubrication. When inspecting journal boxes, it is well to see that they have freedom to move in pedestals, that covers fit well and are tight, that dust guards fit well around the wheel seat, and inside the box, but have freedom to move in the box, that journal collars are not too large nor too small, and that they have no sharp or rough edges to catch or tear the packing, that journals are perfectly smooth and that there is some clearance between the collar and the end of the bearing or between the side lugs of the bearing and the stops for same inside the box, that the bearing is central on the journal, that the wedge is resting on the bearing in proper relation to it and to the box, and that clearance is provided for the wedge to rock on its rounded surface under the top of the box; also that the packing is of good quality, free from grit, well oiled, and well packed in the bottom of the box to a height half way up the journal.

Journal bearings are made of brass because it is much softer than steel, and therefore will not get hot so readily from the friction created in service; but brass is costly and they are lined by a cheaper and softer metal called babbit, which is composed of lead and other ingredients which give it the required hardness for wear, and yet render it soft enough to adjust itself to the varying diameters of journals. Bearings on which the linings have become worn can easily be relined by melting off the old lining, retinning the connecting surfaces where necessary and recasting the old babbit metal as a new lining. It is not to be expected, however, that the new lining will adhere to an old bearing, as well as to a new bearing, on account of the oil which has saturated the brass, therefore, when melting the babbit, the bearing should be made so hot that the tinning will be burnt off and the oil on top of the molten babbit should all be skimmed off before any metal is taken out of the caldron to be recast. Grooves on each side of the inside of the bearing are good to form keyways for the lining so that it cannot move out of place should it become loose, but this is not provided for in the M. C. B. standard designs. Some railways re-bore the old brass, thus providing a surface practically as good as on new brass.

Journal bearing wedges or keys are made of steel, either cast or drop forged, and others are made of malleable iron. Wedges partially hollow on the tops came into use a few years ago, but have since been condemned on account of the ribs bedding into the tops of the boxes and thus doing away with the usefulness of the camber on the wedge, which is designed to eliminate the strains caused where the two track rails are not of equal height in relation to each other.

Journal box packing should act like a lamp wick, so that it will keep the oil continually in contact with the journal. In order to do this, the packing should not only be in sufficient quantity to reach the journal, but it should have the quality of permanent springiness, as packing which sags soon loses contact with the bearing. It is for this reason that wool waste is better than cotton. Packing which has been in service gets clogged and lumpy, and contains dirt, cinders and metal, which not only interferes with the process of lubrication, but injures the journal. Such packing should be removed and renovated when cars are undergoing repairs. The renovating process is done by heating the packing so that it will loosen and allow the solid matter to fall apart.

Dust guards should be capable of keeping dirt and cinders from entering the back of the journal box at all times. They should fit close to the axle, but without injuring it. The height and width should be such that they will have as much freedom to move in the slots in the boxes as the axles have, but the thickness of the guard should almost fill the slot. The method of closing up the top of the dust guard slot in the box with a piece of tapered wood seems to leave something to be desired, as the blocks are frequently missing.

Truck frames have to transmit the load of the car to the axle journals and have to take the shocks from the track in return. They have also to keep the other parts of the truck in their proper places. There are two kinds of truck side frames most generally used for freight cars, one kind is the arch-bar type, built of rolled steel bars, and the other consists of a steel casting. The arch-bar type has its faults, which are principally that its parts become loose under the severe usage they get. These parts are bolted together, the strains cause the bolts to get loose, and the nuts become slack and eventually there would be numerous breakdowns if inspectors and repair men were not continually on the look out for parts getting slack. The cast steel frames are more expensive, and though they overcome some of the troubles of the arch-bar type, it is more difficult to obtain a casting to replace one that is broken, and also more difficult to put it in place when it is obtained. The welding of cast steel frames which have broken into two or more pieces does not produce good results and should only be used as a temporary expedient, and such frames should be replaced at the first opportunity. Small cracks may, however, be welded with good results. Attempts have been made to rivet the arch-bars together, and, while this is some improvement, it becomes a difficult proposition for repairs to be made at places where there are no facilities for cutting rivets. Other attempts have been made to improve the side frames by using two bolts at each column. This is of some advantage, because by using two bolts or two rivets in line, their size can be reduced with a corresponding increase in the area and strength of the arch-bars. Columns for arch-bar trucks are best made of cast steel because cast iron columns, even if very thick, will not stand the shocks delivered to them, neither will malleable iron castings. The truck frames are also so arranged as to hold the springs which carry the bolsters, and also to provide attachments for the brakes.

The bolsters being supported at the ends only and having to carry one-half of the car body at the center, have to be strong and substantial. There are two kinds of bolsters being made, those built of rolled steel sections and those made of steel castings. Both kinds are giving good satisfaction and it is largely a question of cost as to which is the more satisfactory of the two.

The springs to a large extent reduce the jarring which a car would otherwise get from the track. The helical form of spring is generally made of round steel bars, turned into coils of a uniform diameter, rising one above the other. The strength of these springs increases as the thickness of the steel increases and as the diameter decreases. The adding of coil upon coil simply gives the spring so much more movement and does not increase its strength to carry a load. These springs simply distribute the shocks and do not absorb any of them. Elliptic springs are made of flat steel plates put together in layers and arched. The strength of these springs increases as the thickness and number of the plates increases and as their length decreases. Elliptic springs are no stronger than semi-elliptic springs, and the additional half of the spring simply gives so much more movement and absorbs twice as much shock by the friction between the additional plates.

The center bearing is where the car body rests on the truck bolster. This is located at the center of the truck and is so made that it forms a pivot between the car body and the truck. A pin through the center keeps the bearing plate on the car body from getting away from the truck plate. Some center pins are so designed that they will hold the trucks to the body when the car is derailed. Center plates require lubricating occasionally, which is generally done when cars are being repaired. In order to keep the lubricating oil in place and to form a bearing for the center pin, a wall around the pin hole in the truck plate is a desirable feature.

Side bearings are required to prevent the car from tilting sideways, and as they are located near each side of the truck, they are formed to correspond with the radius from the center. It is not desirable for the car to rest on the side bearing all the time, as it does on the center bearing. If a car is resting hard on its tice to try to maintain an average clearance of from ⅛ in. to ¼ in. at each side bearing. If a acr is resting hard on its side bearings it is more liable to turn the trucks off the tracks. A side bearing should always be ready to receive the load of the car body temporarily, whether on straight tracks or curved tracks, and to move under it with as little friction as possible, and to allow the load to release itself as soon as necessary. There are many designs of side bearings on the market, some of which are very complicated and expensive. It is desirable that they should be simple in construction and have as few parts as possible. Complicated bearings, which are usually designed to be anti-friction, are very liable to get out of order, and their parts get lost and are difficult to replace. The old style of flat bearings, with an oil well in the centre of the bottom part, gives the least trouble to maintain and probably averages greater efficiency than the more complicated roller bearings.

The swing hangers under track bolsters enable the car body to ride more easily over curved tracks. If they are properly set, they become lower on the side of the truck which rises on the outer track rail, and higher as the other side becomes lower on the inner rail, thus allowing the springs, bolsters, and side bearings to maintain a more nearly horizontal position for the car body.

Various roller bearing schemes have been tried and are in quite general use, but they are not a great success, as the rollers tend to bed themselves into the surfaces they come in contact with, or they get clogged with dirt and cinders.

The brakes on a truck are attached to the truck frame, and the power required to stop a car is applied by means of metal shoes being forced against the treads of the wheels, thus retarding their tendency to roll on the rails. Generally, this power is applied at a height a little below the center of the wheel, and on one side of the wheel only, and the force in many cases exceeds the load on the wheel. One reason for applying the brakes on one side only is to have the arrangement of parts as simple as possible, but it is far from being the ideal system. The effect of applying the brakes on one side only, is to force the axle journal to one side of the bearing and for the journal box to wear on one side against the truck frame. A better system is to apply the brakes on both sides of the wheels, and this is known as the clasp brake system. Some of the best passenger cars on this continent are now being equipped with this system, and it has been in use many years in England. It overcomes the bad features of the single sided system already mentioned, and also allows lighter brake beams to be used. One of the troubles with the single sided system is that such great power is applied to the beams that they yield under the strain, and make it difficult to maintain the correct piston travel at the air brake cylinder. Brake beams when new are required to withstand tests equal to the greatest pressure liable to be put on them in service, but it seems necessary that this test should be considerably increased, so that they will be able to withstand the greatest service pressures after they have been in use for years. Trussed brake beams are now becoming universally used for freight cars, as the solid beams deflect too much under heavy cars and are also rapidly failing under light cars. On freight car trucks the attaching of brake fulcrums to the bolsters has a somewhat bad effect, inasmuch as the pressure from the lever causes one side of the bolsters to wear against the columns of the side frames whenever the brakes are applied. This wear is more apparent on trucks which allow the bolsters to have side motion. The suspending of brake beams from the truck frames is much better than suspending them from the bolsters, because the frames move in relation to the wheels and do not have the variable vertical movement which the bolsters get from the springs. Safety supports should be provided for all beams in order to keep them from falling down on the track in case of failure of the ordinary hangers or pins.

Fastenings, such as bolts, rivets, pins, cotters, nuts, nut locks, and other parts requiring replacement, should be located and applied so that they will be conveniently accessible for work to be done on them easily.

The modern truck is made almost entirely of steel, and of course has greater strength and staying qualities than those which were formerly made partially of wood, but it has not that extent of resiliency and feeling of easy riding which is a feature in favor of the wood frame trucks. In order to provide the easy riding qualities of steel passenger trucks, resort is made to cushions of softer material, such as wood or rubber, and these are usually inserted under the center plates and over the springs.

Clearances under all circumstances and at all times are a necessary requirement, and provision for easy adjustment to compensate for wear and movement should be made in the design. Vertical clearances should be provided for springs and bolsters to be free when new and without any load, and for all the moving parts to be free under load, when tires, journals, bearings, pins and springs are at their smallest limits. Horizontal clearances should be provided so that trucks can rotate horizontally on all railway track curves. An approximate figure for horizontal clearances for passenger car trucks and one easy to remember is 1 in. for each foot distant from the center pin. Clearances of parts above the top of track rails should be ample, so that when wheels and other parts are worn down to their smallest limits there will be no danger of anything striking the track. Some track switch parts project 2½ in. above the rails, and all truck parts, with the exception of wheels, should always be kept well above that figure.

Friction between moving parts requires some consideration. Steel against steel soon wears away, and steel against iron is little better. Steel against cast iron is somewhat better, but cast iron against chilled cast iron gives still better results. These effects may be noted between journal boxes and pedestals, columns and bolsters, and upper and lower center plates.

Trucks and their parts should, as much as possible, be kept to one standard for each kind, in order to facilitate interchangeability and expedite repairs. One class of truck can be used under various classes of cars, but what is standard for one railway is too often not standard for other railways, and cars are frequently kept out of service for months waiting for unusual material to effect repairs. The M. C. B. standards should always be followed, unless there is a very good reason to do otherwise, and all railways should take an interest in helping that association to adopt the best practices that ingenuity can devise.

The foregoing paper was read before the Canadian Railway Club recently.

Argentine Railways' Requirements.

The railways of Argentina will spend over $100,000,000 on rolling stock and equipment in the next two years, according to a statement by F. A. Lagrange, Technical Inspector of the Argentine Government Railways. If the manufacturers of American railway supplies will conform to Argentine railway standards, he says, there will be a market for their products, and even the introduction of American standard equipment, though difficult at any time, will be easier in the immediate future on account of the temporary withdrawal of European competition. European manufacturers, he states, will have to give close attention to necessities at home for some years to come.

The moral—can you grasp it?

The complete system of railways in Argentina has about 11,000 miles of track, of which about 6,500 miles are of 6 ft. 5 in. gauge, about 900 miles of 4 ft. 8½ in. gauge, and about 3,600 miles of the 3 ft. 4 in. gauge. The Argentine Government owns about 1,900 miles, or 18% of the total, which is under the direction of the Administracion de los Ferrocarriles del Estado, a board composed of a chief engineer, a chief of explotation and an auditor general. It is presided over by an administrator who is appointed by the President of the republic. The other members of the board are appointed by the administrator. All of the railways are under the control of the "Direccion General de Ferrocarriles" (Argentine Administration of Railroads) which is headed by an Argentine engineer.

During the last four and a half years the railways have been unable to obtain materials, so that their maintenance and reserve stocks are very low and an expenditure of about $100,000,000 for the next two years is probable. In addition to this, extensions are to be built, for several of which there is urgent need. It is expected that they will amount to about 1,000 miles and entail an expenditure of $75,000,000. This is exclusive of the electric lines which will also receive considerable attention.

In conclusion, he points out that although the opportunities are favorable for the introduction of American equipment, the market cannot be gained without a struggle, and that success will depend on close study and sound business principles.

Steel Bridge Replacements on Sydney Subdivision, Canadian Government Railways.

By A. H. Jones, Assistant Engineer, Canadian Government Railways, Moncton, N.B., formerly Resident Engineer, District 4, New Glasgow, N.S.

To take care of the heavy power which the management desired to operate on the Sydney Subdivision, C. G. Rys., the work of replacing 16 steel bridges and viaducts on the line between Point Tupper and Sydney was undertaken by the engineering department in 1915, and is now completed. This section of the Intercolonial Ry. was built in 1887, and consequently the bridges are of a lighter design than the present day requirements, and are not strong enough to carry the heavy locomotives which it is now necessary to operate, in order to economically handle the great amount of freight going to and from the Sydneys in connection with the large steel works, coal mines and other industries located at these points, and also for trans-shipment by vessel to Newfoundland and other places. It has consequently been necessary for some years past to place speed restrictions on nearly all the steel bridges on this subdivision, resulting in a slow schedule and a loss of much valuable time.

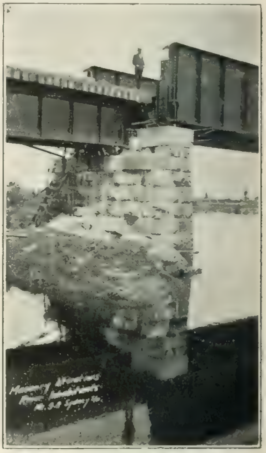
It would be impossible to give anything here but a very brief description of the more important portions of this work. Eight steel bridges were replaced with heavier spans during 1916, including the big bridge at Grand Narrows, necessitating in most cases quite extensive alterations to the old masonry abutments and piers. Two steel viaducts have been entirely replaced with steelwork of a heavier design, on new concrete pedestals and abutments, viz., Ottawa Brook and Walker's Gulch, and 5 steel viaducts have been filled in. This extensive bridge replacement work, involving an outlay of approximately $750,000, has made it possible to remove the speed restrictions from all these bridges, and during 1916 we removed the restrictions from 10 bridges.

Mi. 97.3 Sydney S/D

Ottawa Brook Steel Viaduct, showing new steel work in place, and old partly taken down.

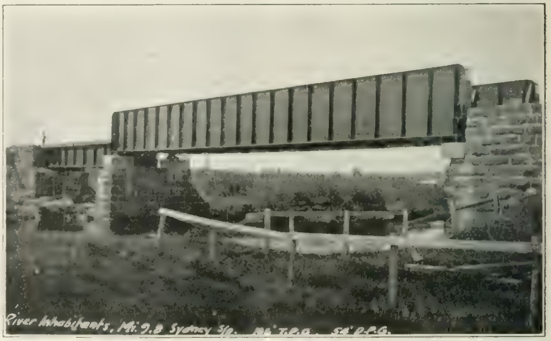
McDonald's Gulch, Mi. 12.9 Sydney S/D

McDonald's Gulch, showing construction of rail concrete culvert, before filling commenced.



River Inhabitants Bridge, showing new concrete bridge seats.

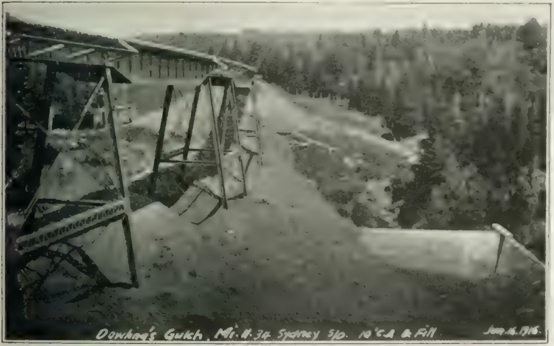
The most interesting part of this work was perhaps the replacing of the old spans of Grand Narrows bridge with heavier ones. This bridge, which is across the narrows between the Big Bras d'Or and Little Bras d'Or Lakes, is one of the objects of special interest to tourists on this section of the C.G.R. It is 1,697 ft. long, or nearly a third of a mile, and consists of 6 through truss spans, each 242 ft. long, and a swing span at the east end of approximately the same length. The piers are of stone masonry and the highest ones are over 80 ft. above the bottom of the lake. The water is very deep, coming up to within 5 ft. of the top of the piers at high water. All the spans of this bridge were replaced with heavier ones during the winter of 1915-16, by the Dominion Bridge Co., which company built the old bridge in 1888. The new swing span is operated by a 4-cylinder, 4-cycle marine engine, located in a cabin overhead in the center of the span, which will open or close the bridge in one minute. The method of replacing these heavy spans—the new ones weighing almost 400 tons each—was as follows: Falsework was driven near the shore, at the east end of the bridge, and just south of the existing structure. Each new span was erected and rivetted up complete on this falsework. When a new span was ready to go in, scows containing water ballast



River Inhabitants Bridge, showing new spans in place.

were floated under the span to be replaced, sufficient water was pumped out of the scows to allow them to raise the span from its seat. Tugs then towed the scows and the old span away to the erection site, where it was deposited on falsework by pumping water into the scows. The new span was then raised and floated into its place on the old piers in a similar manner. The work of replacing the spans could only be done under favorable conditions of wind and tide, which conditions are somewhat rare at this place, and it took from the early part of November to the end of March to replace the 7 spans.

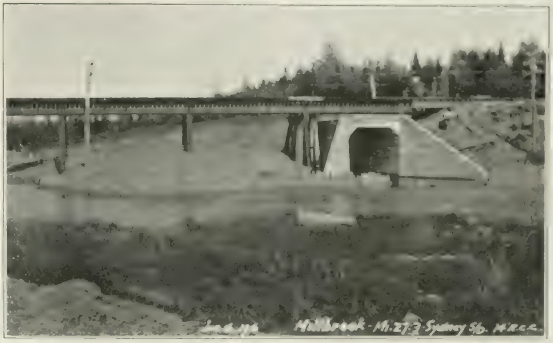
In connection with the new steel bridges put in at Sydney River, River Denys, River Inhabitants, Jamesville Road, Leitches Creek and Ball's Creek, considerable alterations were necessary to the old masonry abutments and piers, on account of the different design of the new bridges. The old bridges, with the exception of Jamesville Road, were of the through pier-connected truss design, and the new bridges are of standard through, or deck plate, guide spans. The masonry alterations consisted of cutting down the old bridge seats to about 1½ ft. below the elevation of the new bridge seat, or to the masonry course nearest to this, and building up a new bridge seat of concrete. The part of the bridge seats immediately under the pier members consisted of concrete blocks, which were cast during the winter of 1915-16 in the locomotive house at Point Tupper and were afterwards taken, as required, to the bridge site and swung into place with a small crane. Later, concrete was run in between the blocks and the bridge seats completed. Thirty-two of these concrete blocks were required in all and each weighed approximately 2 tons. The masonry alterations were made by the bridge and building department, and the new steelwork was furnished and placed by the Canadian Bridge Co. and the Hamilton Bridge Co.



Dowling's Gulch Steel Viaduct, showing culvert and filling.

Ottawa Brook and Walker's Gulch steel viaducts were entirely replaced with new steel of a heavier design, and new concrete pedestals and abutments were put in. Ottawa Brook viaduct is 540 ft. long and consists of six 60-ft. d.p. girder spans, supported on steel towers. Both viaducts are situated on curves. The concrete substructures were let by contract to Jones & Girouard, contractors, Ottawa; the steelwork was furnished and erected by the Dominion Bridge Co.

The steel viaducts at Jamesville, Millbrook, Dowling's Gulch and McDonald's Gulch were filled in. Most of this work was done by contract in 1916, and was completed and ballast put on by the railway forces in 1917. It was necessary in connection with the filling in of these viaducts, to construct concrete culverts to take care of the water-courses, and some of the culverts were of considerable length on account of the height of the fill, the one at McDonald's Gulch being 280 ft. long and containing 3,000 cu. yd. of concrete. To avoid damaging the steel towers during the filling, by boulders striking them, aprons, made of spruce poles from the adjacent woods, were constructed along the ends of the ties over the towers, to throw the filling clear of the structure. Owing to the nature of the material used for filling at McDonald's Gulch and the great height (85 ft.) of this structure, considerable trouble was experienced from time to time by the material sliding out, and on one occasion the fill slid out beyond the ends of the culvert, breaking off parts of the wing walls and filling up the waterway beyond the ends of the culvert.



Millbrook Steel Viaduct, showing new culvert.

Although the filling was carried on as uniformly as possible, on either side of the trestle and from one end to the other considerable shifting took place in the trestle and an anxious time was spent

Sydney River Mi.

Sydney River Bridge, showing new d.p. girder in place.

until the fill was completed. After the filling of these viaducts was completed to the under side of the guides, the guides were removed, but the posts and bracing of the steel towers remained in the fill.

The fill at Dowling's Gulch was the first to be completed and to have the girders removed. This steel viaduct consisted of two 60 ft. and six 30 ft. d.p. girder spans. The work of taking out the girders was accomplished in two days, without any interference to passenger trains. Work was started about 7 a.m. on Sunday after express train no. 7 had passed, and by 6 o'clock the same evening, 5 of the 9 spans had been removed, the fill completed to grade from material previously deposited on the shoulder of the fill, and the track laid and connected up, in time to let express train no. 5 over. The following day we took out the remaining 4 spans and laid and ballasted the remainder of the track. The district wrecking crane (50 tons) was used to take out the spans. The 60 ft. girders were removed singly, but the 30 ft. girders were pulled out in pairs without first removing the bracing.

The Unit System of Handling Railway Correspondence.

By W. H. Mathews, Chief Clerk to Superintendent, Canadian National Railways, Capreol, Ont.

All office organization swings somewhere between two extremes—inefficiency one one hand and red tape on the other—and the routine of railway organization tends distinctly towards the red tape extreme for two closely coupled reasons, viz., because no record of detail may be omitted, but must actually and properly be made, and because all routine duties must be based on the capacity of the average employe. .

Every office, I am sure, is endeavoring to simplify its methods of getting the best results, or I might say to get speed in the filing of correspondence without reducing safety; at least this has always been my object. Almost the first work I did in a railway office was filing correspondence. I have clung to it as a hobby, and have studied closely the various methods employed in different offices where I have been on the staff, therefore I believe I have found numerous short cuts which are most efficient in the handling of railway correspondence.

The unit system of handling correspondence is without a doubt the only system for a railway office. If properly run, unnecessary correspondence will be avoided and time and expense saved. The system is simple and a chief clerk in charge of an office can save much of his own time, as well as that of his employer, by the adoption of it.

On the eastern lines of a large railway in Canada, it was decided some three years ago to inaugurate the unit system of handling correspondence. With this in view I started to work on a filing system that would cover successfully all operating departments. I completed in rough form a filing book, which I termed "Unit System of Filing." This done, I started to re-arrange all the engineering department's correspondence, likewise that of all other departments. Inside a very short time I had the files of the superintendent's office, engineering department, assistant superintendent, roadmasters, bridge and building master and chief dispatcher's offices all in one, according to the idea of the unit system of filing. This unit system also included the district master mechanic's office.

The morning mail bag arrived at 8.30, as did also the mail register clerk. He opened the mail (except personal), brought the letters to my desk, whereupon I looked them over, put the proper file numbers on the communications myself and turned them back to the register clerk, who attached the proper files to the letters requiring them, dated them and returned them to my desk. In other offices the mail clerk performed these duties alone. I sorted them according to the different officials and distributed them. Please bear in mind that I did not give the officials all the correspondence, but just what was actually necessary, as I considered it was my duty to look up all information called for, dictate it, and leave it on their respective desks for signature. The reader may perhaps question the matter of having the register clerk bring the letters to my desk immediately he opened them. The reason for this is that I am a firm believer in having things done in the proper manner, and it is always my desire to be able to locate correspondence when called upon; therefore I personally supervised the numbering of files, as I was in a better position to judge for myself what particular file the letter should be placed on, than the average file clerk, who would place the same subject under different files, although they might not at all refer to the same subject in correspondence. Then there was the handicap of losing a file clerk by resignation or unforseen reasons, and his successor, not being fully acquainted with railway correspondence, would file the letter, in a great many instances, under whatever file number came to his mind first. Or on the other hand, he might see that he was getting behind a little in his daily routine of office work and say to himself, "Oh, well, that number will do; nobody will ever know the difference." Hence my reason for, as I have previously stated, supervising the filing as far as the numbers are concerned. While dealing with this point I may say that it was never known during three years for a single file to go astray. The register clerk acted as an understudy, and he was an admirable one. Correspondence was not registered in a register book, but simply given the proper file number, and when acted upon, filed accordingly. No trouble was ever experienced to any great extent of having to repeat the hackneyed phrase, "Never received your letter of such and such a date." Properly filed, it was there when wanted.

Placing of file numbers.—Railway correspondence file books which are for sale, while good in certain respects, are not, what I term, exceptionally good value. There are too many subjects from which a file clerk can, and will, take incorrect file numbers for his correspondence. I aimed at making a file number cover like subjects, i.e., for example, a delay to a car of material, pilferage of goods from a car, a claim for shortage from a car, over, short and bad order reports, practically all bear the same file number, as I will describe below—likewise a derailment, delay to train, locomotive failures, hot boxes, etc. Other filing systems in vogue have separate file numbers for each subject. Take, for instance, a derailment. The train is delayed. Why use two special file numbers for the same case? Again, a locomotive failure—the train is delayed in this case. Why file under two different subjects, i.e., delay to trains and engine failures? This is being done by many railway offices; in fact, by the greater number. Two months after, some official will call for the file in connection with train such and such a number that was delayed, through what cause he is unable to say—might be locomotive failure, hot box, etc. This means to the file clerk that he has to search in different files for the papers desired, i.e., the locomotive failure file, the derailment, delay to train, and hot box files. To overcome this difficulty and to make it simple for the file clerk, the stenographer, and also for accuracy in locating the file, I classified derailments, delays to trains, locomotive failures, etc., all under one number. For example, train no. 8 was derailed on June 5. My file number would be 8-5, 8 denoting the train number and 5 the date. If the train was delayed on account of hot box, or other causes, the same file number would apply, therefore, as above stated, making one file number.

DATE	TRAIN	CONDUCTOR	ENGINEER	REMARKS
Aug.5	10	"X"	"Y"	Hopper on "XYZ" Car 225,—came open allowing ballast to spill and derailing tender wheels of engine.
File number 10.5				

CAPREOL MP. 144.8

Sample of Card 1 (11 x 8)

I had a file guide made for each train on the district, and behind it placed the correspondence in date order. This system applied to regular trains only. For extras, I worked in the following manner: I had a card (sample 1), which I placed in the mileage order of the district. Therefore if an extra "fell down" at a certain mileage, I registered the particulars on the card, and treated it in the same manner as delays to regular trains, as far as the file number was concerned. For example, extra 3421 on the 6th inst., was delayed. It was given file number 3421-6 and filed accordingly, viz., in numerical order, according to the number of the extra.

Correspondence relating to delays to cars, over, short and bad order reports, pilferage from cars, and claims.—Each of these subjects bears a special file number in the great majority of railway correspondence file books. I had one file number and worked it out in the following manner: I maintain that a delay to a car oftentimes results in a claim being submitted for damages, on account of it containing perishable freight. Therefore, why two file numbers, one for claims and one for delay to cars? Over, short and bad order reports invariably result in claims. Pilferage from cars results in claims. Then with this in mind, I cannot realize why different file numbers are used for each subject. To facilitate the matching up of correspondence, so that every little detail pertaining to the special car was at my finger ends, I used for a file number the last two figures of the car number. For example, car 123456 was delayed, pilfered, or over, short and bad order report issued in connection with it, etc. Its number would be 56. I filed the correspondence numerically, arranging my file guides from no. 00 to 99. For damage to coaches, equipment missing therefrom, etc., I used the same principle, only filing it in a different compartment in the cabinet.

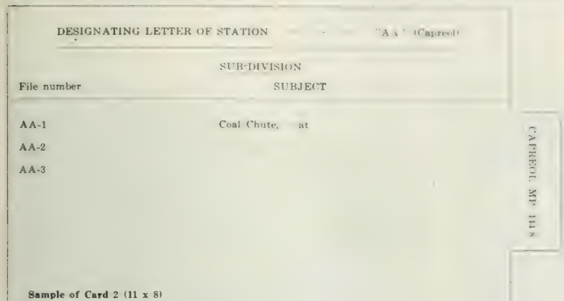
Staff records of employes.—Based on the 26 letters in the alphabet, I filed my correspondence pertaining to staff records of employes, etc. For example, if I had correspondence pertaining to John Jones, I made my file number 10, as "J" (Jones) is the tenth letter in the alphabet, and so on. This method I found very good and reliable at all times.

Drainage claims, private sidings and special matters pertaining to improvements on the district were filed according to the mileage at which the work was performed. I have a special card (sample 2), and as soon as a correspondence started on the subject, I gave it a number. My cabinet for filing this correspondence was arranged in mileage order of the district and the correspondence placed, as mentioned above. I registered a letter only once on my cards, viz., when the subject was first brought up.

The above are not simply suggestions, but tried out principles which have proved their worth time and again. I would not hesitate a moment to recommend their adoption by any railway office which wishes to be up to date in modern filing systems.

Editor's Note.—The writer of this article was formerly chief clerk to Superintendent, C.P.R., Smiths Falls, Ont., and also chief clerk to Master Mechanic, Algoma Central & Hudson Bay Ry., Sault Ste. Marie, Ont.

Canadian Railway and Marine World will be pleased to hear from any other chief clerks or others, either in discussion of Mr. Mathews' article, or to describe other systems they may have in use.



DESIGNATING LETTER OF STATION "AA" (Capreol)

SUB-DIVISION

File number	SUBJECT
AA-1	Coal Chute, at
AA-2	
AA-3	

CAPREOL MP 114.8

Sample of Card 2 (11 x 8)

The Canadian Northern Railway's Montreal Tunnel and Electric Zone Construction and Operation.

By W. G. Gordon, Transportation Engineer, Canadian General Electric Co.

The City of Montreal is divided into two principal levels; the commercial and financial quarter being on a plain only a few feet above high water, and the residential and shopping districts being at a height of about 75 ft. above the river. As the space between Mount Royal and the St. Lawrence River is limited, this district has become very congested. Business has largely forced the residence section up and down the river, and around the mountain. The tunnel under Mount Royal was built with the idea of giving the Canadian Northern Ry., which property now belongs to the Dominion of Canada, an entrance into the heart of the city, and to render available a large area for residential purposes, only a few minutes by train from the main terminal.

The location of the present temporary terminal is about midway between the two levels and it is proposed to extend an elevated line, at the same uniform grade, which will connect with the proposed viaduct on Montreal Harbor Commissioners' lines, thus giving direct access to trans-Atlantic steamers, and all the harbor facilities.

The tunnel is 3.1 miles long and is the shortest line that could be devised to take advantage of the geological formation. It has a uniform grade of 0.6% toward the city to ensure proper drainage. In order to meet the various physical conditions, different cross sections were used; where hard, sound rock, unsound rock, and soft ground, were encountered respectively. The twin section type of tunnel was adopted for economy in construction, ease and economy in ventilation, protection and safety in case of derailment or accident.

In addition to working from both ends of the tunnel, a shaft was sunk one mile from the west portal at Maplewood Ave. When the heading from the west portal met that being driven from the Maplewood Ave. shaft, the lines checked within 1/16 in. on the alignment, and ¼ of an inch in grade, and where the headings between the Maplewood Ave. shaft and that from Dorchester St. met, under the highest point of Mount Royal, the error was ¾ of an inch in alignment, and ¼ of an inch in grade.

The method employed was to drive a bottom center heading about 8 ft. high by 12 ft. wide, as this heading could be driven ahead rapidly without much regard for the character of the ground, and full sized excavation could be developed from it at as many places, simultaneously, as desired. Four drills were used in each heading, supported on a horizontal bar; the drills being operated by compressed air at a pressure of about 100 lb. a sq. in. The breakups, where the upper part of the tunnel section was excavated to the full width and height, were opened at intervals of from 400 to 800 ft. along the center bottom heading, the practice being to open up as many of these as necessary to keep up with the heading progress. The compressed air used for operating the drills and other pneumatic machinery was obtained from two plants, one at each end of the tunnel, with an aggregated capacity of 11,000 cu. ft. of free air a minute compressed to 110 lb. to the sq. in. The muck from the tunnel was hauled out by two 10 ton and one 8 ton trolley locomotives and a 4 ton storage battery locomotive.

The load curve was worked up on the following data of train weights and speeds:

Class	Trailing tons	Speed level	m. p. h. at grade	Schedule
Transcontinental	1130	47.[illegible]	[illegible]	21.2
Express and local	550	47.[illegible]	37.[illegible]	21.6
One motor car	60	50.6	41.[illegible]	[illegible]
Three motor cars	180	50.6	41.[illegible]	[illegible]
Three motor cars and two trail cars...	260	47.8	34.8	21.8
Freight	1000	[illegible]	[illegible]	[illegible]

The substation is a handsome building, and will harmonize with the buildings which will be erected in the neighborhood. Power is purchased from the Montreal Light, Heat & Power Co. at 63 cycles, 11,000 volts, 3 phase. It is delivered to the substation by a lead covered, 3 conductor cable, carried in a duct through the tunnel, and also by an overhead line, to ensure continuity of service. The general arrangement and capacity of the switching equipment provides for the later addition of a steam auxiliary plant at the Back River, near the Cartierville yards, for extension of the electrification of the main line to Ottawa.

There are 2 motor generator sets with provision for a third later. Each of these sets consists of a synchronous motor direct coupled to and on common bedplate, with two [illegible] kw., [illegible] volt, d.c. generators, the set running at [illegible] r.p.m. The generators are connected in series giving [illegible] kw. at 2,400 volts per set. The sets have an overload capacity of [illegible] for [illegible] minutes. The [illegible] capacity of these machines is obtained by the use of a pole face winding of [illegible] and coils through holes near the pole faces, which is connected in [illegible]. It opposes the armature reaction, thus [illegible] satisfactory operation up to the heavy overload mentioned. The [illegible] are [illegible] connected on the ground side of these machines. The shunt fields of the d.c. generators and the synchronous motor fields are arranged for 125 volt excitation. Each of the synchronous motors is started by a 3 phase, 11,000 volt compensator. This auto transformer has one coil per phase, with suitable starting tops brought out.

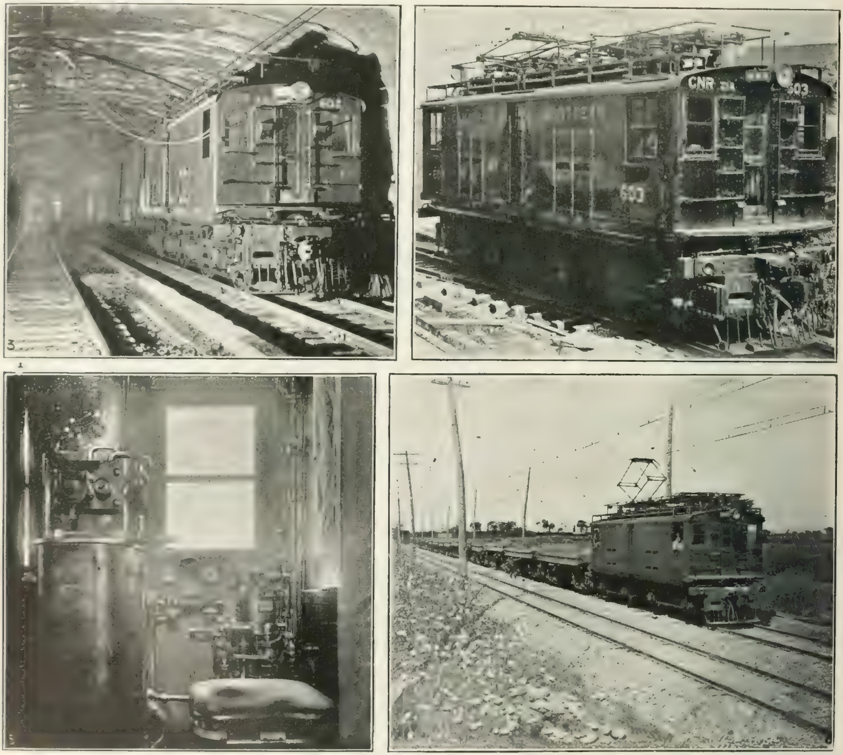
The 3 exciter sets each consist of a 50 k.w., 125 volt, d.c. generator, driven by induction motor. The generators are commutating pole type, flat compounded for the specified voltage, and are especially adapted for exciter work and voltage regulator control. A bank of six 100 k.w. single phase transformers supply the induction motors of the exciter sets and miscellaneous station requirements.

All oil switches on the 11,000 volt circuits, except the synchronous motor, magnetizing and starting switches, are enclosed in masonry cells, and have 2 breaks per pole, each break in a separate tank. These switches have a rupturing capacity of 16,000 arc amperes at 11,000 volts. They are motor operated and will open automatically on overload, the incoming line switches excepted, either instantaneously or with a time limit action as desired. The incoming line switches operate automatically on the reversal of power only. The synchronous motor starting switches are remote control, solenoid operated, mounted in cells, and have a rupturing capacity of 2,000 arc amperes at 11,000 volts.

The main switchboard is of three section panels of natural black slate, 90 inches high. The 2,400 volt direct current circuit breakers and lever switches are mounted on a panel, back of and above the main switchboard. They are operated by insulated handles on the front of the main board, so as to eliminate any possibility of the operator coming in contact with the 2,400 volt circuit. The circuit breakers are mounted between fireproof barriers and are equipped with powerful magnetic blowouts. The field switches are mounted on a base back of the panels with the operating handles on the front of the main board.

There are 6 locomotives in operation. Each locomotive has 4 axles, with all the weight of the locomotive upon the 8 driving wheels. The running gear consists of two 4-wheel trucks, articulated together by a heavy hinge. The equalization of the trucks is accomplished by a semi-elliptic leaf spring over each journal box, connected through spring hangers to the frame and to the equalizer bars. The equivalent of a 3-point suspension is thus obtained through the side equalization of one of the trucks and both side and cross equalization of the other truck.

The friction draft gear is mounted in the end frame casting of the truck. This type of construction restricts the hauling and buffing stresses to the truck side frames and articulated joint, thus relieving the cab and apparatus from the effects of severe shocks. The cab, which is of the box type, is divided into 3 compartments, the center one for the apparatus, and the two end ones for the operator. Each operator's compartment is supplied with controller, control switches, ammeter, air brake and pantograph control, air gauges, 2,400-volt cab heater, bell rope, and control for the whistle and



Montreal Terminals Electrification, Canadian Northern Railway.

Upper row: Left, locomotive pulling in messenger and taking current from opposite track. Right, locomotive with low catenary construction. Lower row: Left, control apparatus in operator's cab. Right, catenary construction tangents.

sanders, thus providing the locomotive with complete double end control. The motors are nose-supported in the usual way, and geared to the axle by twin gears, each of 4 in. face.

The motor equipment consists of 4 GE-229-A commutating pole motors, wound for 1,200 volts and insulated for 2,400 volts, 2 of these motors being permanently connected in series for operating on the 2,400 volt trolley circuit. The one hour rating of each motor is 320 h.p. at 1,200 volts. The motors are designed for forced ventilation, which is obtained by a blower in the locomotive cab. Either pair of motors may be cut out, by a special handle on the change-over switch. The locomotives are geared for a free running speed on tangent level track of approximately 45 m.p.h., and are operated as 2-speed machines, with 10 points in series and 9 points in series and 9 points in series-parallel. The master controller used is of the non-automatic type, and has 2 handles, one regulating the applied voltage at the motors and the other for controlling the direction of rotation of the motors. The rheostats, which form the external motor resistance, are placed near the roof of the cab and provided with ample natural ventilation.

The master controller and contactor energizing circuits are designed for 125 volts. Each contactor is easily accessible, without any disturbance to adjacent contactors. A special electro-pneumatic, change-over switch is used for making the transition between series and series-parallel connection of the pair of motors. The 125 volt current for operating the contactors and for lighting the cab and headlights is obtained from a motor-generator set, the motor of which has two 1,200 volt windings and two 1,200 volt commutators in series for operation on 2,400 volts. This set is mounted in the center cab and also drives the blower for providing forced ventilation to the main motors.

Fuses of the copper ribbon type, placed in fuse boxes, provide protection for each individual circuit, as well as the main circuit from the trolley. These fuse boxes are all arranged to blow into a common chamber, designed to take care of the arc. In addition to the fuse on the main circuit, a main switch is also provided. This is of the knife blade type, being opened and closed by a handle, in a position for easy operation in case of emergency, or when it might be necessary to open the circuit while carrying current. This main switch blows into the chamber provided for the fuses, and has a powerful magnetic blow-out.

The trolleys are of the slider pantograph type, pneumatically operated and mounted on insulated bases. Two pantographs are used per locomotive.

A speedometer, similar to the type largely used on automobiles, but especially designed for locomotives, is located in each operating cab. These are connected to the driving wheels of the locomotive by flexible shaft and gearing.

A combined straight and automatic air-brake equipment is provided on each locomotive. It includes a 2,400 volt motor driven air compressor, the set consisting of two 1,200 volt motors, operating in series on 2,400 volts, and direct connected to an air compressor having a displacement of 100 cu. ft. of free air a minute. The approximate total weight of each locomotive is 83 tons. Some of their principal dimensions and characteristics are given in the following table:

Length inside knuckles	37 ft. 4 in.
Length over cab	31 ft. 0 in.
Overall height, pantograph down	15 ft. 6 in.
Height over cab	12 ft. 10 in.
Overall width	[illegible]
Total wheelbase	[illegible]
Rigid wheelbase	[illegible]
Total weight, all on drivers	[illegible]
Wheel diameter	[illegible]
Tractive effort at [illegible] tractive coefficient	[illegible]
Tractive effort at one-hour rating	[illegible]
Tractive effort at continuous rating	[illegible]
Speed at rated amperes, one-hour rating	[illegible]
Total horse power, one-hour rating	[illegible]
Speed at rated amperes, continuous rating	[illegible]
Total horse power, continuous rating	[illegible]
Gearing, [illegible]. Reduction, [illegible]	

The multiple unit motor cars for handling local traffic are not yet in operation. The principal dimensions of these cars are given in the following table:

Length over buffers	[illegible]
Length over body corner posts	[illegible]
Truck centers	[illegible]
Width over side sill angles	[illegible]
Width over eaves	[illegible]
Height top of rail over roof	[illegible]
Height top of rail to underside of side sill	[illegible]
Center to center of body side bearings	[illegible]
Center to center deck sills	[illegible]
Approximate weight loaded and equipped	[illegible]

The electric hot air system of car heating is used. One complete heater is placed underneath each car and receives its energy direct from the 2,400 volt supply. The heater has a capacity of approximately 25 k.w. and is constructed for 2 heat combinations so as to provide for changes in temperature conveniently and economically. The complete heating equipment consists of the heating unit, blower and regulating mechanism, the controlling switch and thermostat, all the regulating mechanism being arranged for operation from the 600 volt supply. Air is forced over the heating unit by the blower, and distributed to the car through the air ducts along the sides of the car. The blower used for the circulation of the air is operated by a motor, which is connected in series with the heating unit on the ground side. The capacity of the blower is approximately 1,000 cu. ft. of air a minute.

The motor equipment consists of 4 self ventilated GE 239-A, 125 h.p., 1,200 volt commutating pole motors insulated for 2,400 volts. Two of these motors are permanently connected in series for 2,400 volt operation. Ventilation of the motor is accomplished by drawing air into the armature at the pinion end by the fan on the armature shaft. The air passes longitudinally through the whole interior of the motor and is exhausted through an opening in the frame at the commutator end protected by wire mesh.

The control is of the non-automatic type for multiple unit operation. The equipment includes a motor generator set for furnishing 600 volt current for the control circuits, the air compressor and lighting circuits. This set consists of two 1,200 volt motors operating in series on 2,400 volt, direct connected to a 600 volt generator. The master controller, contactors, switches, resistors and pantographs are essentially the same construction and appearance as those already described for the locomotives. The controller has 5 steps in series and 4 steps in parallel. It differs from the locomotive controller in having the usual motorman's operating handle, instead of a lever. This handle is provided with the so called "dead man's" feature, for cutting off power and applying the air brakes in case the motorman removes his hand. Compressor governors similar to those on the locomotives are used, and an emergency cell lighting [illegible] is installed on each car.

EDITOR'S NOTE.—The multiple unit cars have not yet been built, so the description must be taken as applying to what is intended.

Several local conditions and extremely low temperatures introduced features making the design of the substation system for this electrification somewhat out of the ordinary. The present electrified track is about 10 miles long and in that distance there is a passenger terminal station [illegible], a [illegible] tunnel, double track in a cut with low clearances under highway bridges, a long stretch of single track, both tangent and curve, and a large freight yard with repair shops and storage tracks. The

Switchboard in Substation, Mount Royal Tunnel temperature in the coldest winter weather reaches 35 deg. below zero; while in the hottest summer weather it will go as high as 110 in the sun. In the early spring severe sleet storms sometimes occur.

The poles are of eastern white cedar. The specifications for these poles, and also for the creosote oil used as a preservative, were based upon those of the National Electric Light Association. Steel poles are used in the terminal yard in the city, on account of their more sightly appearance. The wood poles are set 7 ft. in the ground and are all back-guyed. They are long enough to carry 2 cross arms for feeders, signal circuit and a 3-phase transmission line for supplying the shops in the Cartierville yard with electric power. On top of the poles there is a no. 000 copper ground wire, which serves both as a protection against lightning for the circuits on the poles, and also as a preventive against any trouble that might be caused by breakage of the rail bonds, which latter are of the welded V-type. The poles throughout the single track construction are spaced 150 ft. on tangents and 120 ft. on the 2-deg. curve. On the double-track portion, where the overhead clearance is limited, the spacing is reduced to 105 ft. on tangents.

The messenger for the electrification outside the tunnel consists of a ½ in., 7-strand Siemens-Martin steel cable, with an ultimate strength of 11,000 lb. and an elastic limit of 6,600 lb. Two no. 0000 copper feeders are installed, one the full length of the electrification outside the tunnel, and the other for about a mile west of the substation. The messenger is anchored every half mile by running the end of one half mile length past the end of the next for a distance of one span. It is then made fast to an anchor eye on the bracket, through an insulator and turn-buckle, and the same point of the bracket is guyed back to the next pole, which in turn is guyed against this strain. The two messengers, where they pass each other, are kept from 8 to 10 in. apart. By anchoring the trolley wire on the same bracket, the anchorage becomes a section insulation, the air space between the messenger and trolley wires forming the insulation. Where a section insulator is not required, a copper jumper is placed between the messenger and trolley wires. For the double track portion of the line, cross-span construction is used, the cross-span being a ⅜ in., 7-strand Siemens-Martin steel cable. The messenger is fastened to this by a small malleable clamp. This cross-span is made up with a turnbuckle, strain insulator, and wedge grip in each end, and fastened to the poles by means of eyebolts.

In yard work spanning more than 2 tracks, the construction is similar, but with the addition of a cross messenger of ½ in. cable above the ⅜ in. cable. This cross messenger is made fast to the poles directly, without insulators or turnbuckles, and carries the weight of the spans below through lengths of ¼ in. steel cable. These fasten to eyes in the tops of the messenger hangers, and to to the cross messenger, by Crosby clips. There is a strain insulator in each of these lengths.

Pull-offs are used on curves, for holding the contact wire and messenger in the correct position over the track, and at intervals on long tangents, for steadying the contact wire. The pull-offs are made of sherardized steel tubing, bent to avoid fouling the pantograph. Each pull-off is fitted with a clamp ear at one end and an eye at the other. Adjustable links are sometimes required with the pull-offs, to keep the trolley wires the right distance apart at certain points, such as where the trolley wire for a turn-out approaches the main trolley wire at an angle. Each link is composed of 2 malleable iron brackets, with clamp ears, connected by a ½ in. pipe, the length of which is adjusted between the brackets and held by set screws.

Egg type insulators are used in two sizes. The larger, used with a ½ in. and ⅜ in. steel cable, withstands a wet flash-over test of 14,000 volts, and has a breaking strength of 22,000 lb. The smaller, used with ⅜ in. and ¼ in. steel cable, withstands the same voltage test, and has a breaking strength of 12,000 lb. The insulator used on the bracket construction is of the ordinary glazed porcelain, double petticoat, pin type, 4¼ in. in diameter. It has a wet flash-over test of 20,000 volts. The messenger rests in the groove in the top of this insulator, and is not tied, except on curves.

The contact wire is of special bronze composition, size 0000, with a breaking strength of 65,000 lb. a sq. in. and an elastic limit of 39,000 lb. a sq. in. Its section is American Electric Railway Association's standard 0000 grooved trolley wire. The use of this wire, instead of hard drawn copper, was thought advisable, both because of its longer life, when subjected to the wear caused by sliding pantographs, and also because it could be pulled up tighter than copper, on account of its greater streigth. This latter reason was considered of special importance, because of the wide variation in temperature in Montreal, with the consequent great variation in the sag of ordinary copper trolley wire between winter and summer.

The trolley wire is hung straight over the center of the track, as the natural side sway of the pantograph is sufficient to prevent wearing grooves in the contact strips. The height of the trolley wire above top of rail is ordinarily 23 ft., except along the double track construction and in the tunnel, where it is 16 ft. In this section 2 wires are used over each track. They hang side by side, supported from the same messenger, the hangers of one wire being staggered with those of the other. These double wires do not raise the hanger loops as high as would a single wire, when a pantograph passes along, which is an obvious advantage where the head room is limited. Sparking and consequent wear, both of the contact shoes and contact wires, is reduced to a minimum, as there is always good contact between the slider strips and one of the contact wires. The hangers are all of the long-loop type, having a malleable iron, single bolt, clamp ear, and a strap varying in length to suit its position in the span. All parts are sherardized. In spans of all lengths from 150 ft. to 90 ft. the hangers are spaced 15 ft. apart.

Lightning arresters of the magnetic blow-out type are installed at half mile intervals. The arrester is placed near the top of the pole, and the ground wire run down the pole to a ¾ in. iron pipe driven about 10 ft. into the ground. Before driving this pipe, a 2 in. pipe was driven down about 5 ft., then withdrawn and the hole filled with rock salt. The ¾ in. pipe was driven down through the salt. In addition to these arresters on the poles, aluminum cell arresters are installed in the substation on the positive busbars and on each feeder.

In order to string the messenger cable with the proper tension, a dynamometer was used. It was therefore necessary for the foreman of the line gang to know what the tension should be at different atmospheric temperatures. The right sag at any given temperature was also of importance, as a check on the tension. This information was supplied in tables to which the line gang worked, the sags and tensions being given at 5 deg. intervals. In the tunnel the overhead clearance was so limited that the catenary had to be very flat. This meant pulling the messenger up very tight for spans of reasonable length. A cable of phosphor bronze was decided upon, composed of 19 wires, and having an overall diameter of 0.888 in. This cable has an ultimate breaking strength of 22,000 lb., and an elastic limit of 18,600 lb. This messenger is supported every 90 ft. from the roof of the tunnel by a combination of iron yokes held in the concrete by four 1-in. bolts. The cross yoke carries the messenger insulator, and is supported on two insulators carried on the 2 end yokes, so that there are 2 insulators between the messenger and the ground. The insulators are of glazed porcelain, and have a wet flash-over test of 20,000 volts. All clamps and small parts of the messenger supports are of malleable iron sherardized. The yokes are of 2 x ⅝ in. and 1½ x ⅞ in., mild steel, painted with an asphaltum compound as a protection against rust.

Two no. 0000 phosphor-bronze contact wires hang side by side from the messenger. The hangers for each contact wire are spaced 15 ft., or 7½ ft. between adjacent hangers. The hanger lengths very from 6 in. to 13¾ in., with 90 ft. span. The 2 hangers nearest the messenger support, viz., those 11¼ and 13¾ in. long, are made with 2 loops, one sliding inside the other, where the clearance to the roof is small. The remaining hangers are similar to those used outside the tunnel, except that the loop is wider, in order to take the larger messenger. It was found that the 2 messenger cables and the 4 contact wires over the 2 tracks in the tunnel would give ample conductivity, so that no feeders through the tunnel were required. Both the messenger and contact wires are anchored every half mile. Two bridles of ½ in. steel cable are fastened to the messenger by six ⅞ in. Crosby clips, and the ends of the bridles are fastened each way, through 2 cemented-type strain insulator in series, a turnbuckle and wedge grip, to roof plates. The contact wire is anchored by lapping the ends for one span and then carrying each end up and slightly to one side of the center, making fast to a roof plate through 2 insulators, a turnbuckle and a wedge grip.

At the only curve in the tunnel, one of 2-deg., 2 pull-offs are placed in each span, over each track, one for each of the contact wires. The pull-offs are fastened to the tunnel arch through 2 strain insulators in series by an expansion bolt. The 2 pull-offs are placed 7½ ft. apart, and this arrangement prevents hard spots and at the same time keeps the 2 contact wires close enough together for satisfactory operation.

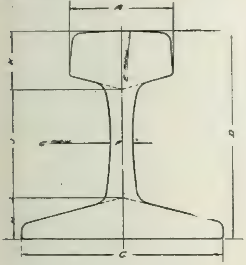
The United States Court, sitting at Grand Rapids, Mich., on Dec. 27, refused to grant the Grand Rapids, Grand Haven & Muskegon Interurban Ry.'s application to prevent the state from enforcing the 2c a mile railway rate. This is a matter in which the G.T.R. is interested.

Vancouver, B.C., merchants are asking the railways running into the city to abandon the 5c arbitrary rate, and a report states that the Board of Railway Commissioners may be appealed to upon the matter by the Vancouver Board of Trade.

Frog, Switch and Crossing Manufacture at Transcona Shops, Canadian Government Railways.

By S. Lewis, General Foreman, Blacksmith Shop, C.G.R., Transcona, Man.

Successful maintenance of any railway equipment means the greatest reliability in service combined with greatest economy. The Canadian Government Railways engineering department, above all other departments, must have had one object in view pertaining to railway track and track work, and that must have been to standardize its equipment, and the advantage of standardization tends toward an effective system of railroading. Under such conditions it is possible to have uniformity, and above all it can be known exactly from one end of the system to the other what is required, to the smallest detail, without any possible chance of a misunderstanding.



Weight per yard	A	C	D	E	F	G	H	J	K
83	2¼	5¼	5¼	10	3/16	—	7/8	2⅝	1¾
85	2 21/32	3⅜	5⅛	12	3/16	12°	27/64	2⅜	1 27/64
80	2⅝	3	5½	14	[illegible]	14	[illegible]	2¼	1½
80	2⅞	5	5	12	17/32	30°	7/8	2⅞	1½

Fig. 1.

I do not need to enter into the fundamental principles of design or emphasize the importance of uniform standards, because this has already been recognized with reference to switches, frogs, guardrails, and crossings, and a good grade of this special track structure largely affects the smooth riding of trains and the life of the rolling stock on the C.G.R. Our standard plans containing details of all this work are unique, and any person with elementary education can read them and well understand how to manipulate these special parts. The subject of rail sections has been an absorbing one.

Fig. 1, shows the various designs in active use of the 80 and 85 lb. sections per yard, in which a little metal has been added to the head or to the base of the 80 and 85 lb. section.

Fig. 2, shows three popular sections in which the exceedingly small differences are apparent, and yet one section cannot be substituted for the other in the manipulation of frogs and switches without much trouble and care.

There is no reason why an 85 lb. rail should not conform to an 80 lb. or vice versa, to eliminate different patterns for the different fittings for frogs, switches and crossings; it would be a decided saving rather than to carry in stock a variety of these fittings for the small amount of differences existing between those two sections.

There is no class of work at the C.G.R. shops at Transcona given more attention as to detail and accuracy of workmanship than the building of frogs, switches and crossings. And there seems to be a great diversity of opinion among railway engineers as to the deviations allowable from drawings and specifications in given dimensions. The character, class and nature of the pieces also have a bearing upon the degree of accuracy to be expected or the variation allowable, and it would be a difficult task to set fixed rules to cover all cases. The matter must be left largely to the good judgment of the person directly in charge of this class of work.

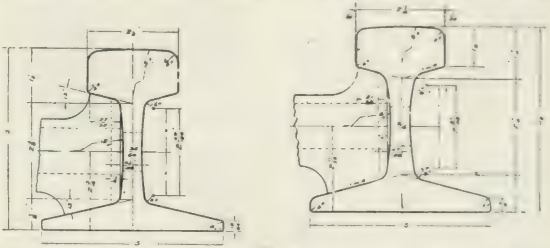


Fig. 2.

The question of gauge is a very important one, and almost every engineer has his own views in regard to it. The American Railway Engineering Association has recommended that 8 degree curves and under should be maintained to standard gauge, and that the gauge should be widened ⅛ in. for each 2 degrees, or fraction thereof, over 8 degrees, to a maximum of 4 ft. 9½ in. Where frogs occur on the inside of curves, the gauge at the frog should be standard, or the flangeway should be widened to compensate for the increased gauge. A slight variation from standard gauge is not seriously objectionable, provided the variation is uniform and constant over a long distance. Wide gauge due to worn rail need not be corrected until the excess over the proper gauge is equal to ½ in.

The most universally used switch point is the split one, which is made exclusively of the T rail (80 and 85 lb.) and is planed as a general rule. The split switch is shown in fig. 3, in which 2 rails of the switch were reduced to a given point. A train coming in either direction, whether travelling on the main line or on the siding, has to pass over one of these points, and there is no doubt left that this type of switch is universally acknowledged to be the best, and possesses decided advantages for high speed trains at junctions, over all other types of switches which are more or less in use on other systems. Split switches were first introduced in England in [illegible].

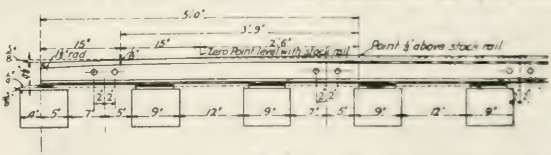


Fig. 3.

The method of bending and planing switch rails and the shaping of the point have been under discussion ever since the split switch was first introduced. First, the rails are sawn to length, then bent horizontally so as to bring the stem or web of the rail directly under the extreme point. It is further planed vertically so that a portion of its base flange is [illegible] to pass over the base flange of the [illegible] stock rail and to rest upon [illegible] plates. Furthermore, it is planed vertically, so as to bring the top of the switch rail somewhat above the [illegible] of stock

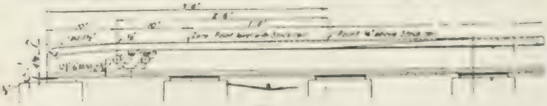


Fig. 4.

rail, to facilitate the passing of hollowed out wheel treads with the so-called false flanges over and across the head of the stock rail. The same thing applies to the spread at the heel of the switch and the throw at the point. The C.G.R. has one standard, almost every road has a different spread. Our standard is 5 5/16, while other roads have different spreads for every different length of switch. There is no reason why all roads should not follow the recommendation for a standard spread for switches of all lengths, which is ample to allow the easy fastening of any style of joint plate. Side planing and bending are conformed to a spread at the heel of 5 5/16 in. between gauge lines of the stock rail and the switch rail, and a thickness of ¼ in. at the point. The bending and planing is done so as to give a straight gauge line to the switch rail; and the head of the switch rail must fit neatly against the head of the stock rail, from the front of the switch rail to the point of divergence. The inner edge of the head of the stock rail and the outer face of the web of the switch rail at the point, must be in the same vertical line when the switch point is fitted against the stock rail. The top planing must conform to the measurement shown in figs. 3, 4, and 5. In the two latter drawings it will be seen that the top of the switch rail is carried on the same level above the main rail from the planed down point all the way back to the heel. This requires elevation plates for the entire length of the switch, but at graduated thickness even beyond the heel.

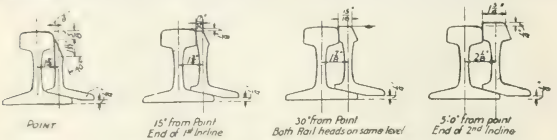


Figure 5

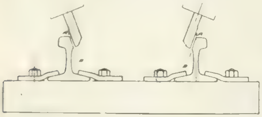


Figure 6

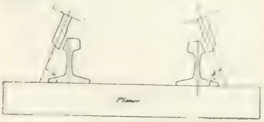


Figure 7

The practice followed at Transcona [illegible] to bend the rail sufficiently to bring the side of the web at or near the gauge line, and the bend is made to such length that the point of bend occurs at the intersection of the line of the stock rail and the line of the back of the switch point rail head. This length is usually increased by an allowance of ½ in. for each foot of bend length, which allowance has the effect of giving a slight clearance between the two rails at the bending points. The reason for doing so is obvious: that the points may be allowed to close tight before the points farther toward the heel close. The rails then are placed on a 62 in. planer in pairs, which consist of a right and left hand in special adjustable jigs, designed by J. Rugg, foreman of this department, which are shown in fig. 6, and also the position of the rail at first cutting. These simple and serviceable jigs are so made that the rails can be adjusted vertically and horizontally—the rails are held quite rigidly—but owing to the base planing causing rails to spring, they must be taken to the bender and completed by removing spring. The portion of the rail heads is planed off by automatic self-feed and not by hand.

1st movement. The rails are planed first on top in such a manner that the point will be from ¼ to ⅝ in. below the top of the stock rail, when it is in position on the elevation plates. This planing is accomplished by setting the chuck vertical in such a way as to bring the required line horizontal.

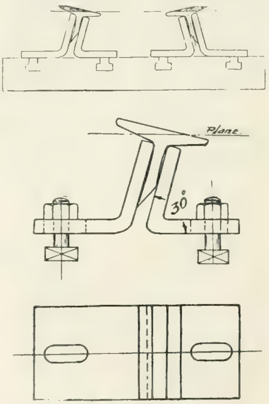


Figure 8

2nd movement. The line A, B, of the planing is not arbitrarily determined, but must be followed along specified lines and length. The widths of the cuts include the total depth of railhead. Both tool heads feed automatically; the average cut being from 1½ in. wide by 3-32 in. feed to 2¼ in. wide by 1/10 in. to 3-32 in. feed.

The speed of the planer which has been found to give the best results is 30 ft. a minute, the return of course being considerably faster. The tools are of the shape of a right and left offset side parting tool, size 2 x 1 in., made of high speed steel.

3rd movement. The planing on the third movement is done so as to give a straight gauge line to the switch rail, when the tools are on an angle of 70 degrees. Such operations as illustrated in fig. 6 are continued on account of having only one planer to take care of this class of work, and upwards of 200 rails are finished off in this manner before the chucks or jigs are changed to plane off the base.

The portion of the flange shown in section lining in fig. 7, is then planed off. This amount varies with the thickness of the elevation plates to be used, and with the thickness of the flange of the stock rail. This completes the switch point outside of dressing the extreme point drilling for the lugs and stops; which can be seen in fig. 8.—C. G. Rys. Employes Magazine.

The British Railways and the War.

British railwaymen of all ranks have reason to be proud of the part played by their great industry during the four years and four months between Aug. 4, 1914, and the signing of the armistice on Nov. 11, 1918. When hostilities began the railway service, like the navy, was ready for any task that might be given to it, and whatever industry or department of state may have been found inefficient or lacking in preparedness for any eventuality, certainly the railways of the British Isles were proved beyond reproach.

Whole volumes might be written on the wartime activities of the British railway service. For the moment it is sufficient to recall the dispatch of the British Expeditionary Force; the prompt reply to the state of railway-owned steamships, and the use of docks owned and worked by railways. Then mention should be made of the use of the great locomotive and general railway workshops, for the manufacture of the munitions of war and the building of ambulance trains.

Of the railway staff quite 25% entered war service, and a large number of railway officers were lent to the Government for administrative and military duties. Prominent among these were Sir Eric Geddes, Sir Albert Stanley, Sir Guy Calthrop, Sir Guy Granet, and Sir Sam Fay.

Fortunately the government in taking over the control of railways had sufficient wisdom to leave the administration in the hands of capable railway officers. The work of Sir Herbert Walker, acting Chairman of the Railway Executive Committee, will never lack appreciation. Truly, Sir John Aspinall in his presidential address to the Institution of Civil Engineers was able to say: "The deadening effect of government operation of industry has not been felt on the railways."

That the victory has been won by all sections of the community pulling together is an accepted fact. There is today a much better understanding between employers and the employed, and the railway service is no exception to the rule.—Railway Magazine.

The Pacific Great Eastern Ry. is reported to show a profit on operation for 1918. As showing how traffic is being secured along the line, it is stated that during 1918, from the Chilcotin and 150 Mile House districts, over 7,000 cattle were shipped out.

The Canadian Northern Ry. Transfer Co., on Jan. 2, took over the handling of the collection and delivery of freight in Winnipeg for the National Transcontinental Ry. It now handles all freight in that city for the Canadian National Rys.

Trial Shipment of Bulk Wheat From Vancouver via the Panama Canal to the United Kingdom.

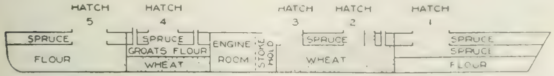


Fig. 1. Diagram showing section of vessel and illustrating general arrangement of cargo.

Since the opening of the Panama Canal the possibility of shipping bulk wheat from Canada to Europe by this route has been discussed a great deal. It was the opinion of many that the conditions to which the grain would be subjected in the tropics would be found too severe for Canadian grain, and that there would be a grave danger of cargoes arriving at their destination in a heating condition. It was decided, therefore, by the Trade and Commerce Department, when arrangements were made in the autumn of 1917 for sending a trial shipment of wheat from Vancouver, to have the Dominion Grain Research Laboratory make as thorough an investigation as possible as to the feasibility of the route. In order that a complete record of the temperature changes which occurred in the grain might be secured, the ship's holds were equipped with electrical thermometers and a representative of the laboratory accompanied the shipment to make observations and to examine the cargo when it was discharged. Similar experimental work had previously been done by the U.S. Department of Agriculture in connection with the shipment of corn to Europe, and valuable results, which were found of great use in setting the standards for corn, were obtained. From the recent investigation it was hoped to secure definite information as to the temperatures which grain would have to stand when carried by this route, and to determine what precautions should be taken to minimize the danger of heating in the event of future shipments being made.

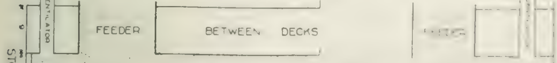


Fig. 2. Section fore and aft through forward hold, showing arrangement of different layers of wheat.

The wheat for this shipment was collected from various points in western Alberta. In Calgary, an average sample from each car was tested for moisture and graded by the Inspection Department, and in order to confirm the results of these moisture tests, further samples were taken in Vancouver when the cars were unloaded. These latter samples were sent in air tight containers to the laboratory, where they were tested on an electrically heated Brown-Duval apparatus. All the wheat in this shipment was straight grade, i.e., it did not, in the inspector's opinion, contain excessive moisture and was in every way sound and fit for warehousing. But although the wheat felt very dry and hard, it was found that some of the cars contained relatively high percentages of moisture, and it was decided to keep such wheat separate from the rest of the parcel to which it really belonged. Three out of the four parcels were thus divided in the elevator into two portions, these two parts being subsequently kept separate in the holds of the ship. By this means it was thought that some additional information might possibly be obtained with regard to the carrying qualities of wheat containing different percentages of moisture, but otherwise similar in every way. Before being binned in the elevator any carload lots containing more than one per cent. of dockage were passed over the cleaners.

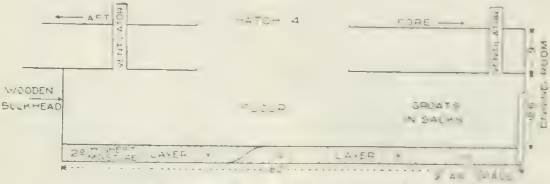


Fig. 4. Section fore and aft through afterhold.

The vessel which carried this cargo was the War Viceroy, a new steel steamship which had just been built on the Pacific Coast. The grain was placed in two of the lower holds, all of it being below the water line when the vessel was fully loaded. The accompanying diagram, fig. 1, shows the disposal of the wheat in the vessel.

The dimensions of the forward hold into which the main bulk of the wheat was loaded were roughly 100 x 50 x 18½ ft. It was prepared for the reception of the wheat by flooring with 3 in. boards, and lining the sides to a height of 7½ ft. with the same material. Above this lining the wheat was in direct contact with the ship's side. A substantial shifting board was erected fore and aft down the center to the full height of the hold, and a wooden partition was built at the after end so as to allow an air space of 1 ft. between it and the iron bulkhead which separated the hold from the fire room. The after hold was similarly floored and lined and in this case a wooden partition was placed 9 in. from the engine room bulkhead. It was unnecessary to build a shifting board in the hold as it was divided to a sufficient height by the propeller shaft tunnel. All the lumber used in the holds had been thoroughly dried.

Each parcel of wheat, after being delivered to the vessel, was trimmed so that its surface was practically horizontal, and then separating cloths were spread over the top to divide it from the succeeding layer. During the loading average samples of each parcel were again taken for moisture test. It was decided to keep the grain, which had been segregated on account of its high moisture content, away from the stokehold bulkhead, where the greatest heat might be expected, and with this object a quantity of the dryer grain was placed between the partition near the stokehold and the high moisture No. 1 Northern, while the high moisture No. 1 Hard was loaded into the forward end of the hold.

Throughout the experiment the necessity of avoiding such precautionary measures as would be impossible under ordinary trade conditions was not lost sight of, but it would have been an unnecessarily severe experiment had the wheat most liable to damage been placed in the warmest part of the hold. In some seasons fairly large parcels of straight grade wheat might be found containing as high as 15% of moisture, but this would be exceptional. Had no separation on account of moisture been made, all the wheat of each grade would have been thoroughly mixed by the time it had been trimmed, and the average moisture content would have been only a little more than the average in the lower moisture parcels. This was because the high moisture parcels were relatively small in quantity.

Figures 2 to 4 show how the parcels of grain were loaded into the holds.

The electrical resistance thermometers which were placed in the holds had been previously used in storage tanks on a large scale in elevator bins and had been found to give very satisfactory results. With this apparatus the measurement of temperature depends upon the well known fact that the electrical resistance of a metallic wire varies with the temperature, the principle of the Wheatstone bridge being used in determining the change in resistance. The thermometers were tied on to long steel cables with marlin, friction tape being wrapped round each lead to prevent it from slipping. They were usually arranged in sets of 11 along each cable so that a distance of 5 ft. separated one thermometer from another. After each parcel of wheat had been trimmed, and just before spreading the separating cloths, the line of thermometers for that particular layer was dropped down one of the ventilators leading into the hold, stretched out and embedded in the grain at a depth of 6 to 12 in. All the lead wires from the line of thermometers passed up through the ventilator and their ends were soldered to a thirteen point switch. This switch was screwed into a hard wood box which was lashed to the outside of the ventilator and afterwards covered over with tarpaulin for protection against the weather. When the temperatures were to be measured, the cover was taken off, the door of the box opened and the switch connected with the temperature indicator and battery.

The loading of the grain, owing to delays from various causes, occupied five days and was concluded on Nov. 13, 1917, but it was not until Dec. 3, after taking on further cargo at Portland, Oregon, that the ship sailed for the Panama. During the voyage between Portland and Norfolk, Virginia, daily records were kept of the maximum temperature of the air, and of the readings of wet and dry bulb thermometers, while the sea water temperatures were obtained from the engineer's departmnt. The humidity of the air was usually very high, often reaching the saturation point after sunset. On the arrival of the ship at Norfolk on Jan. 10, 1918, the sea water and air temperatures were about 32° F, and the weather remained cold until the voyage was resumed on Jan. 26. While crossing the Atlantic no observations were made, on account of the very rough weather experienced. The readings of the electrical thermometers in the holds were taken every two or three days during the voyage between Portland and Norfolk. Fig. 6 illustrates the variations in temperature shown by 4 of the thermometers situated in different parts of the hold.

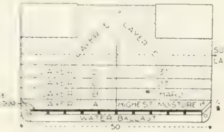


Fig. 3. Section through hatch 2.

The ship docked in London on Feb. 16, 1918, and the discharging of the grain was started two days later. An attempt was made to take the temperatures in the holds before discharging, but this was found to be impossible. The protection of the switches had not been sufficient for the very rough weather which was experienced, and the metal contacts had corroded to some slight extent, so that when the battery was connected, short circuits were set up and it was impossible to obtain an accurate balance on the galvanometer. Careful examination of the grain at the time of unloading showed that a certain amount of damage had occurred.

In layer A. the wheat was found to be heating in two places close to the stokehold bulkhead. This wheat was slightly warm and very musty, but the amount so affected was quite small—probably not more than about 3 bush. altogether. In addition, a few pounds of wheat, which was wet, soft and discolored, had caked here and there to the floor of the hold in the vicinity of the bulkhead. Except in these places the floor was quite clean and dry, and the rest of the wheat in this parcel was perfectly sound.

In layer B. heating wheat was found immediately above the warm spots in layer A. The amount of damaged grain was rather more than in the bottom parcel, but it was still quite small. There was no other damage in this layer.

Layer C., except for a few bushels of hot wheat close to the stokehold bulkhead, arrived in good condition.

In layer D., the quantity of wheat found to be heating was considerably more than in layer C., probably amounting altogether to about 60 bush. The position of the damaged grain was the same as in the lower layers.

Layer F., with the exception of about 2 bush. of slightly warm wheat under the forward ventilator on the port side, arrived in perfectly sound condition.

In layer E. the damage was most extensive. A body of grain occupying the space between the sides of the ship and the oil settling tank was found to be heating and musty. In some places the wheat was warm 5 ft. away from the bulkhead, and to the full depth of the layer. Probably 700 to 800 bush. were affected altogether, some of it being very warm, covered with fungi growth, and caked so badly that it was difficult to break down, while in other places it was only just warm and held together very loosely. All the heating wheat which has been described up to the present was mixed up and worked in with the sound wheat during the unloading. The cargo superintendent apparently considered that the damage was not sufficient to make the separate treatment of this grain necessary, and it is for this reason that more accurate information cannot be reported with regard to the weight of grain which arrived out of condition. Underneath the port ventilator at the forward end of the hold, about 4 bush. of grain were found to be badly heating in this parcel. There seems to be little doubt that the cause of this damage was the drainage of water down the ventilator. This wheat was not mixed up with the sound grain. Along the sides of the ship in the after half of the hold there was a thin layer of very wet, sour and discolored grain, which near the surface had sprouted badly. The bad condition of this wheat was attributed to sweat damage. All the grain so affected was kept separate from the main bulk of the parcel.

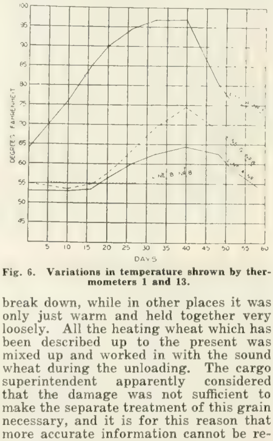


Fig. 6. Variations in temperature shrown by thermometers 1 and 13.

In layer X. very small quantities of soft, wet wheat had caked in places to the floor of the hold. This damage was probably caused partly by sweat and partly by the leakage of small amounts of water around the rivets in the ship's side.

Layer Y. was discharged in good condition except for a little wheat which had caked round the side, as in layer X., and small quantities which were heating and musty on each side of the propeller shaft tunnel immediately under the mast. This latter damage was evidently caused by the leakage of sea water around the mast.

The damaged grain from layers X and Y, together with that from under the forward ventilator and the sweat damaged grain in layer E, was weighed up apart from the rest of the cargo, the total quantity being about 160 bush. This was the only damage reported by the cargo superintendents, and amounted to less than 0.2%. But the total quantity of damaged grain was increased by probably more than 800 bush. if the more or less injured grain be taken into account. As far as this shipment is concerned, this damage is perhaps of little commercial interest, since the wheat affected by it was mixed with the sound grain when the usual practice was followed during the discharging. It will indicate, however, where trouble may be expected in the case of future shipments unless certain precautions are taken.

While the reported damage was evidently due to sweat, or to the admission of water into the hold, the cause of the heating near the stokehold bulkhead is not quite so clear. The heating took place under the ventilators, down which a little water may have dripped during and after the loading. Tests on samples of heating wheat from layer C showed 15.2 and 15.7% of moisture, while a sample from layer E, contained as high as 21% of moisture. These percentages do not, however, necessarily indicate the admission of water into the hold, since the chemical changes due to respiration, which is very rapid in warm grain, always result in an increase in the proportion of water present. But whether the cause of the heating was the drainage of some water from the outside, or whether the moisture content of the wheat as loaded was dangerously high for the conditions in that part of the ship, there is no doubt whatever that the temperatures close to this bulkhead were altogether too high for safety.

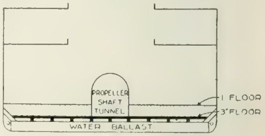


Fig. 5. Section through hatch 4.

During the discharging of the grain, average samples were collected from some of the parcels. These samples were tested in the laboratory for moisture and the results obtained showed that no appreciable changes in moisture content occurred during transit.

A comparison shows 99,209 bush. of wheat loaded on the ship and 98,833 bush. discharged, a loss of less than 0.4%.

Conclusions.—The results of the investigations in connection with this shipment indicate that if certain precautions are taken wheat may be carried to Europe via the Panama Canal without damage. The following recommendations are therefore made:

Only wheat which is quite sound in every way should be shipped by this route. It should be carefully tested for moisture and any lots containing an excessive amount should not be loaded into the vessels. It has not been possible to determine just how much moisture the grain may safely carry, but until some limit is definitely set, a moisture content of more than 14.5% should be regarded as dangerous.

The temperatures recorded by the thermometers against the false bulkheads near the engine room and stokehold are evidently too high for safety, and an unventilated air space of 9 to 12 in. cannot then be considered sufficient protection. It is recommended therefore, that when it is necessary to stow grain close to the engine room or stokehold, these spaces be either ventilated or extended. The records clearly show that it was only in these portions of the holds and close to the propeller shaft tunnel that dangerously high temperatures occurred. The conditions will very in different ships, but the adequate protection of the grain cargo in these parts of any vessel is one of the most essential conditions for its safe transportation.

Excepting in the neighborhood of the stokehold bulkhead, the only damage which occurred in this shipment was due to sweat, or the admission of water. The importance of keeping the grain dry during loading and of preventing the subsequent entrance of water into the holds hardly needs to be emphasized. If the Panama Canal route is used to any extent for this trade, most of the shipments will probably be made from Vancouver during the rainy season, and it will therefore be necessary to take steps to prevent water from dripping down the hatches and ventilators during loading. In addition to this, the ventilators should be covered during rough or wet weather at sea, and no wet cargo of any sort should be stowed in the same hold as the grain.

One feature which was against the present shipment was the length of the voyage, the grain being in the vessel 3½ months altogether. When heating once starts in a body of grain it proceeds at an accelerating rate, so that the length of time the wheat is in transit must have a great deal of influence on the quantity which arrives out of condition, and the extent of the damage.

The conditions to which the grain is subjected in transit by this route are much more severe than those experienced by Atlantic shipments. The temperatures are higher and the voyage much longer, but it is believed that if it is possible to observe the above precautions, there will be little difficulty in carrying wheat cargoes safely. The results of this experiment certainly seem to justify further trials.

The foregoing are extracts from a bulletin by F. J. Birchard, Chemist in Charge, and A. W. Alcock, Assistant Chemist, Trade and Commerce Department's Dominion Grain Research Laboratory.

Birthdays of Transportation Men in February.

Many happy returns of the day to:—

T. Britt, General Fuel Agent, C.P.R., Montreal, born there Feb. 3, 1871.

J. S. Byrom, General Superintendent, Sleeping, Dining and Parlor Cars, and News Service, Eastern Lines, C.P.R., Montreal, born at Jersey City, N.Y., Feb. 10, 1872.

H. R. Charlton, General Advertising Agent, G.T.R. and G.T.P.R., Montreal, born at St. Johns, Que., Feb. 9, 1866.

R. Colclough, Superintendent, District 1, Transcontinental Division, Canadian Government Railways, Quebec, Que., born at Bic, Que., Feb. 24, 1871.

R. Crawford, Northwest Agent, Northern Navigation Co., Winnipeg, Man., born at Kingston, Ont., Feb. 21, 1870.

V. A. G. Day, Resident Engineer, Toronto Terminals, C.P.R., born at Aberdeen, Scotland, Feb. 4, 1883.

A. J. Donegan, ex-Superintendent, Algoma Eastern Ry., Sault Ste. Marie, Ont., born at Perth, Ont., Feb. 17, 1872.

R. W. Drew, Division Freight Agent, Saskatchewan District, C.P.R., Regina, born at Kingston, Ont., Feb. 17, 1874.

E. A. Evans, M.Can.Soc.C.E., ex-General Manager and Chief Engineer, Quebec Ry., Light & Power Co., Quebec, born at Kensington, London, England, Feb. 26, 1855.

Goodwin Ford, General Superintendent Western Lines, Dominion Express Co., Winnipeg, born at Bordentown, N.J., Feb. 23, 1859.

U. E. Gillen, Vice President (Operating), G.T.R., Montreal, now on leave of absence, born at Brooklyn, Mo., Feb. 27, 1867.

L. L. Grabill, General Baggage Agent, G.T.R., Toronto, born at Walkerton, Ont., Feb. 6, 1878.

A. J. Hills, Assistant to President, Canadian National Railways, Toronto, born there, Feb. 15, 1879.

T. C. Hudson, General Master Mechanic, Eastern Lines, Canadian National Railways, Montreal, born at Brockville, Ont., Feb. 20, 1873.

H. Hulatt, Manager of Telegraphs, G.T.R. and G.T.P.R., Montreal, born at London, England, Feb. 15, 1883.

C. Gardner Johnson, Lloyd's Agent for British Columbia, Vancouver, B.C., born at Dunblane, Scotland, Feb. 8, 1857.

A. H. Jones, Assistant Engineer, Canadian Government Railways, Moncton, N. B., born at Liverpool, Eng., Feb. 16, 1884.

John McCraw, ex-General Agent, Central Vermont Ry., New London, Conn., born at Craigvale, Ont., Feb. 6, 1868.

G. L. McCrea, Local Freight Agent, C.P.R., Vancouver, B.C., born at Springtown, Ont., Feb. 9, 1876.

T. McNab, ex-Master Mechanic, Alberta Ry. & Irrigation Co., now of Picture Butte, Alta., born in Scotland, Feb. 16, 1849.

J. K. McNellie, Superintendent, Susquehanna Division, Delaware & Hudson Co., Oneonta, N.Y., born at Toronto, Feb. 23, 1874.

J. D. McNutt, Inspector of Train Dispatching, Canadian Government Railways, Moncton, N.B., born at Stewiacke, N.S., Feb. 8, 1873.

D. C. Macdonald, Assistant General Claims Agent, C.P.R., Winnipeg, born at Elmsdale, N.S., Feb. 9, 1874.

C. S. Maharg, Superintendent, Cranbrook Division, British Columbia District, C.P.R., Cranbrook, born in Dufferin County, Ont., Feb. 4, 1867.

V. J. Melsted, ex-Engineer of Water Service, C.P.R., Winnipeg, born at Gardar, N.D., Feb. 20, 1887.

G. A. Montgomery, Vice President and General Manager, Algoma Central & Hudson Bay Ry., Sault Ste. Marie, Ont., born at Bradford, Ont., Feb. 11, 1871.

A. Z. Mullins, Commercial Agent, G.T.R., Grand Rapids, Mich., born at Appin, Ont., Feb. 14, 1862.

M. G. Murphy, General Agent, Passenger Department, C.P.R., Detroit, Mich., born at Halifax, N.S., Feb. 26, 1878.

J. E. Proctor, District Passenger Agent, C.P.R., Calgary, Alta., born at Sarnia, Ont., Feb. 17, 1878.

C. T. Ridalls, Car Foreman, C.P.R., London, Ont., born at St. Heliers, Jersey, Channel Islands, Feb. 8, 1864.

W. J. Robider, General Master Car Builder, C.P.R., Montreal, born at Savannah, Ga., Feb. 15, 1869.

A. E. Rosevear, General Freight Agent, G.T.P.R. and Grand Trunk Pacific Coast Steamship Co., Winnipeg, born at Montreal, Feb. 20, 1863.

J. G. Scott, ex-General Manager, Quebec & Lake St. John Ry., Quebec, born there Feb. 13, 1847.

J. J. Scully, General Superintendent, Algoma District, C.P.R., North Bay, Ont

G. Spencer, Chief Operating Officer, Board of Railway Commissioners, Otta born at Montreal, Feb. 3, 1872.
wa, born in London, Eng., Feb. 21, 1865.

H. E. Suckling, Treasurer, C.P.R., Montreal, born at Gibraltar, Feb. 27, 1861.

F. L. Wanklyn, General Executive Assistant, C.P.R., Montreal, born at Buenos Ayres, Feb. 25, 1860.

J. R. Watson, Assistant Superintendent, Sleeping, Dining and Parlor Cars, and News Service, Eastern Lines, C.P.R., Montreal, born at Morpeth, Eng., Feb. 8, 1873.

A. Williams, Superintendent, London Division, Ontario District, C.P.R., London, born at Mono Road, Ont., Feb. 22, 1872.

There's an Excuse for Everything, Except Excuses.

By G. A. Hoag, Superintendent, Canadian National Railway, Capreol, Ont.

Once upon a time a poor farmer owned a team of horses. In the early spring, one of the horses died. The man started to find a mate for his one horse. Horses were scarce and high. He failed to find one within the reach of the few dollars he had, with which to buy. But he found a bull whose owner claimed that the animal was broken to work.

The farmer decided to buy the bull and hitch him with his horse. He took the bull home. He fed him well, gave him a good straw bed, and left him to get a good rest for the next day's work. When the morning came, the bull refused to get up. The farmer finally filled the rack with hay, put some oats in the manger box, and left with his one horse for the field.

That night he fed the bull again, bedded him down, and went to the house. After the farmer had left the bull spoke up to the horse and said "How did you get along today?" "Pretty well," said the horse. "We needed you and could have done more if you had been there to help, but we got along pretty well under the circumstances." The bull ate his oats and lay down and chewed his cud. He decided he had a snap and would continue the strike.

The next morning he refused again to get up. The farmer gave him an extra portion of oats, and all the hay he could possibly eat, and all the water he would drink, and left with the horse for the field. That night he gave the bull another extra fine meal, a good bed to lie on and as soon as he had left for the house the bull again inquired of the horse how that had got along. "Better than yesterday," replied the horse. "Not so well as we would had you been there to help us, of course. In fact, we needed you very much, but we accomplished quite a good day's work." "Did the boss mention me?" asked the bull. "No, he didn't mention you all day."

The bull decided, since he was having such good "eats" and such an easy time in general, that he would continue the system. He therefore refused to get up the next morning, and again at night, after the farmer had left for the house, the bull inquired of the horse how they got along.

"Fine!" said the horse. "Much better than before. To be sure, we needed you, but we are managing to get along, and are doing better each day." "Did the boss say anything about me?" demanded the bull. "No," said the horse. "He said nothing about you to me, but on the way home we met the butcher, and I heard him mention your name to him."

I could truthfully tell a lot of fellows, right now, that I heard their employers mentioning their names to the butcher. And I could tell them why, just as I could tell all the lazy bulls.

G. H. Shaw's Farewell to His Staff.

Geo. H. Shaw, General Traffic Manager, Canadian Northern Ry., on retiring from that position recently, issued the following circular to the freight and passenger traffic officials.

"June 1, 1901; vale Dec. 31, 1918.

"Dear Sir:—In retiring from the service of the Canadian Northern Railway after 17½ years of service, I wish to express my appreciation of your loyalty and assistance in the upbuilding of the business of the company, without which no such results as attained would have been possible. Under conditions, often discouraging and disheartening, you have been prompt and tireless in your devotion to the business interests of the company. No Canadian railway has received a greater measure of service from its representatives, and to this fact is largely due the substantial increase in its revenues, as shown by the following figures for the fiscal years 1901-1902 and 1917-18:—

	1901-1902	1917-1918
"Mileage	1,286	9,433
"Passengers	169,270	10,025,200
"Passenger revenue	$249,020	$7,151,500
"Freight revenue	$1,00[illegible],166	$32,565,400
"Freight tonnage	[illegible]	14,506,300
"Mail, express and sundries	$28,115	$2,433,700
"Total revenue	$1,28[illegible],625	$42,150,600

"These figures indicate substantial growth, but are no indication of the earning power of the property when deferred maintenance is overtaken, terminal and divisional points adequately equipped and the necessary locomotives and rolling stock provided to enable the staff to furnish a reliable and efficient freight and passenger service to the public.

"My successor is unknown to most of you. He merits your generous and loyal support. With best wishes for your future prospects and happiness, I am, yours very truly, Geo. H. Shaw."

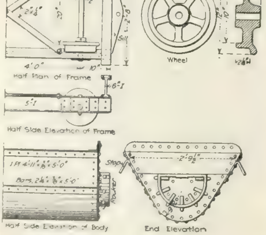
St. Felicien & Ungava Ry.—The Quebec Legislature is being asked to incorporate a company with this title, to build a railway from St. Felicien, Lake St. John County, by way of Lake Michikun, to the waters of Lake Petitsikapou, in the Ungava area, and also to build branches. Demers & Demers, Quebec, are solicitors for applicants.

Small Dump Car for Railway Ditching.

To facilitate the clearing of ditches along railway tracks, a ¾ yd. side-dump steel car has been designed and built by the Baltimore & Ohio Rd. The car is operated on a track of 20 in. gauge laid directly over the ditch, and is made low and narrow so as to clear trains in narrow cuts. One car can be loaded and handled by two men, but where the work is heavy and requires a long haul, two or three cars are coupled and are hauled by a home-made motor car, as shown in the illustration. For this latter plan a larger crew is employed, with two trains, a switch and siding being put in at the end of the track so that one train can be placed for loading while the other is being taken away and dumped.

Dump car, on track 20 in. wide.

Train used for clearing ditches, on track 20 in. wide.



Details of construction of small dump car for railway ditching.

The dump cars contain a single plate forming the V-shaped shell, which is 5 ft. long, 3 ft. wide at the top and about 25 in. deep.

Rockers on the end plates have projecting lugs or teeth which engage with perforated castings on the end sills, and thus hold the body in position as it dumps. The rockers can be locked to prevent accidental dumping. The frame consists of 2 end sills resting on side sills, the latter being connected by diagonal bars and reinforced by plates at the holes for the axles. Cast iron 10 in. wheels are secured to 1½ in. axles by set screws and give a wheelbase of 4 feet.

The design of the car was made under the direction of Earl Stimson, General Superintendent of Maintenance of Way and Structures, Baltimore & Ohio Rd.

The Northwest Route, Limited.—The Dominion Parliament is being asked to incorporate a company with this title to build a railway from the westerly end of Baker Lake, northwesterly to the eastern end of Schultz Lake; from the junction of the Hanbury and Thelon Rivers, westerly and southwesterly to Old Fort Reliance at the eastern end of Great Slave Lake, or in the alternative, from the junction of the Hanbury and Thelon Rivers, westerly to the southeastern end of Clinton Golden Lake, and from southwest of Kasba Lake southwesterly to the northeastern end of Artillery Lake; or from the junction of the Hanbury and Thelon Rivers westerly to the northeasterly end of Artillery Lake; and from the southwesterly end of Artillery Lake to Old Fort Reliance at the eastern end of Great Slave Lake; with power to build branch lines to connect the different sections of railway by steam or other vessels, to build wharves, and to improve the navigation of the Thelon River. Smellie & Lewis, Ottawa, are solicitors for applicants.

Central Ry. of Canada Winding Up.—In connection with the winding up of the affairs of this railway, the rather ambitious projects of which ended disastrously, application is being made to the Board of Railway Commissioners for a recommendation for confirmation by order in council of agreements of sale between the company and the following companies:—Central Counties Ry., Ottawa Valley Ry., Ottawa River Ry., Carleton & Grenville Ry., St. Agathe Branch Ry., and Ottawa River Navigation Co. The agreements were signed by the president and secretary of the respective companies in Sept. and Oct., 1911. Copies of the agreements can be seen at the offices of the receiver, F. Stuart Williamson, 103 St. Francois Xavier St., Montreal.

Shefford, Bagot & Missisquoi Ry.—The Quebec Legislature is being asked to extend the time within which this company may build its projected railway from the parish of St. George de Clarenceville, on the Quebec-Vermont boundary, northeasterly to a junction with the Intercolonial Ry. between Bagot and St. Eugene; a branch from Adamsville to the International Boundary in the parish of St. Armand, and a branch from Roxton Point, northeasterly to Richmond. The company is authorized to connect its lines with those of any existing railway,

Transportation Appointments Throughout Canada.

The information under this head, which is gathered almost entirely from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Canadian National Rys.—**EUGENE E. FAIRWEATHER, M.A., LL.B.**, who has been apopinted Assistant Counsel, Canadian National Rys., at Ottawa, as announced in Canadian Railway and Marine World for January, also continues as Departmental Solicitor, Railways and Canals Department, there.

STANLEY SCOTT, heretofore chief clerk, General Superintendent's office, Canadian Northern Ry., Vancouver, and formerly Secretary to M. H. MacLeod, then General Manager and Chief Engineer, Western Lines, Canadian Northern Ry., Winnipeg, has been appointed Secretary to the President, Canadian National Rys., D. B. Hanna, at Toronto, succeeding **W. A. TUXFORD**, who has been appointed in charge of the Pass Bureau.

WALTER PRATT, heretofore General Superintendent, Sleeping, Dining and Parlor Cars and Hotels, Canadian Northern Ry., Winnipeg, has been appointed Manager, Sleeping, Dining and Parlor Cars and Hotels, Canadian National Rys., with jurisdiction over all lines. Office, Toronto.

A. L. GRABURN, heretofore Assistant Superintendent of Rolling Stock, Eastern Lines, Canadian Northern Ry., Toronto, has been appointed General Fuel Agent Canadian National Rys. Office, Toronto.

W. L. CRIGHTON, heretofore Advertising Agent, Canadian Government Rys. Moncton, N.B., has been appointed General Advertising Agent, Passenger Traffic Department, Canadian National Rys Office, Toronto.

R. R. EDGLEY, heretofore acting Superintendent, Canadian Northern Ry. Quebec, has been appointed Superintendent, Saguenay Division, Quebec District Canadian National Rys. Office, Quebec.

E. W. OLIVER, heretofore Assistant Engineer, Canadian Northern Ry., Toronto, consequent on the appointment of E F. Seixas, heretofore Manager Niagara St. Catharines & Toronto Ry., as General Manager and Official Representative. Monterey Ry., Light & Power Co., has been appointed General Superintendent, N. St. C. & T. R., reporting to S. J. Hungerford, Assistant Vice President, Canadian National Rys. He will also be in charge of the Toronto Suburban Ry. and the Toronto Eastern Ry. Office, Toronto.

W. T. MOODIE, heretofore Division Engineer, Canadian Northern Ry., Winnipeg, has been appointed Superintendent, Division 1, Central District, Canadian National Rys., vice J. E. Nelson, transferred. Office, Port Arthur, Ont.

B. T. CHAPPELL, heretofore Superintendent, Pacific District, Canadian Northern Ry., Vancouver, B.C., has been appointed General Superintendent, Prairie District, Canadian National Rys. Office, Saskatoon, Sask.

W. I. MUNRO, heretofore Chief Dispatcher, Canadian Northern Ry., Winnipeg, has been appointed acting Superintendent, Division 2, Prairie District, Canadian National Rys., vice T. J. Brown, assigned to other duties.

D. R. CAMPBELL, heretofore Assistant General Manager, Pacific District, Canadian Northern Ry., Vancouver, B.C. has been appointed General Superintendent, Pacific District, Canadian National Rys. Office, Vancouver.

J. E. NELSON, heretofore Superintendent, Division 1, Central District, Canadian Northern Ry., Port Arthur, Ont., has been appointed Superintendent, Pacific District, Canadian National Rys. Office, Kamloops Jct., B.C.

R. M. MITCHELL, heretofore Right of Way Agent, Canadian Northern Ry., Winnipeg, has been appointed Right of Way Agent, Western Lines, Canadian National Rys. Office, Winnipeg.

THOMAS TURNBULL, heretofore Assistant Chief Engineer, Canadian Northern Ry., Winnipeg, has been appointed Engineer, Maintenance of Way, Western Lines, Canadian National Rys. Office, Winnipeg.

A. V. REDMOND, heretofore Division Engineer, Transcontinental Division, Canadian Government Rys., Cochrane, Ont., has been appointed District Engineer, Central District, Canadian National Rys. Office, Winnipeg.

H. L. VERCOE, heretofore Special Engineer, Canadian Northern Ry., Winnipeg, has been appointed District Engineer, Prairie District, Canadian National Rys. Office, Saskatoon, Sask.

F. J. Butler.
Local Treasurer, Eastern Lines, Canadian Northern Railway System.

T. W. WHITE, heretofore Assistant Engineer, Bridge Engineer's Office, Canadian Northern Ry., Winnipeg, has been appointed District Engineer, Western District, Canadian National Rys. Office, Edmonton, Alta.

W. H. PIRIE, heretofore Car Foreman of Shops, Canadian Government Rys., Halifax, N.S., has been appointed General Car Foreman, Halifax Terminals, Canadian National Rys. Office, Halifax.

J. B. TURNER has been appointed District Car Foreman, Maritime District, Canadian National Rys., all lines Mont Joli, Que., and east, except Halifax terminals.

C. STEEVES, heretofore General Boiler Inspector, Canadian Government Rys., has been appointed General Boiler Inspector, Eastern Lines, Canadian National Rys. Office, Moncton, N.B.

A. McGOWAN, heretofore Supervisor of Car Work, Canadian Northern Ry., Winnipeg, has been appointed Master Car Builder in charge of all car work, Western Lines, Canadian National Rys. Office, Winnipeg.

H. G. REID, heretofore Assistant Superintendent of Rolling Stock, Canadian Government Rys., Transcona, Man., has been appointed General Master Mechanic, Western Lines, Canadian National Rys. Office, Winnipeg.

H. A. ENGLISH, heretofore Master Mechanic, Central District, Canadian Northern Ry., Winnipeg, has been appointed Master Mechanic, Central District, Canadian National Rys. Office, Winnipeg.

L. G. ROBLIN, heretofore General Master Mechanic, Western Lines, Canadian Government Rys., Cochrane, Ont., has been appointed Master Mechanic, Prairie District, Canadian National Rys. Office, Saskatoon, Sask.

W. H. GRANT, heretofore Tie and Timber Agent, Eastern Lines, Canadian Northern Ry., who has also been acting as General Storekeeper, during the absence in the Imperial Munitions Board's service of L. C. Thomson, has been appointed General Tie Agent, Canadian National Rys. Office, Toronto.

F. W. HARGRAVE, heretofore Purchasing Agent, Canadian Northern Ry., Toronto, has been appointed Assistant to General Purchasing Agent, Canadian National Rys., Toronto.

J. A. SUTTON, heretofore Fuel and Tie Agent, Transcontinental Division, Canadian Government Rys., has been appointed District Fuel Agent, Divisions 1 and 2, Central District, Western Lines, Canadian National Rys. Office, Cochrane, Ont.

T. J. LOWE, heretofore Fuel Agent, Western Lines, Canadian Northern Ry., has been appointed Fuel Agent, Western Lines, Canadian National Rys. Office, Winnipeg.

L. C. THOMSON, General Storekeeper, Eastern Lines, C.N.R., who was loaned to the Imperial Munitions Board early in the war, and has been its Superintendent of Transportation at Ottawa, has returned to his duties at Toronto, and his jurisdiction has been extended over all Eastern Lines, Canadian National Rys.

W. F. TAYLOR, heretofore General Storekeeper, Canadian Government Rys., Moncton, N.B., has been appointed Assistant General Storekeeper, Eastern Lines, Canadian National Rys., east of Port Arthur, Ont., and O'Brien, Que. Office, Moncton.

A. E. COX, heretofore General Storekeeper, Western Lines, Canadian Northern Ry., has been appointed General Storekeeper, Western Lines, Canadian National Rys. Office, Winnipeg.

P. MOONEY, heretofore Assistant General Freight Agent, Canadian Northern Ry., Toronto, has been appointed Assistant General Freight Agent, Canadian National Rys., with jurisdiction on Quebec City, Levis, east of O'Brien and Garneau to Chicoutimi and Quebec, and also Quebec and Saguenay Ry. Office, Quebec, Que.

J. F. LePAGE, heretofore Division Freight Agent, Canadian Government Rys., Quebec, Que., has been appointed Division Freight Agent, Canadian National Ry., with jurisdiction Quebec City, Levis, east of O'Brien and Garneau to Chicoutimi and Quebec, also Quebec and Saguenay Ry. Office, Quebec, Que.

R. E. PERRY, heretofore Assistant General Freight Agent, Canadian Government Rys., Moncton, N.B., has been appointed Assistant General Freight Agent, in charge of publication of tariffs and divisions for lines east of Fort William and Armstrong, Ont. Office, Montreal.

S. G. TIFFIN, heretofore Assistant General Freight Agent, Canadian Government Rys., Montreal, has been appointed Assistant General Freight Agent, Canadian National Rys., with jurisdiction Kingston and east of North Bay, Ont., to Garneau and Matapedia, Que., and Edmundston, N.B. Office, Montreal.

JAMES ORR, heretofore General Freight Agent, Canadian Northern Ry., Montreal, has been appointed Assistant General Freight Agent, Canadian National Rys., with jurisdiction, west of Kingston to Windsor, Ont., Toronto to Port Arthur, Armstrong, Ont., and O'Brien, Que. Office, Toronto.

G. R. FAIRHEAD, heretofore District Freight Agent, Canadian Northern Ry., Hamilton, Ont., has been appointed Division Freight Agent, Canadian National Rys., with jurisdiction west of Kingston to Windsor, Ont., Toronto to Port Arthur, Armstrong, Ont., and O'Brien, Que. Office, Toronto.

G. M. THOMAS, heretofore Travelling Freight Agent, Canadian Government Rys., Toronto, has been appointed District Freight Agent, Canadian National Rys. Office, Hamilton, Ont.

W. HATELY, heretofore Chief of Tariff Bureau, Freight Traffic Dept., Western Lines, Canadian Northern Ry., Winnipeg, has been appointed Assistant General Freight Agent in charge of publication of tariffs and divisions for lines west of Port Arthur and Armstrong, Ont., and Duluth, Minn. Office, Winnipeg.

W. A. WHYTE, heretofore District Freight Agent, Canadian Northern Ry., Regina, Sask., is reported to have been appointed District Freight Agent, Canadian National Rys., Calgary, Alta.

H. G. FOREMAN, heretofore Chief Accountant, Eastern Lines, Canadian Northern Ry., Toronto, has been appointed Assistant Treasurer, Canadian Northern Ry. System. Office, Toronto.

F. J. BULLER, heretofore Cashier and Paymaster, Eastern Lines, Canadian Northern Ry., has been appointed Local Treasurer, lines east of Port Arthur, Ont., Canadian Northern Ry. System. Office, Toronto.

W. L. BROWN, heretofore Assistant Auditor of Agencies, Canadian Northern Ry., Toronto, has been appointed Auditor of Agencies, Canadian Northern Ry. System, Toronto, vice A. C. Egan, promoted.

A. C. EGAN, heretofore Auditor of Agencies Canadian Northern Ry., Toronto, has been appointed Assistant to Comptroller, Canadian Northern Ry. System, Toronto.

W. D. WADDELL, heretofore chief clerk, Audit Department, Canadian Northern Ry., has been appointed Chief Accountant, Canadian Northern Ry. System. Office, Toronto.

Canadian Pacific Ry.—W. H. CAVERS, heretofore Night Chief Dispatcher, has been appointed Chief Dispatcher, Smiths Falls, Ont., vice H. C. Taylor, whose appointment as Car Service Agent, Ontario District, Toronto, was announced in a recent issue.

C. L. LEIGHTY, heretofore Superintendent of Telegraphs, Ontario Division, Toronto, has been appointed Night Chief Dispatcher, Smiths Falls, Ont., vice W. H. Cavers, promoted.

Major W. M. KIRKPATRICK, M.C., who, prior to going overseas with the 87th Battalion, Canadian Grenadier Guards, was Assistant Freight Traffic Manager, Eastern Lines, Montreal, has been appointed Assistant Freight Traffic Manager, Western Lines, vice W. B. Lanigan, who was, some months ago, appointed Freight Traffic Manager, Montreal. Office, Winnipeg.

G. H. HUTTON, Superintendent, Dominion Experimental Farm, Lacombe, Alta., is reported to have been appointed Superintendent of Agriculture and Animal Husbandry, Department of Natural Resources, C.P.R., vice J. G. Rutherford, C.M.G., whose appointment as a Railway Commissioner for Canada has been announced previously. Office, Calgary, Alta.

E. OFFICER, heretofore chief clerk to District Passenger Agent, Calgary, Alta., has been appointed Travelling Passenger Agent there.

I. G. TRUDEL, Storekeeper, Moose Jaw, Sask., is reported to have been appointed Storekeeper, Vancouver, B.C.

SIR GEORGE McL. BROWN, heretofore European Manager, has been appointed European General Manager. Office, London, Eng.

Delaware & Hudson Rd.—G. W. DITMORE, heretofore Assistant Master Car Builder, Colonie, N.Y., has been appointed Master Car Builder, vice R. W. Burnett, resigned, and his former position has been abolished. Office, Colonie, N.Y.

Grand Trunk Ry.—W. WALKER, heretofore acting Division Engineer, Eastern Lines, Montreal, has been appointed Division Engineer, Eastern Lines, vice Major F. L. C. Bond, promoted. Office, Montreal.

J. E. DUVAL, heretofore General Superintendent of Transportation, has been appointed General Superintendent of Car Service. Office, Montreal.

W. KENNEDY, formerly in G.T.R. and Central Vermont Ry. service, but latterly in private business, has been appointed General Mechanical Inspector. Office, Montreal.

H. R. McLENNAN has been appointed Chief Dispatcher, Brantford, Ont., vice W. M. Doherty, assigned to other duties.

F. A. RUTHERFORD, heretofore Inspector of Transportation, has been appointed Trainmaster, District 17, Sarnia Tunnel to Hamilton, including Petrolia Subdivision, District 18, Komoka to Glencoe, District 19, Glencoe to Kingscourt Jct., and District 24, vice R. E. Newcomer, transferred. Office, London, Ont.

R. E. NEWCOMER, heretofore Trainmaster, London, Ont., has been appointed Trainmaster, Districts 20 and 21, Brantford, Ont.

Grand Trunk Pacific Ry.—F. BARNARD has been appointed Assistant Car Foreman, Melville, Sask., vice R. Laing.

A. M. BOUILLON, heretofore Resident Engineer, Regina, Sask., has been appointed Assistant Engineer, Prince George, B.C.

Kettle Valley Ry.—ANDREW McCULLOCH, Chief Engineer, has been appointed acting General Superintendent, vice J. W. Mulhern, resigned.

Pacific Great Eastern Ry.—R. WILSON, heretofore Auditor, Vancouver, B.C., has been appointed acting Manager, vice G. L. Courtney, heretofore General Manager. Office, Victoria, B.C.

Toronto, Hamilton & Buffalo Ry.—J. McBRADY has been appointed foreman blacksmith, Hamilton, Ont., vice J. Templeton.

Canadian Northern Railway Earnings, etc.

Gross earnings, working expenses, net earnings, increases and decreases compared with those of 1917, from July 1, 1918.

	Gross earnings.	Expenses.	Net Earnings.	Decreases.
July	$3,739,400	$3,462,700	$ 276,700	$628,200
Aug.	3,933,300	3,433,700	499,600	93,600
Sept.	4,050,900	4,109,000	* 58,100	484,000
Oct.	5,175,000	4,355,500	819,500	*228,400
Nov.	4,679,500	4,018,800	660,700	94,000
Dec.	5,043,300	4,433,100	610,200	*544,900
	$26,621,400	$23,812,800	$2,808,600	$526,500
Inc.	$ 4,764,600	$ 5,291,100	....	....
Dec.	....	....	$ 526,500	....

*Increase.

Canadian National Railways.

As all Government lines, including the Canadian Northern Ry., are now operated under Canadian National Railways as one system, the reports of earnings in future will cover the entire system.

Approximate earnings for three weeks ended Jan. 21, $4,255,864, against $2,990,687 for same period 1918.

Canadian Pacific Railway Earnings, Etc.

Gross earnings, working expenses, net earnings, and increases or decerases, compared with those of 1917, from Jan. 1, 1918:

	Gross earnings.	Expenses.	Net Earnings.	Decreases.
Jan.	$10,789,818	$9,621,824	$1,167,993	$1,263,485
Feb.	9,574,302	8,893,404	590,898	1,396,151
Mar.	12,427,915	9,435,134	2,992,781	944,536
Apr.	13,328,849	9,873,459	3,455,390	719,588
May	13,314,117	9,626,341	3,687,776	863,944
June	12,577,286	9,765,139	2,812,147	1,103,759
July	12,374,165	10,204,153	2,170,012	1,589,995
Aug.	13,109,753	9,901,123	3,208,630	608,908
Sept.	13,584,771	10,463,330	3,121,441	625,710
Oct.	15,682,780	10,596,945	5,085,835	*31,134
Nov.	15,023,088	11,624,616	3,398,472	1,859,420
Dec.	15,750,854	12,939,143	2,811,011	1,100,267
	$157,537,698	$123,035,310	$34,502,388	$12,043,631
Inc.	$ 5,148,363	$ 17,191,994	....	....
Dec.	....	....	$12,043,631	....

*Increase.

Approximate earnings for three weeks ended Jan. 21, $8,696,000, against $7,035,000 for same period 1918.

Grand Trunk Railway Earnings.

Jan. to	Gross. earnings.	Expenses.	Net. earnings.	Increases or Decreases.
June	$26,162,127	$25,855,560	$ 306,567	*$4,652,068
July	5,788,482	4,358,163	1,430,319	214,767
Aug.	6,106,006	4,325,751	1,780,255	656,719
Sept.	6,350,967	5,121,049	1,229,918	270,528
Oct.	6,352,428	5,168,531	1,183,897	321,907
Nov.	6,173,455	5,271,775	901,680	318,498
	$56,933,565	$50,100,829	$6,832,626	*$2,869,649
Inc.	10,422,043	13,291,692	....	....
Dec.	....	....	2,869,649	....

*Decrease.

Approximate earnings for December, $6,130,471, against $4,311,598 for Dec., 1917; and for two weeks ended Jan. 14, $2,033,209, against $1,428,642 for same period 1918.

An Overloading of Passengers Case.—The Niagara, St. Catharines & Toronto Ry. and two of its conductors were charged before the St. Catharines, Ont., Police Magistrate on Jan. 8 with breaches of the board of health's regulations, by carrying more passengers than seats were provided for in the cars. The company's solicitor, in defence, urged that the company was incorporated by the Dominion Parliament, that all its cars ran through other municipalities as well as St. Catharines, which was the only restricted area, and that as common carriers the company was obliged to carry all passengers offering, whether there was sitting room or not. A local report of the case adds that it was also contended that the board of health's order was not directed against the steam railways operated in the city, and therefore was discriminatory. The magistrate dismissed the case.

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Railway Finance, Meetings, Etc.

Boston & Maine Rd. shareholders voted Jan. 9 by a large majority to adopt the plan for a reorganization of the system endorsed by the directors and by Hon. W. G. McAdoo, while Director General of U.S. Railroads. The specific proposal voted on was the adoption of an agreement consolidating a number of small lines with the B. & M. Rd. Co. One of the lines so consolidated is the Concord & Montreal Rd., part of the route between Boston and Montreal.

Canadian Northern Ry.—It was reported in New York, Jan. 22, that the $7,500,000 of C.N.R. equipment trust 6% gold certificates, Series B, placed on the market recently, had been oversubscribed. The bonds were offered at a price to yield 6¼%.

The Dominion Securities Corporation is making an issue of Canadian Northern Western Ry. Co. 4½% first mortgage coupon bonds at a price to yield 5¼%. These bonds are issued by the Canadian Northern Western Ry. Co. (Canadian Northern Ry. System), under its trust mortgage of June 22, 1912, and supplementary mortgage of April 8, 1913, and are a direct first mortgage lien at various rates from $13,000 to $20,000 a mile on certain branch lines in Alberta, which province has unconditionally guaranteed payment of principal and interest. The entire capital stock of the Canadian Northern Ry. System is owned by the Dominion of Canada, and the road has been merged with other roads owned by the Dominion into the Canadian National Railways, thus in effect placing the credit of the Dominion of Canada behind these securities, in addition to the guarantee of the Province of Alberta.

Canadian Northern Ry.—There has been deposited with the Secretary of State at Ottawa, a duplicated of a trust mortgage dated Oct. 22, 1919, made between the C.N.R. and Lloyd's Bank, London, Eng., and the King, securing an issue of 5% guaranteed secured gold notes of the company.

Timiskaming & Northern Ontario Ry.—

	Nov., 1918	Nov., 1917
Passenger revenue .	$ 47,198.91	$ [illegible]
Freight revenue . ..	151,9[illegible]	116,[illegible]
Total revenue. .	202,121.25	[illegible]

White Pass & Yukon Route.—The earnings from Jan. 1 to Sept. 30, 1918, were $645,687, against $570,127 for same period 1917.

Freight and Passenger Traffic Notes.

The C.P.R., on Jan. 6, began the operation of its Waltham Subdivision trains into the central station at Ottawa, instead of into the Broad St. station as theretofore.

The privilege heretofore granted to Dominion civil servants of certificates enabling them to travel at half fare on Canadian Government Railways has been withdrawn.

From Jan. 2, inbound and outbound freight theretofore handled by the National Transcontinental Ry. sheds at Winnipeg is being handled at the Canadian Northern Ry. freight sheds.

The traffic carried over the Quebec bridge during 1918 is reported to have included 10,000 loaded freight cars, 11,[illegible] empty freight cars, and 3,644 passenger cars in 860 regular trains.

A. R. Mainer, a C.P.R. employe at Piapot, Sask., was fined $5 and costs at Moose Jaw, Sask., Jan. 7, for stealing railway tickets from the company. Mrs. Mainer was detected in an attempt to travel to Quebec on a stolen ticket, and Mainer, when arrested, had another one in his possession.

Passenger service on the following C.P.R. branch lines in Alberta has been reduced to a one day a week train, as follows:—Irricana to Bassano, Thursdays, returning on Fridays; Suffield to Lomond, Wednesdays, returning Thursdays; Lethbridge to Manyberries, Tuesdays, returning Wednesdays.

The Canadian passenger associations withdrew the privilege granted to soldiers in uniform of buying return tickets at single fare rate, as from Jan. 1, for eastern Canada, and from Jan. 10 for western Canada. This special rate is now only available for hospital patients and convalescents, who must produce forms signed by the superintendent of the hospital on the roll of which they are carried.

Owing to a rock slide on the line connecting the C.P.R. and the Kettle Valley Ry. at Hope, B.C., the K.V.R. trains are being operated via Spences Bridge, and this will continue until the line is cleared. dian triangulation in the Juan de Fuca clearing of the line will not be undertaken until the summer.

The G.T.R. is reported to have applied to Connecticut State authorities for a lease of the state dock at New London, in order to increase its available docking space for overseas trade, the accommodation at Portland, Me., not being sufficient.

C.P.R. eastern passenger officials met in Montreal, Jan. 15, under the presidency of C. E. E. Ussher, Passenger Traffic Manager, for their annual conference, the following being present: F. R. Perry, New York; L. R. Hart, Buffalo; G. Clifford, Cleveland; E. F. L. Sturdee, Boston; H. E. Malone, Cincinnati; R. L. Elworthy, Minneapolis; A. L. Powell, Winnipeg; F. G. Chesborough, Atlanta; C. L. Williams, Pittsburg; M. G. Murphy, Detroit; S. J. Wall, Chicago; E. G. Sheahan, St. Louis; Max Enos, New York; C. B. Foster, W. H. Snell, A. O. Seymour, A. B. Calder and J. M. Gibbon, Montreal.

The June Mechanical Conventions.—At a recent meeting of the executive committees of the American Railway Master Mechanics Association and the Master Car Builders Association, at New York, it was decided to hold the annual conventions at Atlantic City, N.J., as follows, the Master Car Builders Association, June 18 to 21, and the American Railway Master Mechanics Association, June 23 to 25.

Siberian Railway Control.—A press dispatch from Vladivostok Jan. 20 says that an inter-allied agreement for controlling the Siberian Ry. has been signed. The British control the line from Omsk to the front; the French control the [illegible] way, the Japanese the line from [illegible] to Chita and the United States control from [illegible] to Omsk, 3,000 miles. The administrative positions are filled by Russian and United States officials in equal numbers, and there are Russians only in the working staff. Major Stevens is Chief Administrator with Gen. Horvath as co-director. The United States is to guard the line. Cars and locomotives are being supplied from America. Great work shops are being opened up in Vladivostok and every effort will be made to speed up operations.

The Future of Railways in the United States.

A statement made by Hon. W. G. McAdoo, Director General of U.S. Railroads, before the Interstate Commerce Committee of the United States Senate on Jan. 3, just prior to his retirement from that position, has been issued. It covers 48 closely printed pages, and reviews the result of the operation of U.S. railways from the time their operation was taken over by the Federal Government. The first section deals with a survey of the railway conditions as they existed from the autumn of 1916, when "the transportation stringency reached such a point that traffic was almost paralyzed through inability to dispose of it at destination," until the end of 1917, when, after "strenuous efforts and a larger degree of co-ordination than had ever before been attempted" in connection with the railway service, there was "on all roads a total of nearly 145,000 cars accumulated on account of the congestion which prevailed in the territory east of Chicago and St. Louis and north of the Ohio and Potomac in excess of the normal movement." Control of the lines was taken by the Federal Government Dec. 28, 1917. During the year that has elapsed there had been put into operation such plans as were deemed necessary for the cutting out of all unnecessary traffic; for the co-ordination of routes, so as to compel traffic to be carried by the shortest route direct to destination; the use of all terminal facilities in common; the pooling of repair shops, and numerous other reforms which only the unification of control of all the railway systems of the country could permit. The putting in force of these plans under general orders not only cleared up the congestion of traffic that was found to exist at the end of 1917, but permitted the carrying to the seaboard of immense quantities of supplies for Europe and the transportation of over 6,000,000 troops within the country.

The most important section of the statement is that devoted to changes inaugurated during 1918, many of which, it is claimed, should prove of permanent value, and which it is recommended should continue as far as possible whatever form of control is decided upon. These changes are: The maintenance of the permit system, so as to control the traffic at its source; the maintenance of heavy loads for cars; the pooling of repair shops; the elimination of circuitous routes; the unification of terminals; the maintenance of the sailing day plan; the consolidation of ticket offices; the utilization of universal mileage tickets; the standardization of equipment; the maintenance of the uniform freight classification introduced by the U.S. Railroad Administration; the maintenance of common time tables between important points; the maintenance of high demurrage rates and uniform rules; the establishment of through waybilling freight from point of origin to destination; rendering unnecessary the rebilling by connecting or intermediate routes; the elimination of the old practice of paying mileage or per diem rental for the use of freight or passenger cars of one carrier by another; the simplification of the old practice of apportioning interline passenger revenue; and the utilization of water routes for the relief of crowded rail lines.

The permit system prohibits the loading of traffic, in the absence of an assurance that it can be disposed of at destination. Under the heavier loading system in use during 1918 the average train load was increased from 655 to 682 tons, and the average car load from 26.8 to 29 tons, resulting in producing 1.9% more ton miles, with a decrease of 2.1% of train miles and a decrease of 5.8% of loaded car miles. The experience of the year showed that, due largely to the co-ordination of shop work, there had been an average increase of 20.93% each week in the number of locomotives receiving classified repairs. By re-routing freight a total of 16,863,633 car miles were saved in eastern and northeastern regions, and in the ore trade from Minnesota and Michigan mines to Lakes Superior and Michigan ports, 64,770 loaded and empty cars were rerouted, saving 3,577,464 car miles. A table showing 24 old routes, covering 15,764 miles, is given, together with the new routes, covering 11,203 miles. Information is also given as to the other changes which it is urged should be continued.

Questions affecting rolling stock, for which $656,943,745 was authorized; of betterments for which $531,925,525 was authorized, and of new construction, for which $46,421,888 was authorized, are discussed. Labor matters and questions affecting public convenience are also dealt with, as well as water routes.

The concluding section deals with the future, and recommends that the government should continue to exercise control over the lines for five years, in order that the value of the fundamental changes outlined should be fully tested.

The Interstate Commerce Commission's Recommendations.

At another sitting of the Senate's Interstate Commerce Committee, E. E. Clark, one of the Interstate Commerce Commissioners, presented an alternative to Mr McAdoo's plan for a five year extension of government control. A majority of the Interstate Commerce Commission considers that the 21-month period intervening between the signing of the peace treaty and the return to private ownership affords sufficient opportunity for readjustment before the roads are turned back by the government. Mr. Clark said, among other things:—"Considering and weighing as best we can all of the arguments for and against the different plans, we are led to the conviction that with the adoption of appropriate provisions and safeguards for regulation under private ownership it would not be wise or best at this time to assume government ownership or operation of the railways of the country."

He also stated that it seemed obvious that no plan of private ownership should be considered unless it be under broadened, extendd eand amplified government regulation. He said that comparatively few contracts for compensation had been perfected between the transportation companies and the government. Return to private ownership and operation should, therefore, not be understood as meaning precipitous return. A reasonable period of readjustment or preparation should be afforded, and reasonable notice given that upon a given date the properties would be restored to their owners.

Commissioner Woolley dissented from part of the report and gave a number of reasons why he favored the extension plan proposed by Mr. McAdoo, saying that the good accomplished far outweighed the shortcomings and was a promise of better things for the future, and that the proposal to return the railways to private control had not been productive of any concrete plan which would carry the undertaking safely over the breakers obviously ahead.

The Interstate Commerce Commission reiterated its recommendations, made last year, that the presidential power to merge lines during war or peace should be continued, that railway construction should be limited to works of necessity, and that inland waterways should be developed and co-ordinated with the railways.

The Railway Companies Managements' Position.

At a meeting in Philadelphia Jan. 5 the Association of Railway Executives, of whose standing committee T. De Witt Cuyler is chairman, unanimously adopted a plan calling for the creation of a Department of Transportation, headed by a Secretary of Transportation, who would be a cabinet officer and to whom would be transferred the administrative functions now performed by the Interstate Commerce Commission. Among other principles for an elaborate revision of existing railroad control legislation, the plan includes the following:

Private ownership, management and operation should, as a matter of national policy, be continued.

The power of regulation, including all rates, state or interstate, should be exclusively in the hands of the Federal Government, but administered through machinery or agencies responsive to the needs of and convenient to the people of the several states.

The carriers should have the power to initiate rates. The statute should provide the rule of ratemaking, and should require that rates be not only what has been called reasonable, but adequate and sufficient. Rates, whether approved or disapproved by the Secretary of Transportation, should by complaint be brought before the Interstate Commerce Commission, which should have power to pass upon their reasonableness and adequacy. The Interstate Commerce Commission should have power to prescribe minimum rates as well as maximum rates.

Other provisions were submitted covering in detail the questions of rates and the required modification of the Clayton Act, the control of securities and a system of federal incorporation.

Traffic Orders by Board of Railway Commissioners.

Diversion of Carload of Beans.

28045. Jan. 21. Re complaint of Universal Importing Co., Montreal, against refusal of C.P.R. to divert a carload of daifuku beans ex steamer Chicago Maru from Victoria wharf to New York: Upon hearing the complaint Jan. 17, in the presence of counsel for C.P.R., no one appearing for the complainant, and what was alleged, it is ordered that the application be dismissed.

Hudson Heights Commutation Tickets.

28046. Re complaint of John Barrett, Montreal, that C.P.R. refuses to sell monthly commutation books containing less than 55 tickets, between Montreal and Hudson Heights, Que.: Upon hearing the complaint at Montreal, Jan. 16, in the presence of counsel for the railway, the complainant appearing in person, and what was alleged, it is ordered that the complaint be dismissed.

Canadian Pacific Railway Construction, Betterments, Etc.

Betterments in 1918.—Following are particulars of the principal works done last year:—

On the main line tracks over 3,685,000 ties were renewed, and 460,000 tie plates, and 64,100 rail anchors were inserted.

A large amount of track has been reballasted in gravel and crushed rock. In the New Brunswick district the portion of the line between Fairville and West St. John was double tracked.

The bridge and culvert work consisted of the necessary repairs and a few renewals, and was confined principally to standard bridge work, or the reinforcing of second-hand bridge material.

On the line between Leaside Jct. and North Toronto on the double track work, the large reinforced concrete viaducts over the reservoir ravine were completed.

Interlocking and extension of block signals and changes of this character were carried out at a number of essential points and about 20 miles of automatic signals between Guelph Jct. and Guelph, Ont., were installed.

At Delson, Kemoka and Fairville, the interlockers were reconstructed and the plant at Delson was equipped with track circuit locking.

A number of crossing bells and gates were erected at various points, as well as interlocked signals and derails.

Mechanical time locks on electric approach or route locking were applied to all interlocking plants.

At a number of terminals, the facilities for handling locomotives were extended and increased by making additions to the shops, locomotive houses, coaling stations, water towers, machine and boiler extensions, housing and rest accommodation for the men and storage for materials, etc.

At St. John, N.B., the freight sheds were extended and alterations and additions made, the cold storage plant was also improved, and the amount of freezing space was largely increased.

At Outremont, Que., an additional 5-stall extension and a large machine shop was added to the locomotive house, including a 2-track depressed ash pit and a water supply tank. At Sortin a large coaling station was erected and the water facilities improved. At Sherbrooke an extension to 5 stalls was built to the locomotive house.

At John St., Toronto, a 7-stall addition was added to the locomotive house, as well as a larger machine shop; in addition, the old house was extended and partially rebuilt. At this point also the coaling station was remodelled and a new addition built to serve 4 tracks. An administrative building was erected at the west end of the present freight shed for the accommodation of the locomotive and clerical staff.

A number of terminal renewals and improvements were made on the Manitoba district at Fort William and Winnipeg. These consisted principally of general repairs, including some track work.

In the British Columbia district a transfer slip was completed at Vancouver. At Field accommodation was provided for a Y.M.C.A. building.

Western Lines Work for 1919.—D. C. Coleman, Vice President, Western Lines, gave out a statement at Winnipeg, Jan. 22, as to the betterments projected for the western lines for this year.

"The company will continue to follow the policy of making timely and prudent provision for the continually expanding traffic in western Canada, and for the maintenance of the property in the best possible manner.

"The work to be done on bridges will be most extensive. The most interesting work of this nature to be undertaken will be the replacement of the bridge over the Assiniboine River at St. James, and the filling of the great structures over Scissors Creek and Bear Creek on the Neudorf line and the large bridge over the Battle River at Hardisty.

The usual generous provision is made for ballasting, steel replacements and improvements to the road bed.

"The programme as to new lines cannot be determined until certain surveys now being made are completed, and until certain legal formalities are complied with, but an announcement on this point will be made before spring.

"New station buildings will be erected at Harding, Marchwell, Schwitzer, Rutland and Dafoe.

"The locomotive houses at Weyburn, Moose Jaw and Cranbrook will be extended and the locomotive house at Sirdar, B.C., will be rebuilt.

"Coaling plans will be built at Raith, Ont., and North Bend, B.C.

"Additional trackage for handling train movements will be provided at High Bluff, Rosser, Fusilier, Stephen, Melita and Rosstown and extensions made to terminal trackage at Portage la Prairie, Revelstoke and Vancouver.

"Locomotive boiler washout plants of the most modern design will be installed at Medicine Hat and Revelstoke.

"To accommodate the largest type of locomotives, new turntables will be installed at Moose Jaw, Field and Revelstoke.

"A permanent concrete floor will be placed in the stock yards at Fort William, and improvements will also be made in the stock yards at Moose Jaw.

"At Winnipeg station the temporary wooden platforms in the train shed, which were put into service until the fill had reached its permanent location, will now be replaced with permanent mastic platforms.

"Very extensive improvements will be made at Winnipeg Beach with a view to giving better accommodation to bathers and picnickers. These improvements include the erection of a new power house, new bathing houses and the removal to a new site and re-erection of a number of the present buildings, and it is expected that the change will greatly promote the amenities of the pleasure resort.

"At Regina additional paving will be done in the local yards to permit more convenient teaming of freight, and there will be improvements made in the ash pit facilities to provide for the more prompt handling of locomotives.

"The station at Moose Jaw having proved inadequate for the traffic handled there, plans are in preparation for a new building, and work will be done in the local yards to permit more convenient teaming of freight, and there will be improvements made in the ash pit facilities to provide for the more prompt handling of locomotives.

"The interior of the station at Medicine Hat will be remodelled to give better accommodation for the public.

"The lining of Connaught tunnel with concrete will be continued.

"An additional transfer barge will be built for Okanagan Lake and an additional car slip provided.

"At Vancouver, the construction of a new ocean pier will be undertaken and the necessary plans are being made. When these are completed the work of dredging and filling will be started immediately."

A press report says that about $6,500,000 will be spent on the betterments mentioned above and that the appropriation does not include any for the construction department, but that anything spent on new lines will be additional.

Manitoba & Northwestern Ry.—The Dominion Parliament is being asked to authorize the company to build a line from its Shell River branch in Tp. [illegible], Range 28, west of the 1st Meridian, northerly to Tp. 25, Range 28, west of the 1st Meridian, Man.

Branch Lines in Saskatchewan and Alberta.—The company is applying to the Dominion Parliament for authority to build the following railways: From Duchess, on the Bassano easterly branch, in Tp. 20, Range 14, west 4th Meridian, northerly to Tp. 25, Ranges 14, 15 or 16, west 4th Meridian, Alta.; from Archive, on the Moose Jaw southwesterly branch, in Tp. 15, Range 27, west 2nd Meridian, southwesterly and westerly to Wymark on its Swift Current southeasterly branch, in Tp. 13, Range 13, west 3rd Meridian, Sask.; from Fortune or [illegible], on the Moose Jaw northwesterly branch, in Tp. 30, Ranges 1 or 2, generally southerly for 50 miles, thence easterly for 30 miles to Tps. 20, 21 or 22, Range 10, west 3rd Meridian, Sask.; from the Weyburn-Sterling line in Tp. 7, Range 29, west 2nd Meridian, southerly to Tp. 5, Range 30, thence westerly to Range 7, west 3rd Meridian, Sask.; from Lanigan, on the Pheasant Hills branch, in Tp. 33, Range 22, west 2nd Meridian, generally northeasterly between the Carrot and Saskatchewan Rivers, and on to Cumberland House, Sask.; from Leader, on the Swift Current northwesterly branch, generally northwesterly for 30 miles, thence generally easterly to Big Stick Lake, in Tp. 16, Rnage 25, west of 3rd Meridian, Sask.; from the Manitou Lake branch in Tp. [illegible], Range 21, west of 3rd Meridian, northwesterly to Whitford Lake, Tp. 56, Range 11, west of 4th Meridian.

Saskatchewan Division.—A press report of Jan. [illegible] stated that an engineering party started work on the previous day upon a survey for a line from Wymark to Buttress, Sask. Wymark is situated at mileage 17 on the line from Swift Current to Vanguard, and Buttress at mileage 16, on the line from Moose Jaw to Assiniboia, on the Weyburn-Lethbridge line. The distance between the two points is approximately [illegible] miles and the route is almost straight easterly. It is reported that the party will also survey a route for an extension of the Swift Current-Vanguard line from the present terminus to another point on the Moose Jaw-Assiniboia line.

D. C. Coleman, Vice President, Western Lines, was in Regina Jan. [illegible], and is reported to have said that two surveys through the district had been made previously, and that a third survey was then being made, the terminal points being Wymark and Buttress. He was not in a position to say what line would be adopted, or whether there would be any construction this year.

Yahk to Meadow Lake, B.C.—We are

officially advised that the company is building a small line from Yahk to Meadow Lake, B.C., to get out ties. The purchase by the company of an additional 17 square miles of timber area for its timber reserve in that district was mentioned in Canadian Railway and Marine World for January, pg. 18.

A press report states that the line is to be 12 miles long, and is to form part of a cut-off between Yahk and Elko, which would reduce the mileage between these two points from 85.5 miles to almost an air line of 46 miles. The suggestion is made that the line will connect up with the Waldo branch; and that it would give easier gradients than the existing Crows Nest Pass line. The press report also states that Jones and Doris, Cranbrook, B.C., are erecting the bunkhouses, etc., for the construction gangs.

Transfer Slip on Burrard Inlet.—Plans have been deposited with the Minister of Public Works at Ottawa, showing the location, etc., of a new transfer slip, on the south shore of Burrard Inlet, Vancouver. The plans show that this slip will be constructed slightly west of the prolongation of Thurlow St. The trestle leading to the apron will be 210 ft. long and 45 ft. wide, supported on creosoted piles. The apron is to be 70 ft. long, and will be composed of 6 deck trusses, with top cord and wooden posts. A contract for the work has been let and it is expected to have the slip ready for the operation of the company's barge traffic this year. (Jan., pg. 13.)

Railway Location and Terminal Question in Hamilton.

The city of Hamilton, Ont., appealed recently to the Dominion Government against two Board of Railway Commissioners' orders affecting that city. One of the orders appealed against authorizes the Toronto, Hamilton & Buffalo Ry. to expropriate some city property for the extension of its Kinnear yards, and the second authorizes the same company to lay down four additional tracks across Selby Ave. The appeal was heard Jan. 22, the City of Hamilton being represented by F. R. Waddell, city solicitor, and Wallace Nesbitt, K.C.; the Toronto, Hamilton & Buffalo Ry. by F. H. Phippen, K.C., and E. D. Cahill; Hamilton manufacturers by S. D. Biggar, K.C., and Canadian National Railways by E. W. Oliver. The government reserved its decision.

The two appeals referred to form only a part of the matter in which the City of Hamilton is interested. The city desires a thorough reconstruction and rearrangement of the railway lines, according to the Tye-Cauchon plan, described in Canadian Railway and Marine World, Sept., 1917, pg. 342, and all its efforts since that date have been directed to get this plan adopted by the railways. Some additional factors have been introduced into the situation recently, owing to the purchase of the Canadian Northern Ry. by the Dominion Government, and an application, which it is reported will be submitted to Parliament by the Hydro-Electric Power Commission of Ontario for power to build an electric railway from Toronto via Hamilton to the Niagara frontier. A suggestion is made that the Railway Act should be amended to give the Board of Railway Commissioners power to order the building of joint railway lines and terminals in any city.

F. R. Waddell, K.C., City Solicitor, is reported to have said, on his return from Ottawa, that he got the impression that the government believes the time has arrived to take over the Grand Trunk Ry., which would make it unnecessary to build a Canadian Northern Ry. line through Hamilton,

Orders By Board of Railway Commissioners for Canada.

Beginning with June, 1904, Canadian Railway and Marine World has published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed the paper have a continuous record of the Board's proceedings. No other paper has done this.

27950 to 27953. Dec. 24. Rescinding clause 3, order 25980, Mar. 30, 1917; clause 2, order 25576, Oct. 27, 1916; order 26887, Jan. 3, 1918, and clause 2, order 27128, Apr. 17, 1918, respecting interswitching, which conflict with general interswitching order 252, Oct. 26, 1918.

27954. Dec. 20. Approving agreement between Bell Telephone Co. and Tara Keady Telephone Association, operating in Bruce and Grey Counties, Ont.

27955. Dec. 20. Authorizing C.P.R. to build spur for A. L. Florence & Son, Ottawa, Ont.

27956. Dec. 24. Approving Canadian Northern Ry. plan showing additional derails to be installed at crossing of Montreal Terminal Ry., Longue Pointe, near Montreal.

27957. Dec. 23.– Authorizing Saskatchewan Highways Department to build highway crossing over C.P.R. near Coalpole, Sask.

27958. Dec. 23. Relieving C.P.R. from providing further protection at crossing at Pickerel Road, Scugog, Ont.

27959. Dec. 26. Authorizing Grand Trunk Pacific Ry. to operate over C.P.R. crossinrgs at Weyburn, Sask., until June 1, 1919, pending installation of interlocking plant.

27960, 27961. Dec. 26. Approving Bell Telephone Co. agreements with St. Marys, Medina and Kirkton Telephone Co., Huron, Perth, Middlesex and Oxford Counties, Nov. 4; and Elmsley South Rural Telephone Co., Leeds adn Lanark Counties, Ont., Dec. 7.

27962. Dec. 27. Authorizing City of Ladysmith, B.C., to make highway crossing over Esquimalt & Nanaimo Ry. north of Ladysmith station.

27963. Dec. 27. Extending to Mar. 27, 1919, time within which C.P.R. is required to install automatic bell at crossing of Main St., west of Morse, Sask.

27961. Dec. 28. Amending order 28706, Oct. 30, re crossing of C.P.R. by Calgary Power Co., just east of bridge over Kananaskis River, Alta.

27965. Dec. 26.—Authorizing C.P.R. to build spur for Northwestern Milling & Export Co., Moosomin, Sask.

27966. Dec. 28.—Authorizing Town of Welland, Ont., to rebuild bridge over Welland River.

27967. Dec. 28. Authorizing Canadian Northern Ry. to cross surveyed road between Secs. 22 and 15, Tp. 12, Range 6, west 3rd Meridian, Sask.

27968. Dec. 28. Authorizing C.P.R. to build extra track at grade (third track) across roadway at Loreburn, Sask.

27969. Dec. 30. Authorizing G.T.R. to build spur for Canadian Blower & Forge Co., Kitchener, Ont.

27970. Dec. 28.—Authorizing Saskatchewan Government to build highway crossing over C.P.R. station grounds, at Strongfield.

27971. Dec. 30. Authorizing C.P.R. to cross road allowance between Lots 5 and 6, Cons. 3 and 4, Paipoonge Tp., Ont.

27972. Dec. 28. Authorizing Canadian Northern Ontario Ry. to build spur for Spanish River Pulp & Paper Mills, Ltd., Champagne Tp., Ont.

27973. Dec. 30. Authorizing C.P.R. to build extension to spur for Imperial Oil, Ltd., Lethbridge, Alta.

27974. Dec. 30.—Authorizing Canadian Northern Ry. to build spur for Imperial Oil, Ltd., Rosetown, Sask.

27975. Dec. 28.—Authorizing Canadian Northern Ry. to build spur for Spanish River Pulp & Paper Mills, Ltd., Dana Tp., Ont.

27976. Dec. 30. Authorizing G.T.R. to build spur for McClary Mfg. Co., London, Ont.

27977. Dec. 30. Authorizing Alberta Government to build highway crossing over C.P.R. in s.w. ¼ Sec. 7, Tp. 8, Range 5, west 5th Meridian.

27978. Dec. 30. Approving Canadian Northern Ry. revised location from Lot 5, Block 48, to connection with Grand Trunk Pacific Branch Lines Co.'s track in Lot 21, Block 39, Moose Jaw, Sask.

27979. Dec. 31. Ordering C.P.R. to install automatic bell at Dechenes crossing, near Dechenes, Que.

27980. Jan. 3. Relieving C.P.R. from providing further protection at crossing at mileage 17.8, Aldersyde Subdivision, Alta.

27981. Jan. 2. Authorizing C.P.R. to build spur for Crane, Ltd., Montreal Parish, Que.

27982. Jan. 2.– Approving plans and specifications of Clark award drain under C.P.R. in Harwich Tp., Ont.

27983. Jan. 3. Authorizing Toronto, Hamilton & Buffalo Ry. to build spur for Robert Laidlaw and Oakland Sand & Gravel Co., near Brantford, Ont.

27984. Jan. 3.–Authorizing Canadian Northern Saskatchewan Ry. to cross and divert surveyed road in s.e. ¼ Sec. 14, Tp. 12, Range 6, west 3rd Meridian, Sask.

27985. Jan. 3.—Authorizing Canadian Railway to build spur for Roundhill Collieries Co., Round Hill, Alta.

27986. Jan. 2. Authorizing Canadian Northern Ontario Ry. to build spur for Spanish River Pulp & Paper Mills, Ltd., Champagne Tp., Sudbury District, Ont.

27987. Jan. 7.—Relieving G.T.R. from making connection with C.P.R. at Inglewood Jct., Ont., as called for by order 27691, Sept. 16, 1918, it appearing that time table changes effective Jan. 5 will better suit the travelling public.

27988. Jan. 7.—Authorizing G.T.R. to build spur for E. Long Mfg. Co., South Orillia Tp., Ont.

27989. Jan. 7.—Authorizing G.T.R. to build spur for Dominion Oilcloth Co., Montreal

27990 —Jan. 8.—Authorizing Canadian Northern Ry. to cross Moose Jaw Electric Ry. on Athabasca St., Moose Jaw, Sask.

27991. Jan. 8.—Authorizing Granby Consolidated Mining, Smelting & Power Co. to build three entries under Esquimalt & Nanaimo Ry. near Cassidy Station, B.C.

27992. Jan. 8.—Authorizing G.T.R. to build spur for Lang Tanning Co., Kitchener, Ont.

27993. Jan. 8.—Authorizing Saskatchewan Government to make crossing over Grand Trunk Pacific Ry. at Ruthilda, Sask.

27994. Jan. 8.—Authorizing C.P.R. to cross 12th St., Regina Beach, Sask.

27995. Jan. 8.—Drdering C.P.R. to pay cost of timber bents and sills supporting bridge at Washington St., Rossland, B.C., cost of stringers and other parts of superstructure and approaches to be paid by the city.

Eastern Canadian Passenger Association Officers, Etc.

The following officers and committees were elected at the association's annual meeting in Montreal, Jan. 7:—

Chairman—A. J. Parr.

Executive Committee—R. I. Fairbairn (chairman), W. S. Cookson, W. H. Snell, J. F. Pierce.

Rules Committee—Jas. Morrison (chairman), W. Maughan, C. W. Johnston, J. W. Hanley, R. F. Hill, N. J. Ferguson, S. F. Palmer, F. T. Grant, G. D. Wadsworth.

General Baggage Agents' Committee—L. L. Grabill (chairman), G. C. Allen, R. I. Fairbairn, C. C. Bonter, J. O. Apps, H. P. Dearing, W. M. Skinner, A. E. Plumer.

Secretary—G. H. Webster.

Montreal-St. Helens Island Bridge.—The project for the construction of a bridge across the St. Lawrence River, between the Harbor Commissioners' wharf, Montreal and St. Helens Island, and thence to the south shore, is being revived. The estimated cost is $5,000,000. A delegation of south shore residents waited on the Montreal Harbor Commissioners recently and were advised as to the work which it would be necessary to have done in Montreal in order that such a bridge could be built. The commissioners said the same support would be given the project as was promised formerly. On the invitation of the Mayor of Longueuil, a conference of municipalities was called to be held there Jan. 13, to appoint a delegation to go to Ottawa and discuss the project with the Dominion Government. The proposed bridge would provide accommodation for steam and electric railway, as well as for pedestrian and vehicular traffic.

New Railway Construction. — Hon. Arthur Meighen, Minister of the Interior, is reported to have announced, at a board of trade dinner in Winnipeg, on Jan. 22, that the Dominion Government would expend $60,000,000 on new railway work during this year.

Canadian Transportation Men, Engineers, Etc. in the War.

The Canadian Railway Troops' operations in the field on the western front, during the British advance just prior to the armistice, were of the utmost importance in connection with the advance, and a summary of the work received by the Militia Department deals with this feature up to the signing of the armistice.

During November the Canadian Railway Troops laid 308 miles of track which was in the area evacuated by the enemy and necessary to aid in the advance, for the forwarding of food and other supplies. It was necessary in that time to repair 300 miles of grade. To perform this work there was a force of 6,783 men of the C.R.T., aided by 9,980 men attached from other units, a daily working force of 16,763 being employed on railway work under Canadian direction. In addition to this force, there were employed for maintenance duties 1,309. The care of narrow gauge lines required 1,231 men for construction and 1,358 for maintenance. In all a force of 20,661 men were required to further the Canadian Railway Troops' activities.

A mule tram drawing ammunition, on a light railway, behind the Canadian lines at Vimy Ridge. Canadian Official War Photograph. Copyright reserved.

The report on the work for November says that at the beginning of the month, while the enemy was retiring very rapidly and was being hard pressed by our advancing troops he yet managed to carry out a very systematic demolition of railway lines and bridges. In order to cope with this, all the battalions of the C.R.T. with the exception of a few small detachments, were concentrated on standard gauge reconstruction work, for the most part in the area between Le Cateau and Turcoing.

Dealing with the action of the enemy, the report says:—"The enemy, in his retirement, used three methods in the demolition of railways: first, by the use of a track destroyer, which tore up the rails and bunched the ties together in such a manner that to relay the track it was necessary to remove the rails from the ties, lift the ties, take out the ballast, and then relay ties and steel and reballast. The second method employed was to blow out every other joint on each track. In this way one end of each rail was damaged, and before it could be used again it was necessary to cut and redrill the damaged end. The third method was to place mines in the grade about 100 yards apart. These mines, which sometimes took the form of heavy trench mortar or aeroplane bombs, caused large craters in the grade and the track and ties surrounding the crater were absolutely demolished.

"In some instances the enemy used all three methods, while in others apparently there was only time to use one method. Continual difficulty was experienced with delay-action mines. These had been placed in important places, such as road crossings, bridge abutments, culverts, etc., and the repairing of the track, clearing away the debris and rebuilding the bridges, entailed very heavy work. A considerable amount of time and expense was saved by salving material from damaged steel bridges and using it for reconstruction. Broken girders were taken out by the use of oxy acetylene welders. Temporary abutments were placed, and trestle piers made to receive the shortened girders, the remaining part of the spans being made up of timber."

The report mentioned that all the gaps in the required standard gauge lines had been completed up to undestroyed lines in the territory recently occupied by the Germans.

PERSONAL NOTES.

Brig.-Gen. C. J. Armstrong, C.M.G., has been created a Companion of the Bath. He volunteered on the outbreak of war, and went over with the first contingent as colonel in command of the Canadian Engineers. He was promoted to brigadier general and after receiving severe injuries in a railway accident which kept him in hospital 19 months, he was attached to the Imperial forces. He is now Chief Engineer of the Seventh Army Corps, and in charge of the repair and reconstruction of canals in Belgium and France. He also saw service in South Africa.

Lieut. L. H. Biggar, 42nd Battalion, C.E.F., who has been awarded the Military Cross, is son of W. H. Biggar, K.C., Vice President and General Counsel, G.T.R. and Grand Trunk Pacific Ry., Montreal. He went overseas in 1916, and was shell shocked at Passchendaele in Oct., 1917, and returned to France in Feb., 1918, as Chief Signal Officer, 42nd Battalion, and subsequently took a first class army signalling course, passing with distinction. He was a member of the party entering Mons with the advance guard, on its relief immediately prior to the signing of the armistice, and is one of the few Canadian officers who signed what is known as the Gold Book there. His brother, Capt. W. H. Biggar, is also overseas.

Corporal W. Holohan, Railway Construction Corps, has been awarded the Distinguished Conduct Medal. He and another corporal were responsible for work in connection with the mounting of 7.5 guns in an area continually subjected to heavy bombardment. He displayed great courage, during an arduous time, and although slightly gassed on several occasions, remained at work with his unit, and worthily upheld the fine traditions established by the overseas troops.

Serg. A. E. Lang, Canadian Railway Troops, has been awarded the Distinguished Conduct Medal, for conspicuous gallantry and devotion to duty, in supervising the construction of standard gauge railway in the forward area. On one occasion nine men of his platoon were killed and nine wounded. He assisted his company commander, under very heavy shell fire, in removing the wounded to a place of safety. Perfect discipline was always shown by his platoon, while under shell fire, and during bombing raids, which were very frequent.

Com. Sergt.-Major J. J. McDonald, Canadian Railway Troops, has been awarded the Distinguished Conduct Medal. While engaged on night railway work the enemy suddenly opened an intense bombardment, which wounded five of his men and cut off two trains. He first rescued the wounded and got them under cover from the shell fire, then returned and repaired the broken track, but the two tractors of the train were so badly damaged that they could not work, so he and his party pushed the trains out of the shelled area. He then went on repairing the line, getting up material, etc., under constant shelling, with the utmost perseverance and determination.

Major H. R. Phipps, Canadian Railway Troops, has been awarded the Military Cross. During an advance, he made a difficult reconnaissance of the forward railway lines and supervised the repairing of breaks in the line under heavy shell fire. He later salved a tank, with a party of men, under heavy fire, and throughout the operations set a splendid example to his company.

Lieut. E. F. Roberts, Canadian Railway Troops, has been awarded the Military Cross. While the track were repeatedly being blown up by shell fire he, by his courage and untiring efforts, succeeded in repairing the breaks, and in evacuating a large quantity of valuable rolling stock, which the enemy was endeavoring to destroy. His skill and daring were entirely responsible for the work being completed.

Lieut. A. W. H. Smith, Canadian Railway Troops, has been awarded the Military Cross. He worked with his party for half an hour, under heavy machine gun fire, repairing a break on the line of his light railway, enabling the gas trains to reach their destinations and make the attack a complete success.

Capt. J. Balfour Thom, M.C., who returned to Canada during January, is a son of the late Jas. Thom, Manager of the Dominion and White Star Steamship Lines at Montreal. He went overseas in March, 1916, as a lieutenant in the 12th Field Co., Canadian Engineers, and served with that unit throughout.

Sergt. J. E. Walsh, Canadian Railway Troops, has been awarded the Distinguished Conduct Medal. On one occasion, when 200 ft. of light railway track was blown out by shell fire, and it was necessary to get it repaired at once, to allow ammunition trains to proceed, he volunteered to take a party to do the work, and although it was three times driven from the track by gas and high explosive shell fire, he succeeded in getting the line in running order in an incredibly short space of time.

Pte. H. C. Woodley, who was among the British prisoners released from German prison camps recently, is a son of R. H. Woodley, Travelling Passenger Agent, C.P.R., London, Eng.

Canadian Railway War Board's Work.

Embargoes Against Overseas Shipments.—The board issued the following statement Jan. 11:—A decrease of approximately 80% in the volume of overseas supplies, to be exported via Canadian ports during February, will militate against maintenance of the unexcelled record which the Canadian railways have made in the handling of freight for Europe during the past four years. On account of conditions existing on the other side of the Atlantic, it has been necessary for the government shipping authorities to ask the railways to make a heavy reduction in the deliveries of ocean freight at the Atlantic seaboard, and in order to avoid congestion and the tying up of thousands of freight cars, the board has been compelled to place embargoes against the general acceptance of overseas shipments. How long this embargo will continue depends entirely upon the rate of recovery from congestion at the European ports and authorization from the government to resume the normal movement. The board's reports show that there is now sufficient freight at the seaboard and in transit to meet all requirements of vessels arriving during January."

Joint Rail and Ocean Bills of Lading.—A number of enquiries have been received by the board with respect to the resumption of issuance of through joint rail and ocean bills of lading. The matter has been receiving the board's attention, and on account of the unsettled state of allotment of ocean space and sailings which will continue for some little time, it is considered that the present is an inopportune time to resume the practice. Member lines are requested, therefore, to refrain from resumption of issuance of through ocean bills of lading pending receipt of further notice from the board.

Opening and Closing Hours for Freight Sheds.—The board's circular 83, Oct. 1, 1918, indicated that, on account of the insistent demand of labor, including practically all classes of railway workers, for the 8-hour day, it became necessary, in the various processes of readjustment, to reduce the number of working hours per day for employes engaged in railway freight sheds. It was proposed, therefore, to establish standard opening and closing hours for railway freight sheds in Canada, 7.30 a.m. and 5 p.m. respectively, Mondays to Fridays, inclusive, and 7.30 a.m. and 1 p.m. respectively on Saturdays, thus making the total working hours per week 48, equivalent to 8 per day. Protests were received from a number of points to the effect that 5 p.m. closing is too early to enable merchants, in some instances, to fill orders received during the afternoon, and after a number of conferences of representatives of shippers and members of the board, it was agreed that in such circumstances the opening hour would be made 8 a.m., closing 5.30 p.m., Mondays to Fridays, and on Saturdays, 8 a.m. to 1.30 p.m. It is directed, therefore, that, effective Feb. 1, 1919, and until further notice, the following hours shall be observed for the receipt and delivery of shipments at railway freight sheds in Canada:—

General: Monday to Friday, inclusive, opening 7.30 a.m., closing 5 p.m.; Saturday, opening 7.30 a.m., closing 1 p.m.

At points where local business conditions are such as to make closing later than 5 p.m. essential: Monday to Friday, inclusive, opening 8 a.m., closing 5.30 p.m.; Saturday, opening 8 a.m., closing 1.30 p.m.

Investigations which have been conducted by the board at various points throughout the country indicate that, while the inauguration of the new hours may cause home slight temporary inconvenience to shipper or carrier, or both, at certain points, any such difficulties can be disposed of through the co-operation of the interested parties. It is hoped, therefore, that all concerned will lend their efforts to the successful operation of the revised arrangement.

Paper towels and drinking cups have as a general thing been substituted for the permanent articles in the principal passenger trains and stations. It has come to the board's notice, however, that the use of permanent towels and cups continues in many places, such as the smaller stations, railway offices, bunk rooms, etc. It is suggested to member lines that, in the general interests of safeguarding the health of both their employes and the public, the use of these articles on railway trains and premises be discontinued entirely and that paper towels and cups be substituted.

Patriotic and Relief Societies' Shipments.—On account of hostilities having ceased, a question has been raised as to whether the railways should continue to handle, free of charge, goods shipped on account of the several patriotic and relief societies enumerated in circular 67 of May 1, 1918. As the work of the several bodies in question continues, the Board recommends that the present arrangement remain in effect until April 1, 1919, when the matter will be presented for further consideration.

Return of Canadian Cars from the United States.—Arrangements having been made with the U.S. Railroad Administration, whereby cars of Canadian ownership forwarded to the U.S. will be returned promptly to Canada, instead of being placed in "pool" service in U.S. lines, instructions embodied in the board's circular 73, June 25, 1918, and supplement 1, July 18, 1918, are cancelled. Details of revised regulations to govern the interchange of freight cars as between Canada and the U.S., and the handling of cars of each country while on the railways of the other, are being worked out and will be issued in the near future.

Unauthorized Changes in Waybills.—Investigations which have been made indicate that delays, and, at times, misrouting of cars occur as a result of unauthorized changes being made in waybills. With a view of avoiding such defects in the service, it is desired that member lines place in effect and take steps to secure compliance with the following regulation:—"Alterations must not be made in car numbers and initials, nor in names of destinations, on waybills without first obtaining the sanction of superintendent of division, superintendent of car service, or other duly authorized officer, for such alteration. When change is made, name of station at which change is made, initials of officer authorizing, and initials of party making change must be noted on waybill."

Specifications for Railway Mail Cars.

The Board of Railway Commissioners passed general order 259, Jan. 13, as follows:—Re specifications for railway mail cars and the application by the Canadian Railway Mail Service Branch of the Post Office Department, for an order approving the same: Upon hearing the application at Ottawa, Jan. 7, in the presence of counsel for the Canadian Pacific, Grand Trunk, and Canadian Northern Railways, and the Michigan Central and the New York Central Railroads, the Controller of the Canadian Railway Mail Service representing the Post Office Department in person; and upon reading the representations filed on behalf of the department and the railway companies affected; and upon the report and recommendation of the board's Mechanical Expert, concurred in by its Chief Operating Officer, and its appearing that all interests have agreed to the adoption of the specifications filed as amended, it is ordered that the "Specifications for Mail Cars," dated Ottawa, May 22, 1918, submitted by the Canadian Railway Mail Service Branch, as amended and corrected and on file with the board under file 3083, be approved and adopted as the standard to be used by railway companies operating in Canada and within the legislative authority of the Parliament of Canada.

Mount Royal Incline Ry.—The Montreal Trades and Labor Council favors the municipal ownership of this incline railway and urges that the opportunity offered by the company's liquidation be taken advantage of for its purchase. Under the franchise the city has the option of taking it over on a fair value to be fixed by arbitration, and the city commission on Aug. 4, began enquiring into the matter.

Sir Eric Geddes has been appointed Minister without portfolio in the new British cabinet, and not Minister of Transportation as at first reported.

Railway Development, Projected Lines, Surveys, Construction, Betterments, Etc.

Alberta & Great Waterways Ry.—When tracklaying ceased at the end of 1916, steel had been laid to mileage 275, or about 18 miles short of the objective at McMurray. From the end of steel to the bank of the Clearwater River there is a drop of 300 ft. The right of way was graded along the side of the hill to the river's bank during 1917, and has since been allowed to settle. During 1918 there were some slides on the right of way, owing to asphalt beds, but these have been filled in, and in some cases trestle work has been put in. Tracklaying is now reported to be in progress, and it was expected to have rails laid to the river bank early in January. A Y is to be laid at this point for shunting freight cars, so as to permit of loading direct on to river steamboats on the opening of navigation. A press report further states that it is expected to have track laid into McMurray at any early date. The grading, it is reported, does not show any difficulties of construction, and only some small bridges will be required. At McMurray, the Clearwater joins the Athabasca River, on which there is clear navigation for 200 miles to Athabasca Lake, thence through the lake for 175 miles to the Peace River, and via the Slave River, Great Slave Lake and the Mackenzie River to the Arctic Ocean. (Jan., pg. 26.)

Athabasca & Grande Prairie Ry.—The Dominion Parliament is being asked to incorporate a company with this title to build a railway from the junction of the Solomon and Athabasca Rivers, northwesterly to the junction of the Smoky and Muskeg Rivers, thence by Bear Lake in the Grande Prairie district to Dunvegan, Alta. The company also desires to obtain powe rto operate steam and other vessels on navigable waters reached by its line, and various other powers incidental to the development of trade in the country through which it will pass. Barnard & McKeown, Montreal, solicitors for applicants.

Brunner, Mond, Canada, Limited.—Application is being made to the Ontario Legislature by Brunner, Mond, Canada, Limited, for power to construct and operate a tramway line across the 2nd concession road in Anderdon Tp.; a tramway line from the company's property on the 1st concession of Anderdon Tp. to the Detroit River; and also, subject to the consent of the Michigan Central Rd., to use as part of such tramway certain N.C. R. ways and tracks.

Calgary & Southwestern Ry.—We are officially advised that the directors are: President, P. Burns, Calgary, Alta.; Secretary, W. E. Corlet, Calgary; other directors: W. J. Wilson, Vancouver, B.C.; C. J. Duggan, Calgary; John Burns, Calgary. The company proposes to build a line from Calgary to the coal mining areas owned by P. Burns Coal Mine, Ltd., in Sheep Creek, Alta., about 60 miles southwest of Calgary. The line has been located and it is expected that approval of the location plans will be asked for shortly. In the meantime, the clearing of the right of way has been commenced in order to save the danger of forest fires in the summer. It is expected that grading will be started in the spring. A contract for the building of the line has been let to the Southwestern Construction Co., which is the title of the concern formerly known as the Great West Construction. Both these companies were incorporated under the Alberta Companies' Act in 1918. The directors are: P. Burns, J. Burns and W. E. Corlet, the first named being President, and the last named Secretary. (Jan., pg. 26.)

Canada & Gulf Terminal Ry.—The Quebec Legislature is being asked to extend the time within which the company may construct the proposed extension of its line at present in operation from Mont Joli to Matane, Que., 59 miles, to Gaspe Basin, 223 miles. The line has been in operation between Mont Joli, on the Intercolonial Ry., and Matane, since 1912.

Central Ry. of Canada.—Application is being made to the Dominion Parliament for an extension of time for the construction of this projected railway from near Grenville, Que., to Montreal, with a branch from St. Andrews to St. Clome, up the Riviere Rouge to Lake Rouge, and also a branch to connect with the Canada Atlantic Ry. at Hawkesbury, Ont. This line was authorized to be built in 1903 by the Ottawa River Ry., the powers of which, after an unfortunate financial the Central Ry. of Canada, a company which, after an unfortunately financial career, has been undergoing a dispersion of its assets.

Esquimalt & Nanaimo Ry.—The Dominion Parliament is being asked to authorize the company to build a line from between Port Alberni and Bainbridge, on the existing Parksville Jct.-Alberni line, northwesterly via Great Central Lake and the Ash River valley to Comox Lake, with a branch line from near Sproat Lake, via Sproat Lake and the Taylor River, to Long Beach on the west coast of Vancouver Island, B.C. (June, 1918, pg. 240.)

Grand Trunk Pacific Ry.—In reply to a question in the Saskatchewan Legislature Jan. 8, Hon. C. Dunning said:—"The time for construction lines authorized by guarantee of the province for the Grand Trunk Pacific Saskatchewan Ry. has been extended on application of the company to permit of construction during 1919. The government has no assurance that the lines will be built, the policy of the company being dependent upon whatever policy may be pursued by the Dominion Government respecting railway matters generally." (Jan., pg. 26.)

Hudson Bay Ry.—J. D. McArthur, the general contractor, is reported to have said in Winnipeg recently that he is ready to go on and complete the line from the Kettle Rapids of the Nelson River to Nelson on Hudson Bay, 90 miles, whenever the Dominion Government orders him to do so. He estimates that it would cost about $1,000,000 to complete the line. Grading has been practically completed, but there is still some bridge work to be done between the Kettle Rapids and Nelson. Track has been laid to the Kettle Rapids. (Jan., pg. 26.)

Kettle Valley Ry. A press report states that it is expected to have the line from Princeton to the Copper Mountain, B.C., mining area completed by June. It was hoped to have track laid on the first three miles to Allenby early in December, but the influenza epidemic held up the construction of the bridge across the Similkameen River, a mile outside Princeton. It is reported that the bridge construction is now in progress and that the tracklaying will be gone on with as speedily as possible. Considerable progress is reported to have been made with grading between Allenby and Copper Mountain (Oct., 1918, pg. 438.)

Lake Huron & Northern Ry.—The Ontario Legislature is being asked to extend the time within which this projected railway from Rock Lake, the northerly terminus of the old Bruce Mines & Algoma Ry., may be built further north, and also to extend the time within which it may place settlers on the land grant voted by the legislature in aid of construction.

The company was voted a grant of 200,000 acres on certain conditions, set out in an act passed by the Ontario Legislature in 1913. The right of way of the old Bruce Mines & Algoma Ry. was cleared up in 1914, and some clearing was done on the right of way for the extension from Rock Lake towards the National Transcontinental Ry. in 1914. During the winter of 1915 some attention was called to the company's affairs owing to its financial advertising, and in April, 1917, a motion was made in the legislature to end the contract, but was withdrawn on the government's assurance that the company's act would expire within a few months and that there need be no worry about any extension of it. The act referred to was assented to May 6, 1913, and the time within which the company could acquire the lands was four years.

A United States press report credits the company with having laid 68 miles of track during 1918, but we have been unable to verify this. (May, 1916, pg. 182.)

London, Ont., Yards.—London press dispatch, Jan. 23:—It is reported that the G.T.R. is about to undertake the reconstruction of London yards, the work to include the removal of the principal shunting area to the extreme east end, where a large territory is available with no street intersections. Plans have been prepared for the laying of 25 miles of tracks. It is said that the virtual abandonment of shunting over Egerton St. crossing, where many fatal accidents have occurred, will be one of the results of the new arrangement.

Magdalen River Ry.—The Quebec Legislature is being asked to authorize the company to change the location of a portion of its projected railway, as follows:—Starting from lot no. 47 of Saint Maxime-du-Mont Louis for about 4,000 ft., about 2,500 ft. being in the Magdalen River Seigniory, but not approaching the east bank of the Magdalen River nearer than 350 ft. The company is authorized to build a line along the Magdalen River valley to Little Falls, thence southerly and westerly to connect with the Atlantic, Quebec and Western Ry., and the Canada and Gulf Terminal Ry. at Gaspe, or any other point on either or both railways, and also has the power, if the railway is built to Gaspe, to build wharves, docks and other deep water terminals. J. Murphy, New Carlisle, Que., and Quebec, is Secretary. (Mar., 1918, pg. 98.)

Pacific Great Eastern Ry.—Speaking at a recent dinner given in his honor at Vancouver, the Premier of British Columbia is reported to have said the P.G.E.R. had been extended 30 miles during 1918, and it was the government's expectation and desire to extend it 150 miles farther during 1919. The future of the line would not be assured until connection was made with the lines from the prairie provinces, and this would be obtained through construction into the Peace River country.

In a recent article on the Peace River Valley, the Vancouver World referred to the probable route of the extension of the

P.G.E. Ry. to a junction with the Edmonton, Dunvegan & British Columbia Ry., at a point on the boundary between British Columbia and Alberta, a few miles north of the northeast boundary of the Peace River block. It said:—"There is every probability that, instead of leaving the valley of the Parsnip River, about 100 miles north of Prince George, the new road will follow on down the Parsnip to Finlay Forks, where the two big streams become the Peace, thence down the Peace through wonderfully rich mineral country to a point about 12 miles above the Rocky Mountain Canyon. At this point it would no doubt swing north to the forks of the Halfway River and thence east to the interprovincial boundary, connecting with the E.D. & B.C. Ry."

Quebec & Ungava Ry.—The Quebec Legislature is being asked to incorporate a company with this title to build a line, with such branches as may be necessary, from near Seven Islands in Saguenay County, northerly to Lake Menikek, thence westerly or northwesterly to Manitounuk Sound, or other harbor on the eastern shores of Hudson Bay, Que. Demers & Demers, Que., are solicitors for applicants.

River Rouge Ry.—The Quebec Legislature is being asked to amend this company's act of incorporation, by changing the name in the English version of its charter; to extend the time for construction of the authorized line from Amherst Tp., Labelle County, southerly to the Ottawa River between Montebello and Grenville; to authorize the extension of the projected railway from Arundel or Amherst Townships northerly to a junction with the C.P.R. in Labelle County, and for other purposes. The company was incorporated by the Quebec Legislature Feb. 9, 1918, with A. Orsali, J. R. Meadowcroft, A. H. Ross, D. E. Parker, and A. G. Spencer, Montreal, as provisional directors. The line is projected to open up timber limits in the townships lying between the Ottawa River and the C.P.R., along the Rouge River valley.

St. John & Quebec Ry.—The New Brunswick Government has issued a statement showing the receipts and expendliture on construction account in connection with the St. John & Quebec Ry. for the year ended Oct. 31, 1918. The total receipts were $491,835.18, made up as follows:—Prudential Trust Co., $208,177.63; subsidy from Dominion Government; $278,716.81; interest, $1,015.63; miscellaneous refunds, $3,926.11. The construction charges were $784,558.12, which, with the adverse balance of $615,675.80 at Oct. 31, 1917, made a total of $1,400,233.92. The debit balance carried forward to the 1918-1919 account is $908,397.74.

Western Dominion Ry.—The Dominion Parliament is being asked to extend the time within which the company may build its projected railway from the International Boundary in Range 23, west 4th Meridian, northerly via Cardston and Pincher Creek to Lundbreck, on the C.P.R. Crow's Nest line, thence to Calgary and Edmonton, Alta., and Fort St. John, B.C., with a branch from Pincher Creek via the south fork of the Old Man River to the Alberta-British Columbia boundary; and has extended for five years the building of a branch line along the north fork of the Old Man River to the Alberta-British Columbia boundary; a branch line along the Highwood River to the Alberta-British Columbia boundary, and another branch along the south branch of the Sheep River to the Alberta-British Columbia boundary. (Sept., 1917, pg. 356.)

Railway Rolling Stock Orders and Deliveries.

The Canadian National Rys. management, as stated in Canadian Railway and Marine World for January, had then given several orders for rolling stock, had asked for tenders for more and was preparing to ask for further tenders. Orders then placed were as follows:

Canadian Car & Foundry Co., Montreal, 100 colonist cars and 20 baggage cars.

Pullman Co., Chicago, Ill., 50 colonist cars.

The Canadian National Rys. management has since given the following orders:

Canadian Car & Foundry Co., Montreal, 10 baggage cars additional, making 30 in all; 150 refrigerator cars, 500 stock cars and 250 ballast cars.

Eastern Car Co., New Glasgow, N.S., 500 general service (coal) cars and 500 flat cars.

National Steel Car Co., Hamilton, Ont., 759 box cars.

The Canadian National Rys. management is asking tenders for 50 locomotives, 25 Pacifics and 25 switchers.

The Canadian National Rys. orders for rolling stock, placed recently and to be placed in the near future, will amount to about $20,000,000, and it is possible that a further $10,000,000 will be expended during the year.

Canadian National Railways have received 306 cars from National Steel Car Co., and 11 Mikado locomotives from Canadian Locomotive Co.

The C.P.R. has ordered 13 steel baggage and express cars and 140 steel ore cars, 50 tons capacity, from its Angus shops, Montreal, and 10 vans from its Winnipeg shops.

The National Steel Car Co. has shipped 306 cars for Canadian National Railways; and 5 coal hopper cars and 40 ore hopper cars, in knocked down shape, for the Bengal-Nagpur Ry. of India.

The C.P.R. received the following additions to rolling stock, between Dec. 19 and Jan. 25:—1 express refrigerator car, 1 steel mail car, 244 steel underframe box cars, 3 baggage and express cars, and 1 decapod locomotive, from its Angus shops, Montreal, and 1 van from its Winnipeg shops.

Canadian Government Railways, during December, received the following additions to rolling stock:—13 coal cars, 50 tons capacity, and 239 flat cars, 40 tons capacity, from Eastern Car Co.; 23 box cars converted to heater cars, from Canadian Car & Foundry Co.; 8 general service tank cars, 8,000 gal. capacity, from Pressed Steel Car Co.; 16 Pacific locomotives from Montreal Locomotive Works, and 13 Mikado locomotives from Canadian Locomotive Co.

The Canadian Northern Ry., during December, received the following additions to rolling stock:—181 steel frame box cars, 40 tons capacity, 6 refrigerator cars, 40 tons capacity, from Canadian Car & Foundry Co.; 99 ballast cars, 50 tons capacity, from Hart-Otis Co.; 96 flat cars, 40 tons capacity, from Eastern Car Co.; 273 steel frame box cars, 40 tons capacity, from National Steel Car Co.; 15 water service tank cars, 8,000 gal. capacity, from Pressed Steel Car Co.; 6 consolidation locomotives from Montreal Locomotive Works.

The 20 baggage cars, which Canadian National Railways have ordered from the Canadian Car & Foundry Co., in addition to the details given in our last issue, will be equipped with drop letterboard, straight electric lighting with axle equipment, vapor heating system with additional emergency heating stove, 5 Mudge peerless ventilators, etc. There will be two 6 ft. door openings and four 28½ in. windows on each side, and the trucks will be of the 6-wheel cast steel type with clasp brakes. Ten of these cars are to be delivered by June 15, and the balance by July 15.

The 100 colonist cars, which Canadian National Railways have ordered from the Canadian Car & Foundry Co., in addition to the details given in our last issue, will be equipped with drop letterboard, 14 sleeping sections in main body and 4 sleeping sections in smoking room, all with curved front upper berths; kitchen equipped with range, sink and running water from gravity overhead tanks. A the smoking room end there will be a wash room equipped with a 3-bowl washstand; straight electric lighting system with axle equipment; vapor heating system with emergency stove at the men's end; 13 Mudge peerless ventilators. The floors will be covered with composition flooring throughout, and the trucks will be of the 6-wheel cast steel type, with clasp brakes. Fifty of these cars are to be delivered by June 15, and the balance by July 15.

Dominion Government to Spend Immense Amounts.

Speaking on reconstruction at the Winnipeg Board of Trade's dinner, Jan. 21, Hon. Arthur Meighen, Minister of the Interior, stated the Dominion Government expected to spend $20,000,000 during the fiscal year on public works, a branch of governmental activity that had been pretty well dropped into disuetude during the last four years. Of that $12,000,000 would be expended in buildings and about $6,000,000 on rivers and harbors, leaving about $2,000,000 for minor work such as roads, bridges and monuments. Of the $12,000,000, some $7,000,000 would be for repairs and maintenance, leaving $5,000,000 for new construction; and $5,000,000 would be expended on the canals.

In regard to the railways, the government felt itself compelled to enter upon an expenditure for improvements and betterment, new construction and equipment, which would not only bring a very considerable amount of business to allied interests all over the Dominion, but would put the arilways abreast of conditions before the war. They would have to spend $30,000,000 in the building and purchase of equipment, including over 4,000 freight cars. About the same amount would be expended in betterments and new construction. The latter would be confined almost wholly to such branches as were already almost constructed; so far as the grading, etc., was concerned. That was to say, there would be absolutely no new ventures. This expenditure was in addition to the expenditure that would be incurred out of the Canadian National Railways earnings.

The Great North Western Telegraph Co. has opened offices at Milnikek, Que., Smiths Falls and Thamesville, Ont., and has closed its offices at Beamsville and Brucefield, Ont., and Brooking, Sask.

The Canadian Northern Ex. Co. has opened regular offices at Hodgson, Man., and Prince, Sask. The office at Rosseau, Ont., has been closed.

Mainly About Railway People Throughout Canada.

Canadian Railway and Marine World readers who are returning to civil life from military, naval or other government service are strongly urged to send in items about themselves and about their friends who are in a similar situation. Items should give former position, describe character of military or other service and state the civil work to which the transportation official, etc., in question is going. In the case of those with service abroad, information regarding the activities of the units to which they were assigned is especially desired.

E. W. Beatty, President C.P.R., was the principal speaker at the Sunday Meeting Association, Montreal, Jan. 12. The association is composed largely of railway men, who meet weekly on Sunday evenings to hear addresses on public matters. Mr. Beatty discussed the question of the nationalization of railways from the viewpoint mainly that it is one in which all the citizens of Canada are concerned.

E. W. Beatty, President C.P.R., addressed the employed boys of the evening educational classes at the Y.M.C.A. Montreal, Jan. 9. In the course of his address he related a number of his schoolboy experiences.

E. W. Beatty, President, C.P.R., has been elected an honorary vice president of the Albatross Club, Montreal, an organization of men associated with the Royal Air Force.

George McLaren Brown, European Manager, C.P.R.. London, Eng., has been made a Knight Commander of the Order of the British Empire, for services during the war. He has been actively associated with many matters concerning transportation, especially those connected with overseas traffic, from the commencement of the war, and has been of considerable service to the authorities. For the past three years he has acted as Assistant Director General of Railway Operations He was born at Hamilton, Ont., Jan. 29, 1865, and entered railway service in 1882. since when he has been, to 1885, in Freight Department, Northern & Northwestern Ry.; 1885 to 1887, in Superintendent's office and other departments, G.T.R.; Sept., 1887, to 1902, ticket agent, District Passenger Agent and Executive Agent, successively, G.T.R., Vancouver, B.C.; July, 1902, to Nov., 1905, Superintendent, Dining, Sleeping and Parlor Cars and News Service C.P.R., Montreal; Nov., 1905, to Dec., 1908, General Passenger Agent, Atlantic Steamship Lines, C.P.R., Montreal; Dec., 1908, to Jan., 1910, General Traffic Agent, C.P.R., London, Eng.; and from the latter date, European Manager, C.P.R., London, Eng.

J. R. Cameron, Assistant General Manager, Western Lines, Canadian Northern Ry., Winnipeg, whose jurisdiction has been extended over all Canadian Government Railways west of O'Brien, Que., was born at Truro, N.S., Nov. 5, 1865, and entered railway service, May, 1882. since when he has been, to Apr., 1883, brakeman and baggage man, C.P.R., Winnipeg; Apr., 1883, to Mar., 1886, conductor, C.P.R., Winnipeg; Apr., 1886, to Apr., 1887, conductor, Manitoba and North Western Ry., Winnipeg; Apr., 1887, to Oct., 1898, conductor, Northern Pacific Ry. in Montana; Oct., 1898, to June, 1901, Trainmaster, Northern Pacific Ry., Grand Forks, B.C., with jurisdiction over the company's lines in Manitoba; June, 1901, to Aug., 1904, conductor, Canadian Northern Ry., Winnipeg; Aug., 1904, to Dec., 1905, Superintendent, Canadian Northern Ry., Kamsack, Sask.; Dec., 1905, to Jan., 1908, Superintendent, District 1, Canadian Northern Ry., Port Arthur, Ont.; Jan., 1908, to Nov., 1911, General Superintendent, Canadian Northern Ry., Winnipeg; and since the last mentioned date, Assistant General Manager, Western Lines, Canadian Northern Ry.

A. W. Campbell, Deputy Minister of Railways and Canals, who was granted leave of absence in June, 1918, for a year, pending his retirement from that position, has been appointed by the Dominion Government to investigate the question of improved highways in Canada. This matter will come under the Reconstruction and Development Committee, which reported recently that the problem of transportation necessarily begins at the farm or other point of production, and involves the consideration of improved highways, which, it is considered, should be taken up in consultation with the various provincial governments. It was also considered that the duty of investigating the matter should be placed in the hands of one with experience and knowledge of transportation problems in general, and of highways in particular. Mr. Campbell was born at Wardsville, Ont., in 1863, was appointed City Engineer, St. Thomas, Ont., in 1891, and was, for some years, one of the editors of the Municipal World. From 1896 to 1902, he was Ontario Commissioner for Highways, and in the latter year was appointed Deputy Minister of Public Works for Ontario, and for a time was Supervising Engineer, Temiskaming & Northern Ontario Ry. He was appointed Deputy Minister of Railways and Canals for the Dominion in Jan., 1910, retiring from that position in June, 1918, with leave of absence for a year.

Sir George McLaren Brown,
European General Manager, Canadian Pacific Railway.

Thos. Cantley, Chairman of the Board, Nova Scotia Steel & Coal Co., and one of the Canadian National Rys. directors, has left New Glasgow on a business trip to Great Britain.

E. J. Chamberlin, formerly President, G.T.R. and Grand Trunk Pacific Ry., is spending the winter in California.

A. F. Chapman, a conductor on the C.P.R. Montreal-Ottawa trains, has retired under the pension rules after 50 years service. On behalf of the company, A. D. MacTier, Vice President, Eastern Lines, presented him with a watch and an annual pass over the system for himself and wife, on Jan. 9. E. W. Beatty, President, wrote also a letter stating that for the past 30 years he had occupied the position of conductor in a manner which reflected credit on himself and the road.

B. T. Chappell, who has been appointed General Superintendent, Prairie District, Canadian National Railways, Saskatoon, Sask., was born at Charlottetown, P.E.I., May 1, 1878, and entered railway service in Sept., 1895, since when he has been, to 1897, clerk in Freight Department, Northern Pacific Ry., Winnipeg; 1897 to 1901, in train service, same road; 1901, on the taking over of the Northern Pacific lines in Manitoba by the Canadian Northern Ry., to 1903, in train service, C.N.R.; 1903 to 1905, Yardmaster, same road, Port Arthur, Ont.; 1905 to 1907, Trainmaster, District 1, Western Division, same road; 1907 to Jan. 1, 1913, Trainmaster, District 4, Western Division, same road; Jan. 1, 1913, to Nov. 22, 1915, Superintendent, District 2, Western Division, same road, Saskatoon, Sask.; Nov. 22, 1915, to Dec. 30, 1918, Superintendent, Pacific Division, same road, Vancouver, B.C.

H. R. Charlton, General Advertising Agent, G.T.R., has been awarded a gold medal, by the Canadian National Exhibition's awards committee, for the excellence of the G.T.R. exhibit at the exhibition in Toronto in 1917.

Frank Clark, whose appointment as Locomotive Foreman, Grand Trunk Pacific Ry., Melville, Sask., was announced in our last issue, was born at Cowes, Isle of Wight, England, Mar. 20, 1884, and entered railway service in Mar., 1898, since when he has been, to Mar., 1905, apprentice and fitter, Isle of Wight Central Ry., Newport, I.O.W.; Mar., 1905, to Nov., 1906, Locomotive Inspector, London & South Western Ry., Guildford, Eng.; Nov., 1906, to Mar., 1907, fitter, C.P.R., Chapleau, Ont.; Mar., 1907, to Feb., 1911, machinist, Canadian Northern Ry., Edmonton, Alta., and Dauphin, Man.; Feb., 1911, to Jan., 1913, assistant foreman, same road, Dauphin, Man.; Jan., 1913, to Jan., 1914, Locomotive Foreman, same road, Radville, Sask.; Feb., 1914, to Apr., 1918, Locomotive Foreman, same road, Calgary, Alta.; May to Oct., 1918, machinist, C.P.R., Calgary, Alta.; Oct. to Nov., 1918, Shop Foreman, Grand Trunk Pacific Ry., Regina, Sask.

Lieut. O. D. Cochrane, youngest son of Hon. Frank Cochrane, formerly Minister of Railways and Canals, died at Ottawa, Jan. 23, from an illness resulting from an injury received in England last year, while on active service. The funeral, which took place at Toronto, Jan. 26, was attended by Hon. J. D. Reid, Minister of Railways and Canals, D. B. Hanna, President, Canadian National Railways, M. H. MacLeod, Vice President, Canadian National Railways, and many other railway officials.

A. E. Cox, who has been appointed General Storekeeper, Western Lines, Canadian National Railways, Winnipeg, was born at Huddersfield, Eng., Mar. 12, 1863, and entered railway service in 1883, since when he has been, 1883 to 1887, timekeeper on Western Division, C.P.R., Moose Jaw, Sask., and other points; Mar., 1887, to Mar., 1893, chief clerk, Stores Department, Manitoba & Northwestern Ry.; Mar., 1893, to May, 1900, when the M. & N.W. Ry. was absorbed by the C.P.R., storekeeper; July, 1900, to Jan., 1902, Assistant to Superintendent of Construction, Ontario and Rainy River section, Canadian Northern Ry.; Jan., 1902, to Jan., 1903, chief clerk, Stores Department, same road, Winnipeg; Jan., 1903, to Oct., 1912, Storekeeper, same road, Winnipeg; Oct., 1912, to Jan., 1919, General Storekeeper, Western Lines, same road, Winnipeg.

R. Creelman, who has been appointed Assistant Passenger Traffic Manager, Canadian National Railways, Winnipeg, entered railway service Sept., 1891, since when he has been, to 1893, messenger, City Freight Agent's office, G.T.R., Toronto; 1893 to 1897, ticket clerk, G.T.R. city office, Toronto; 1897 to 1900, chief clerk, District Passenger Agent's office, G.T.R., Toronto; Jan. 1, 1900, to Aug., 1901, in General Passenger Agent's office, C.P.R., Winnipeg; Aug., 1901, to Sept. 1, 1903, in Passenger Traffic Department, Canadian Northern Ry., Winnipeg; Sept. 1, 1903, to July 1, 1906, City Ticket Agent, Northern Pacific Ry., Winnipeg; July 1, 1906, to July 1, 1909, Travelling Passenger Agent, Canadian Northern Ry., St. Paul, Minn.; July 1 to Oct., 1909, Commercial Agent, Canadian Northern Ry., St. Paul, Minn.; Oct., 1909, to Mar. 1, 1911, Assistant General Passenger Agent, Canadian Northern Ry., Winnipeg; Mar. 1, 1911, to Dec. 31, 1918, General Passenger Agent, Western Lines, Canadian Northern Ry., Winnipeg.

Waldo B. Cronk, Vice President and General Manager, Caraquet & Gulf Shore Ry., and Vice President and Manager, Kent Northern Ry., Bathurst, N.B. died at the home of his son, E. P. Cronk, who is in Canadian National Rys. service at Toronto, Jan. 27. He was born at Footville, Wis., Nov. 11, 1862, and entered railway service in Jan., 1878, since when he was, to 1898, consecutively, operator, agent, dispatcher and chief clerk to Superintendent, Chicago & Northwestern Ry.; 1898 to 1900, dispatcher, Chicago, St. Paul, Minneapolis & Omaha Ry.; 1900 to 1902, chief clerk to General Superintendent and Divisional Dispatcher, Baltimore & Ohio Rd.; 1902 to 1903, chief clerk to General Superintendent, Chicago, Rock Island & Pacific Ry.; 1903 to 1906, in private business; 1906 to 1911, consecutively, dispatcher, Assistant Superintendent and Superintendent, C.P.R.; 1911 to Sept. 1, 1912, Superintendent, Grand Trunk Pacific Ry.; Sept. 1 to Nov., 1912, Superintendent of Transportation, National Transcontinental Ry., Winnipeg; Nov., 1912, to May, 1913, General Superintendent, N.T.R. He was subsequently appointed Vice President and General Manager, Caraquet & Gulf Shore Ry., and Vice President and Manager, Kent Northern Ry., Bathurst, N.B.

J. E. Dalrymple, Vice President, in charge of traffic, G.T.R., who celebrated his 50th birthday, Jan. 1., completed at the same time 35½ years service with the company.

K. J. Dunstan, Manager, Ontario Division, Bell Telephone Co., Toronto, has been elected President of the Toronto Board of Trade.

J. E. Duval, who has been appointed General Superintendent of Car Service, G.T.R., Montreal, entered transportation service in Nov., 1884, as agent and operator, Canada Atlantic Ry., now part of the G.T.R., at Coteau Landing, Que., and from May, 1885, to 1902, was train dispatcher; 1902 to 1904, Chief Inspector, Board of Railway Commissioners; and in 1906 he organized the Canadian Car Service Bureau, of which he was appointed Manager, holding that position until Aug. 1, 1913, when he was appointed General Superintendent of Car Service, G.T.R., and in Feb., 1917, General Superintendent of Transportation, G.T.R., Montreal.

Anthony C. Egan, who has been appointed Assistant Comptroller, Canadian Northern Ry., Toronto, was born at Winnipeg, Oct. 6, 1883, and entered railway service in 1901, since when he has been, to 1904, accountant, C.P.R., Winnipeg; 1904 to 1909, in accounting department, Canadian Northern Ry., Winnipeg; 1909 to 1911, Chief Travelling Auditor, same road, Winnipeg; 1911 to Dec., 31, 1918, Auditor of Agencies, Western Lines, same road, Winnipeg; Jan. 1 to Jan. 13, 1919, Auditor of Agencies, same road, Toronto

G. E. Smart,
General Master Car Builder, Canadian National Railways.

J. W. Farrell, Superintendent, G.T.R. Lines in New England, under the U.S. Railroad Administration, Island Pond, Vt., has been granted leave of absence.

Paul Hazelton Fox, whose appointment as Assistant Superintendent, Ottawa Division, Canadian National Rys., Trenton, Ont., was announced in our last issue, was born at Medicine Hat, Alta., May 6, 1888, and entered railway service Nov. 1, 1904, since when he has been, to Mar. 1, 1905, car checker, C.P.R., West St. John, N.B.; Mar. 1, 1905, to May 1, 1906, fireman and yardman, C.P.R., West St. John, N.B.; May 1, 1906, to Jan. 10, 1907, telegraph operator, C.P.R., West St. John, N.B.; Jan. 10, 1907, to July 6, 1908, agent and operator, Canadian Northern Ry., Rosedale, Ont.; July 6 to Aug. 1, 1913, track dispatcher, same road, Toronto; Aug. 1, 1913, to Dec. 26, 1914, Chief Dispatcher, same road, Rosedale, Ont.; Dec. 26, 1914, to Sept. 1, 1915, Chief Dispatcher, same road, Trenton, Ont.; Sept. 1 to Nov. 28, 1918, Chief Dispatcher, same road, Rosedale, Ont.; Nov. 28, 1915, to May 1, 1917, Chief Dispatcher, same road, Capreol, Ont.; May 1, 1917, to Dec. 23, 1918, Chief Dispatcher, same road, Rosedale, Ont.

Alan Travers Fraser, whose appointment as Chief Engineer, Western Lines, Canadian National Railways, Winnipeg, was announced in our last issue, was born at Pembroke, Ont., Jan. 13, 1872, and entered railway service in July, 1892, since when he has been, to 1893, chainman, Gatineau Valley Ry., Wakefield, Que; 1893 to 1895, chainman, rodman and leveller, C.P.R., and Lake Timiskaming Ry., Mattawa, Ont.; 1895 to 1896, timekeeper, Ottawa-Montreal Short Line, Vankleek Hill, Ont.; 1897 to 1900, transitman and Resident Engineer, Crows Nest Pass Ry., Fort McLeod; 1900 to 1901, Assistant Engineer, Pipestone extension and surveys on other branches, C.P.R., Winnipeg; 1901 to 1903, Resident Engineer, Ontario & Rainy River Ry., Port Arthur, Ont.; 1903 to 1905, Locating and Division Engineer, Canadian Northern Ry., Winnipeg; 1905 to 1910, mining and prospecting in Northern Ontario; 1910 to 1911, Locating and Division Engineer, Canadian Northern Ry., Edmonton, Alta.; 1911 to 1915, District Engineer, location and construction of main line and branches in Alberta, same road, Edmonton; 1915 to Dec., 1918, District Engineer, Western District, same road, Edmonton. On leaving Edmonton recently to take up his new duties at Winnipeg, he was presented with a club bag by the local staff.

Frank J. Gascoigne, who has been appointed Assistant Auditor of passenger receipts, Canadian Northern Ry., Toronto, was born at Brockville, Ont., Nov. 5, 1871, and entered railway service in Feb., 1896, since when he has been, to Feb., 1904, clerk in passenger audit office, G.T.R., Montreal; Feb., 1904, to Nov. 22, 1918, chief clerk, Passenger Audit Department, Canadian Northern Ry., Winnipeg.

Richard Selby Gossett, Auditor of Disbursements, Canadian Northern Ry., Toronto, was born there, Sept. 28, 1879, and entered transportation service in Jan., 1893, since when he has been, to 1899, stenographer to President, Toronto Ry.; 1899 to June, 1901, secretary, Construction Department, Mackenzie, Mann & Co., Ltd., Winnipeg; June, 1901, to Dec., 1902, secretary to General Superintendent, Canadian Northern Ry., Winnipeg; Dec., 1902. to 1904, secretary to Third Vice President, same road, Toronto; 1904 to 1907, in charge of disbursements, same road, Toronto; 1907 to 1910, accountant same road, Toronto; and from 1910, Auditor of Disbursements, same road, Toronto.

W. H. Grant, General Tie and Limber Agent, and acting General Storekeeper, Eastern Lines, Canadian Northern Ry., left Toronto Jan. 6 for Prince Rupert, B.C., to arrange the affairs of his brother, Robt. A. Grant, Manager for the P. Burns Co. there, who died suddenly Jan. 1, after having been in that company's service for some 20 years.

"D. B. Hanna, Esq., K.C., Chairman, Canadian National Railways," is the way the St. John, N.B., Board of Trade addressed a memorial recently.

C. A. Hayes, Vice President, Traffic, Canadian National Railways, and Mrs.

Hayes, who removed from Moncton, N.B., to Toronto recently, are living at the King Edward Hotel for the winter.

George Sherwood Hodgins, Editor, Railway and Locomotive Engineering, New York, died there, Jan. 19, of pneumonia, aged 59. He was born at Toronto and educated at Upper Canada College and the School of Practical Science, there. He began work with the Canadian Locomotive Co., Kingston, Ont., in 1881, passing through various grades to chief draftsman. He entered railway service in 1884 in the Master Mechanic's office, Ontario and Quebec Division, C.P.R., Toronto, and in 1886 was transferred to the Pacific Division as Locomotive Foreman at Vancouver, B.C., returning to the Ontario and Quebec Division in 1890. From 1898 to 1900 he was Locomotive Inspector for the C.P.R. system, and superintended the construction of locomotives and cars which were built for the company in the U.S. He also tested locomotive performance on the road over the various divisions and did other mechanical engineering work for the company. In 1900 he re-entered Canadian Locomotive Co.'s service as Mechanical Engineer, subsequently going into technical journalism in New York, and relinquishing that in 1910, after which he spent a short time abroad. In 1912 he was appointed consulting Mechanical Engineer, National Transcontinental Ry., Ottawa, Ont., to make a special report concerning the shops and equipment of the various roundhouses, terminal shops, etc., either built or under construction on the line. On the conclusion of this work he returned to technical journalism in New York.

James Houston, who died at London, Ont., Dec. 20, was formerly District Freight Agent, C.P.R., there, and retired from active service about two years ago, removing to Glendale, Ont.

H. G. Kelley, President, G.T.R. and Grand Trunk Pacific Ry., Montreal, has been elected a director of the Royal Trust Co., in succession to E. J. Chamberlin, who has retired owing to his prolonged absence from Canada.

W. Kennedy, who has been appointed General Mechanical Inspector, G.T.R., Montreal, was born at Belleville, Ont., Dec. 23, 1869, and entered G.T.R. service in 1883, his record being: 1883 to 1886, apprentice, Belleville shops; 1886 to 1891, apperntice and journeyman, Point St. Charles shops, Montreal; 1891 to Sept., 1897, in charge of waterworks between Montreal and Toronto, under Master Mechanic, with headquarters at Belleville; Sept., 1897, to June, 1901, locomotive foreman, Sarnia tunnel; June, 1901, to Nov., 1907, Master Mechanic, Middle and Southern Divisions, Toronto. In Nov., 1907, he was appointed Superintendent of Motive Power, Central Vermont Ry., St. Albans, Vt., and in Jan., 1908, Superintendent of Motive Power and Car Department. He left that company's service in 1908, and was engaged in private business subsequently.

Lt.-Col. R. W. Leonard, St. Catharines, Ont., a former National Transcontinental Ry. Commissioner, has been elected President, Engineering Institute of Canada. He is a graduate of the Royal Military College, Kingston, Ont., and Lt.-Col. of the Corps of Guides, Military District 2.

A. McCowan, who has been appointed Master Car Builder, Western Lines, Canadian National Railways, Winnipeg, was born at Perth, Scotland, Dec. 5, 1868, and entered railway service in May, 1888, since when he has been, to Mar., 1890, carpenter, C.P.R.; Mar., 1890, to 1897, charge hand, C.P.R.; 1897 to 1903, foreman, C.P.R., Farnham, Que.; 1903 to Apr., 1910, foreman, C.P.R., Cranbrook, B.C.; Apr., 1910, to Sept., 1915, General Car Foreman, Canadian Northern Ry., Winnipeg; Oct., 1915, to Dec. 27, 1918, Supervisor of Car Work, Western Lines, Canadian Northern Ry., Winnipeg.

A. B. McNaughton, whose appointment as Superintendent, G.T.R. Lines in New England, under the U.S. Railroad Administration, at Island Pond, Vt., was announced in our last issue, was born at Arnprior, Ont., Nov. 10, 1877, and entered transportation service in 1893 in the telegraph department, Canada Atlantic Ry., and was, from 1894 to 1907, brakeman and freight and passenger conductor, same road; Nov. 1, 1907, to Dec. 3, 1918, General Yardmaster, G.T.R., Ottawa, Ont.

M. H. MacLeod, Vice President, Operation, Construction and Maintenance, Canadian National Rys., who removed from Winnipeg to Toronto recently, has taken an apartment at the Alexandra Palace, University Ave.

Reginald Egerton Perry, who has been appointed Assistant General Freight Agent, Canadian National Railways, east of Fort William and Armstrong, Ont., at Montreal, was born at Drayton, Ont., Juiy 5, 1876, and entered railway service, Oct. 2, 1891, since when he has been, to Feb. 28, 1898, clerk, General Freight Department, C.P.R., Toronto; Mar. 1, 1898, to June 30, 1907, clerk, General Freight Department, Intercolonial Ry., Montreal; July 1, 1907, to July 31, 1909, Chief of Tariff Bureau, I.R.C., Montreal; Aug. 1, 1909, to Feb. 1, 1914, Assistant General Feright Agent, I.R.C., Montreal; Feb. 2, 1914, to Jan. 9, 1919, Assistant General Freight Agent, Intercolonial and Prince Edward Island Rys. (Canadian Government Railways), Moncton, N.B.

Claude W. Price, station agent, Canadian National Railways, Moncton, N.B., died there, Jan. 15, after a few days illness from pleuro-pneumonia. He was born at Petitcodiac, N.B., July 26, 1867, and entered Intercolonial Ry. service in 1883, as telegraph operator.

John Raper, who died at Ottawa, Ont., Jan. 17, aged 82, was formerly in C.P.R. service as an accountant, and retired from active service about 20 years ago.

Herbert Gates Reid, who has been appointed General Master Mechanic, Western Lines, Canadian National Railways, Winnipeg, Man., was born at Pembroke, Ont., Oct. 27, 1863, and entered railway service in Mar., 1884, since when he has been, to Nov., 1884, wiper, C.P.R., North Bay, Ont.; Nov., 1884, to Nov., 1887, fireman, C.P.R., North Bay, Ont.; Nov., 1887, to Dec., 1905, locomotive man, C.P.R., North Bay, Ont.; Dec., 1905, to June, 1906, relieving Road Foreman of Locomotives, C.P.R., North Bay, Ont.; June, 1906, to Feb., 1907, locomotive man, C.P.R., North Bay, Ont.; Feb. to April, 1907, Locomotive Foreman, C.P.R., Chapleau, Ont.; Sept., 1907, to Oct., 1908, District Master Mechanic, District 1, Lake Superior Division, C.P.R., North Bay, Ont.; Oct., 1908, to April, 1915, Master Mechanic, Lake Superior Division, C.P.R., North Bay, Ont.; April, 1915, to May, 1916, Master Mechanic, Saskatchewan Division, C.P.R., Moose Jaw; May to Sept. 30, 1916, Master Mechanic, District 3, National Transcontinental Ry., Transcona, Man.; Sept. 30, 1916, to Jan. 6, 1919, Assistant Superintendent of Rolling Stock, Canadian Government Railways, Transcona, Man.

Willie Frank Sawyer, whose appointment as Assistant Superintendent, Division 5, Quebec District, Canadian National Rys., Edmundston, N.B., was announced in our last issue, was born at Drummondville, Que., June 13, 1883, and entered Canadian Government railway service in Mar., 1899, since when he has been, to Jan., 1900, station porter, Intercolonial Ry., Drummondville, Que.; Jan., 1900, to July, 1901, relieving agent, Drummondville Division; July, 1901, to July, 1907, night operator, Bagot, Que.; July, 1907, to June, 1916, day operator and assistant agent, Montmagny, Que.; June, 1916, to Dec. 31, 1918, agent, Levis, Que.

Mrs. W. Harold Sim, daughter of Jas. Black, Claim Agent, British Columbia District, C.P.R., died at Vancouver recently, from influenza.

Angus Sinclair, proprietor, Railway and Locomotive Engineering, New York, N.Y., died Jan. 1, aged 77. He was for several years Treasurer of the American Railway Master Mechanics' Association.

A. W. Smithers, Chairman of the Board, G.T.R. and Grand Trunk Pacific Ry., London, Eng., has been elected a member of the British Parliament for the Chislehurst division of Kent County, as a coalition-unionist.

Geo. Stephen, Freight Traffic Manager, Canadian National Rys., who removed from Winnipeg to Toronto recently, on his promotion to his new position, has taken an apartment at the Alexandra Palace, University Ave.

J. G. Sullivan, formerly Chief Engineer, Western Lines, C.P.R., has been appointed chairman of the Manitoba Drainage Commission, which has been created by the Manitoba Government, to investigate the question of drainage throughout the province and assessment therefor.

I. G. Trudel, Storekeeper, C.P.R., Moose Jaw, Sask., was entertained to dinner by his associates, Jan. 7, on leaving for Vancouver, B.C., where he has been transferred in a similar capacity.

Walter V. Turner, Manager, Air Brake Department, Westinghouse Air Brake Co., Pittsburg, Pa., died there Jan. 9.

Thomas Turnbull, who has been appointed Engineer, Maintenance of Way, Western Lines, Canadian National Railways, Winnipeg, was, from 1881 to 1889, transitman on location and Resident Engineer on construction on various parts of the C.P.R.; 1889 to 1891, with Newfoundland Government, in charge of location party and construction work on Halls Bay railway; 1891 to 1897, Assistant Engineer Maintenance and Construction, Western Division, C.P.R.; 1897 to 1900, Chief Engineer, west of Winnipeg, Canadian Northern Ry.; 1900 to 1901, on contract work bridging on C.N.R.; 1901 to 1902, reconnaissance work for Dominion Government; 1902 to 1904, inspecting surveys for Dominion Government; 1904 to 1910, Assistant Chief Engineer, C.N.R.; 1910 to 1912, Assistant Chief Engineer, Hudson Bay Railway, 1912 to 1913, Chief Engineer, Hudson Bay Railway; 1912 to 1913, Chief Engineer, Edmonton, Dunvegan & British Columbia Ry., 1913 to Jan. 6, 1919, Assistant Chief Engineer, Canadian Northern Ry., Winnipeg.

W. A. Whyte, District Freight Agent, Canadian National Railways, Regina, Sask., was presented with a travelling bag, and a cut glass set for Mrs. Whyte, by the local staff on Jan 4, on his removal to Calgary, Alta., in a similar capacity.

Canadian National Railways Construction, Betterments, Etc.

Equipment, Betterments, Extensions, etc. Practically ever since the Canadian National Rys.' management was appointed recently, the directors and heads of departments have been busily engaged on the programme for the year's work, and it is said that it has been submitted to the Dominion Government in the following form:—

A list of the rolling stock required to place the Canadian Northern, Intercolonial and National Transcontinental Rys. in first class condition. This largely consists of passenger and freight cars and some locomotives.

Betterments to existing lines, such as grading, new culverts, bridges, etc.

The construction and completion of certain branch lines in the west.

The completion of terminals at Montreal, Toronto, St. John, Vancouver and other points.

These works have been classified into three parts:

1. Those which are absolutely necessary and must be proceeded with this year.

2. Those which are necessary, but could be postponed if it felt cost of construction is too high at present.

3. Works not immediately necessary, but which could be started if needed to give employment.

It is said that the government has consented, subject to parliament's approval, to an expenditure of about $50,000,000, and possibly $60,000,000, this year. Of this, $20,000,000 will be required for rolling stock already ordered, and about to be ordered, and the expenditure under this head may be increased to $30,000,000. Betterments, extensions of lines, etc., will probably require about $20,000,000. In addition to betterments to be carried over the whole system, some partially constructed lines in the west will probably be completed, and there will also probably be some new lines built, both in the east and in the west.

Halifax, N.S., Temporary Station.—The temporary station at the ocean terminals was opened for public use at the end of Dec., 1918. The North St. station has been handed over to the military authorities for making up military trains.

York & Carleton Ry. Extension.—The Stanley, N.B., Board of Trade has invited the Fredericton Board of Trade to cooperate in asking the Dominion Government to extend the Y. & C. Ry. from Stanley to a junction with the National Transcontinental Ry. at Nappadogan. It is claimed that this would give a shorter and better connection between St. John and the N. T. Ry. than that proposed recently via McGivney Jct.

Intercolonial Ry. Second Track.—It is probable that the building of some short stretches of second track between Halifax and Moncton will be considered in the near future.

National Transcontinental Ry., St. Malo Shops, Quebec.—The question of equipping and operating these shops is under consideration, and F. Knight is preparing a report, under the direction of W. S. Appleton, Mechanical Superintendent, Eastern Lines, Moncton, N.B.

Levis Station.—The question of the accommodation at the Levis, Que., station is being raised, and on Jan. 10, it was suggested that the Levis public health authorities should intervene. The present buildings are declared to be not only "most disreputable in appearance," but inadequate in accommodation and "unhealthy and dangerous." (Jan., pg. 28.)

St. Malo, Quebec, Shops.—In connection with the recent discussion as to the opening of the National Transcontinental Ry. St. Malo car shops, the Quebec City Council has passed a resolution consenting to the leasing of the shops to the Canada Car & General Machinery Co., on condition that at least 1,500 men be employed, and that all construction and repair work for the rolling stock on the eastern section of the N.T.R. be done in the shops. Subsequently the mayor telegraphed D. B. Hanna, President Canadian National Railways, Toronto, asking what it was proposed to do with the shops, to which Mr. Hanna replied: "It is our intention to equip and operate the St. Malo shops ourselves at an early date."

St. Charles River Bridge.—Work on the superstructure of the new St. Anne bridge across the St. Charles River, Quebec, was reported to have been started Jan. 2. One half of the superstructure is being put in at present, and it is said that as soon as this is completed the Quebec & Lake St. John Ry. and the Canadian Northern Ry. trains will be diverted from the old bridge to the section of the new bridge; that the old bridge will then be demolished and the second section of the new bridge built. The work is being done by the Dominion Bridge Co., Montreal, under contract with the Dominion Public Works Department, as part of the work for the improvement of the St. Charles River.

Branch to Perth, Lanark and Arnprior.—A deputation of residents of Lanark County, Ont., waited on J. A. Stewart, M.P., at Perth, Jan. 6, to enlist his support for a projected branch of the Canadian Northern Ry. through Perth and Lanark to Arnprior. The project is claimed to have been approved by Sir William Mackenzie in 1914, and the people are desirous that the line should be built now that the Dominion Government has acquired the C.N.R. The starting point of the proposed branch would be at Perth Road, mileage 176 from Toronto, and the route would be through the center of Lanark County, opening up, it is claimed, a country with large lumber and mineral resources, and a large area of gravel deposits for railway ballasting, etc.

Little Madawaska River Bridge.—We are officially advised that the contract for the construction of the abutments for the bridge over the Little Madawaska River, mileage 147.4, Pembroke Subdivision Canadian Northern Ry., has been let to the Hyland Construction Co., Toronto. The steel superstructure is to be supplied from another point on the Canadian Government Railways.

Toronto-Niagara Falls Line.—In connection with the reports current to the effect that the Canadian National Rys. will at an early date start construction on a line from Toronto to Niagara Falls, it may be mentioned that the Canadian Northern Ry., within recent years, secured right of way from Toronto to beyond Hamilton, and also bought considerable property in Hamilton for terminal purposes, etc., the total expenditure being about $1,750,000. It would appear to be reasonable to assume that the new management of the amalgamated lines will seek to make use of this property.

Saskatchewan Branch Line Construction.—Replying to a question in the Saskatchewan Legislature, Jan. 8, as to the probability of the resumption of construction upon branch lines in the province for which the legislature had authorized the government to guarantee bonds, Hon. C. Dunning said:—"Since the Canadian Northern Ry. passed under the control of the Dominion Government no application has been made for an extension of the lines guaranteed by the province. Hence provincial government guarantees with respect to the C.N.R. have lapsed."

Moose Jaw Union Station.—A press report, referring to the projected union station in Moose Jaw, Sask., to be built by the C.N.R., says it will be on Stadacona St. E., between Third and Fourth Avenues. This would necessitate the closing up of Stadacona St., and the construction of subways on Fairford and Athabasca Sts. The plans for the station are reported to have been completed. A temporary station building is reported to be being built on Athabasca St., at the corner of Fourth Ave. and Caribou St. Temporary freight shed accommodation is being provided, and some miles of yard trackage is being laid. The permanent freight accommodation will consist of two large sheds. A later press report of Jan. 11, stated that considerable progress had been made with the erection of the temporary station building, and that the temporary platform had been laid.

Calgary Union Station.—Discussion has been revived in Calgary, Alta., with respect to the building of a union station with the Grand Trunk Pacific Ry. there. The site suggested is on C.N.R. property in the neighborhood of Seventeenth Ave. and First St. West.

Oliver-St. Paul de Metis Line.—A press report states that work is in progress on the Canadian Northern St. Paul de Metis line, from Radway Center, at the crossing of Sucker Creek, mileage 44 from Oliver, Alta., easterly, preparing for tracklaying on the remaining 56 miles of grading completed in 1917. This 100 miles would bring the line to Villette post office, Sec. 20, Tp. 59, Range 13, west of 4th Meridian. The objective of this branch is the boundary between Alberta and Saskatchewan, about 90 miles southeasterly from Villette, there to connect with a branch form Battleford, of which 56 miles, from North Battleford to Turtleford, are already in operation. It is claimed that the whole area through which the line will run in Alberta is well settled, and steps are reported to have been taken to press the Dominion and Provincial Governments to have the construction of the line carried on.

Kamloops-Vernon Branch.—We are officially advised that the bridge across the Thompson River at Kamloops, B.C., has been built, but that some right of way has to be acquired, and grading completed into Kamloops. It is expected that this work will be completed during this year.

Several delegations from the Okanagan district waited on the British Columbia Government recently to urge the construction of the projected line from Kamloops via Vernon to Kelowna, and it was arranged subsequently to send a deputation to Ottawa to interview the Minister of Railways. A press report from Vernon, Jan. 10, stated that the idea of sending a deputation had been abandoned, D. B. Hanna, President Canadian National Railways, having advised the local authorities that construction on the line and the spur to Lumby would be gone on with this year. (Jan., pg. 15.)

Electric Railway Department

Increases in Electric Railway Freight and Passenger Rates.

British Columbia Electric Ry.—Following the granting of higher commutation fares on the company's Burnaby Lake line by the Board of Railway Commissioners, the company applied for similar increases on the Central Park line. This line being under the B.C. Government's jurisdiction, application was made to the Provincial Premier, in his capacity of Minister of Railways. The municipalities of Burnaby and South Vancouver opposed the application. The result was a refusal to permit the increase, but it was referred to the proposed public service commission for investigation. This commission is expected to be appointed at the next session of the legislature. The Premier wrote Geo. Kidd, General Manager, B.C.E.R., as follows:—"At a meeting between myself and representatives of the municipalities of Burnaby and South Vancouver, it was urged on behalf of the municipalities that the present rate was sufficiently high; that the company's system of accounting did not show the revenue on the interurban line as separate and distinct from other portions of the company's system, and that an attempt was being made to recoup for losses on other parts of the company's system by increasing the rates on this interurban line; that as far as Burnaby was concerned, the present rates are a substantial part of a consideration which the municipality is receiving in return for a franchise covering a period of 38 years, only five of which have expired; that any increase in rates is a violation of an existing agreement under which the present franchise was secured; that residents of both municipalities invested their money, erected homes and engaged in business, relying upon the effectiveness of the existing agreement; that the statute under which the railway company was incorporated gave the company power to enter into agreements with municipalities; that the present rates are part of an agreement so entered into, and that the General Railway Act only applies so far as it is consistent with the act under which incorporation was secured, and that the Minister of Railways has no jurisdiction. With the evidence which at present is before me I am unable to approve of the schedule of rates submitted to me, and in view of the announced policy of the government to create a public utilities commission, having jurisdiction over the matter of this application, I am inclined to the view that this question may well be left for the adjudication of the proposed commission."

The Vancouver City Council for 1918, at its last meeting, decided to take no action towards appealing against the decision of the court refusing the city an injunction against the charging of a 6c car fare in Vancouver. Whether further action in this line will be taken will rest with the new council, which took office early in January. For several weeks negotiations had been going on between the company and the city for the abandonment of these injunction proceedings, in return for which the company offered 6c light. On these negotiations coming to nothing, the company announced a reduction in the lighting charge within the City of Vancouver on Dec. 24 as a Christmas gift. The new lighting rate went into effect Jan. 1.

As a result of the necessity to increase revenue, to meet the increased wages schedule which went into effect July, 1918, the company abolished school children's tickets on its Vancouver Island lines. It has since made a special arrangement with Esquimalt Municipality, under which school children's tickets are sold within the limits of the municipality at 8 for 25c. No school children's tickets are sold on any other portion of the lines, a straight 5c fare being charged for all passengers.

Calgary Municipal Ry.—The deficit for 1918 on Calgary, Alta., Municipal Ry. is reported as estimated by the Superintendent at $25,000, and the commissioners were reported, Jan. 9, to have under consideration a proposition for charging increased fares.

Vancouver, Fraser Valley & Southern Ry. tariff order 28044, Jan. 22, as follows, passed:—Re application of British Columbia Electric Ry., on behalf of Vancouver & Lulu Island Ry. and Vancouver, Fraser Valley & Southern Ry., for approval of its Standard Freight Mileage Tariff: The said tariff having been filed on the basis prescribed by order in council 1863, July 27, 1918, it is ordered that the said Tariff C.R.C. 132 issued to become effective Feb. 1, 1919, be approved; the said tariff, with a reference to this order, to be published in at least two consecutive weekly issues of the Canada Gazette.

Cape Breton Electric Co.—At a recent meeting of the Sydney, N.S., City Council, the city clerk reported that no report had been received from the Nova Scotia Public Utilities Commission upon the enquiry made on the Cape Breton Electric Co.'s application for authority to increase fares on its electric railway. The investigation was concluded Aug. 16, when the commissioners reserved judgment.

Fort William Municipal Ry.—The Port Arthur and Fort William City Councils passed bylaws on Nov., 1918, setting forth that the operating expenses had increased largely and that it was necessary to increase the passenger fares then in effect, and which had been approved by the Ontario Railway and Municipal Board, as follows:—

(a) One fare in each city.

(b) Regular fare 5c, or 6 tickets for 25c, good from 5.30 a.m. until 12 p.m.

Workmen's fare 5c, or 8 tickets for 25c, good from 5.30 to 8 a.m. and from 5.30 to 7 p.m., from Monday to Saturday, inclusive. Sunday tickets, 8 for 25c, good from 5.30 a.m. to 12 p.m.

(d) Children's tickets, up to 14 years of age, 10 for 25c, good all hours every day of the week, Sunday included. All bona fide students above 14 years privileged to use children's tickets between 8 a.m. and 5 p.m. on school days.

(e) Fares from 12 p.m. to 5.30 a.m., 10c each, good for a through ride.

(f) Children under 14 years of age may use school children's tickets on Sunday and be good for through ride.

The bylaws repealed the fares above mentioned and enacted new ones as follows, to go in effect Jan. 1, 1919:—

Adults: 5c cash, or one ticket at the rate of 5 for 25c.

Children: 5 to 12 years, inclusive, 3c cash, or one ticket at the rate of 8 for 25c. Children under 5 years of age, free

The above good between 5.30 a.m. and 12 p.m., and double the above fares between 12 p.m. and 5.30 a.m.

The Ontario Railway and Municipal Board, early in December, made certain objections to the new tariff, pointing out that the Ontario Railway Act, sec. [illegible], fixes the maximum limit of fares to be charged on electric railways, and that the double fare to be charged for night service must be within that limit. Towards the end of December the two city councils passed similar bylaws providing for the following new rates of fare, to go in effect Feb. 1, 1919:—

Regular fare, 5c cash or 5 tickets for 25c.

Child's fare, ten years and under, 3c cash or 10 tickets for 25c. Good at all times. Children in arms free.

Pupils' fare, under 17 years, 5c cash or 8 tickets for 25c. Tickets sold only at office. Pupils must present certificate that they are bona fide pupils, signed by their principal teacher. Pupils' tickets good only between 8 and 9.30 a.m., also 3.30 and 5 p.m., and then only for the purpose of going to and returning from school.

The Ontairo Railway and Municipal Board approved the new schedule on Jan. 6. It raises the price of regular tickets from 6 to 5 for 25c, changes children's fares, abolishes workmen's tickets, and does away with night fares.

London & Port Stanley Ry.—The directors of this municipally owned line met in London, Ont., Jan. 3, and approved of the amended agreement as to Wednesday and Saturday fares on the line during the summer. One clause was amended by substituting the words "children from 5 to 12 years shall be charged 20c," for the words, "25c current funds for each child under the age of 12 years." The city council is applying to the Dominion Parliament for an amendment to chap. [illegible] of the statutes of 1914, to strike out the clauses in the agreement dealing with the Wednesday and Saturday fares, and to insert in place thereof words necessary to authorize the new fares, and to alter the time within which such fares may be charged from between May 15 and Sept. 15, to between May 24 and Sept. 10.

London St. Ry.—London, Ont., press dispatch, Jan. 19.—A semi-official intimation has been received at the city hall that the London St. Ry. is soon to renew its endeavors to obtain an increase in fares. The mayor, in his inaugural speech, recommended action to ensure better service, but meanwhile the company is preparing for its annual meeting, and according to reliable information, it will again pass its dividends. Receipts have increased, but expenditure is disproportionate. The company will tell the city council, it is reported, that it is prepared and anxious to improve the service, but that it is unable to obtain additional capital for the purpose, while the road is held down to an unfairly low rate of fares. The local Chamber of Commerce has called a general meeting to launch an independent investigation of the street railway situation. A committee of citizens will be appointed to examine different clauses of franchise agreements and possibly to report on the advisability or alteration of municipal ownership. E. P. Fredericks, Publicity Manager of the Ontario Association of Holders of Public Utility Securities, has been asked to appear to explain the service-at-cost method adopted by the Massachusetts Legislature.

Moose Jaw Electric Ry.—See "Moose Jaw Electric Ry.'s Financial Position," on another page of this issue.

Port Arthur Civic Ry.—See Fort William Municipal Ry.

Employment of Women Conductors by Nova Scotia Tramways & Power Co.

The Nova Scotia Tramways & Power Co., which operates the street railway in Halifax, N.S., has employed women conductors since Oct., 1917, the number employed varying from time to time, the maximum number being 35. The pay given women is the same in every respect as that given the men and their working conditions are identical in every respect. The management has not experienced any unusual difficulty through the employment of women as conductors, and considers that the results from their employment have been quite as satisfactory as those obtained from the men; in fact, the records show that the fare collections registered by the women have been, if anything, better than those registered by the men.

The company did not discharge any male conductors, in order to make room for women, for the reason that it did not attempt to employ women until the scarcity of male help made it imperative to do so. Since adopting the plan of employing women, the management has given employment to any satisfactory man or woman who applied for positions which were vacant, and has made no discrimination whatever. At present practically half of the total number of conductors employed are women.

Public Utilities Commission for British Columbia.

A Victoria press report states that the British Columbia Government has completed a draft of a bill which it is proposed to introduce at the legislature's next session, to authorize the establishment of a public utilities commission for the province.

The bill, it is stated, will provide for the creation of a commission of three members to be appointed during good behavior for 10 years, with a provision for reappointment, at salaries to be fixed, and payable out of the consolidated revenue. The commissioners are to be given the powers of the Supreme Court in many respects, and also power to take possession of and manage businesses for the purpose of enforcing their orders; and of dissolving companies in default of there being any other means of enforcing its orders. Provision is made for appeals against the commissioners' decisions. The duties of the commissioners and of all public utilities in regard to the commission are set out in detail, together with numerous penalty clauses.

Service at Cost for Ontario.—It is said that a bill will be introduced at the Ontario Legislature's ensuing session, to provide for a service at cost system on any electric railways in the province, if agreed on between the company and the municipality in which it operates.

E. F. Seixas Goes to Monterey Railway, Light and Power Co.

Lewis Lukes, heretofore Vice President and General Manager, Monterey Railway, Light & Power Co., with office at Toronto, having resigned, Edward Fairgreve Seixas has been appointed General Manager and Official Representative at Monterey, Neuvo Leon, Mexico.

The Monterey Ry., Light & Power Co. operates about 25 miles of city and interurban railway lines in and around the city of Monterey, and connects Monterey with Tope Chico, where it owns the hot springs. It also has concessions for the whole of the electric light, power, gas, water works and sewerage system in the city of Monterey. The following are the company's officers at Toronto: President, Sir Wm. Mackenzie; Vice President, Sir Donald Mann; Secretary, R. P. Ormsby; Comptroller, R. G. O. Thomson.

Edward F. Seixas,
General Manager and Official Representative,
Monterey Ry., Light & Power Company.

Mr. Seixas was born at New York, N.Y., Oct. 26, 1870. From Mar., 1888, to Apr., 1892, he was a student in the electrical department of the Edison Machine Works, now the General Electric Co., Schenectady, N.Y., since when he has been, from Apr., 1892, to Jan., 1894, in electrical department, World's Fair, Chicago, Ill.; Feb., 1896, to Feb., 1901, General Manager, Amsterdam Ry., Light, Heat & Power Co., Amsterdam, N.Y.; Feb., 1901, to Jan., 1919, General Manager, Niagara, St. Catharines & Toronto Ry., St. Catharines, Ont. During his service with the General Electric Co., a part of the time was spent in France, England, Italy and Austria, more or less in connection with electrical research, and he was also engaged in the installation of electric lighting plants in Toronto, Ont., and Minneapolis, Minn. During his residence in St. Catharines, he identified himself with various local organizations, and is President of the St. Catharines Rowing and Canoe Club, and was primarily instrumental, with Toronto members of the C.A.A.O., in establishing the permanent Canadian Henley course at St. Catharines. He is also a member of the advisory board of the St. Catharines Y.M.C.A., and of the Protestant Orphans' Home, and has been connected officially with every patriotic organization in St. Catharines during the war, as well as being vice president of the 1918 Victory Loan campaign for St. Catharines and Lincoln County. He is a Freemason and member of the following clubs:—St. Catharines, Niagara Falls, Transportation (Buffalo), and Argonaut Rowing, Royal Canadian Yacht, Albany, and National, Toronto.

Mr. Seixas expects to leave early in February for Monterey, but Mrs. Seixas and their children will probably remain at St. Catharines, until the late summer, or early autumn.

It is expected that Sir Wm. Mackenzie and Mr. Lukes will also leave at an early date to spend a short time in Monterey.

Winnipeg Electric Railway Aids Collections.

On Dec. 9, 1918, a committee consisting of leading citizens of Winnipeg inaugurated a campaign to obtain contributions to a fund to provide a citizens' Christmas gift to soldiers' families in Winnipeg. They wished to raise $60,000 by voluntary contribution to be divided among the soldiers' families in the city in accordance with the number of persons in each family, to provide Christmas presents for the children, and Christmas cheer generally. A. W. McLimont, General Manager, Winnipeg Electric Ry., took an active interest in the campaign from its inception and the company's donation to the fund took the form of an expenditure of $1,000 in advertising for donations. Mr. McLimont originated the plan of asking the public to "Drop a bill in the fare box" for the Christmas fund. Advertisements were run in the daily newspapers and posters were placed on the street car windows. One of these posters was signed jointly by the Mayor of Winnipeg and Mr. McLimont. The company issues a paper each fortnight, 40,000 copies of which are distributed free on the street cars, and the leading article of Dec. 16 issue was devoted to the campaign and urged everyone to "drop a bill in the fare box" as you left the cars.

All members of the general committee, comprising 200 leading citizens, were sent copies of this issue of the Public Service News by the secretary of the committee.

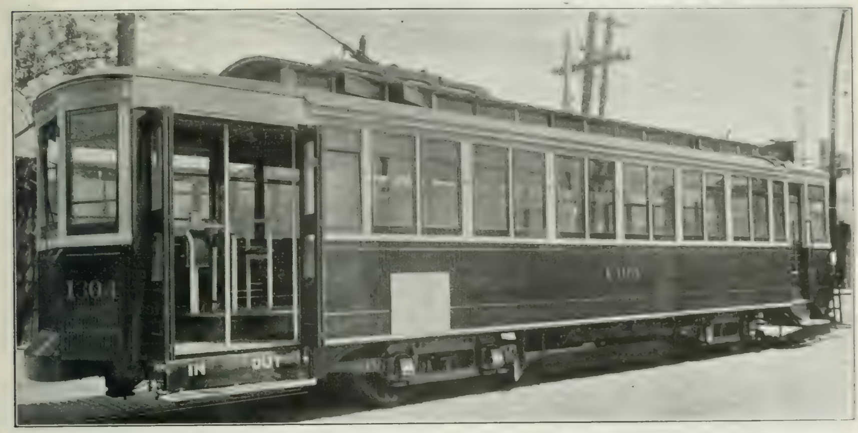
The Winnipeg street cars are equipped with protruding fenders, and a large banner requesting citizens to "Drop a bill in the fare box" was placed on each fender. A full sized billboard was erected on each side of a street car and this car was operated during the rush hours through the principal streets.

It was not expected that any substantial amount would be realized from fare box collections, owing to the fact that the principal source of revenue for the fund was big contributions from the business men of the city. The rank and file of the general public, however, responded very generously to the appeal to place their money in the fare boxes and over $1,000 was realized from this source in addition to an order for a load of wood, Victory Bond coupons, etc. The company's employes contributed $400 to the fund.

The city newspapers and the thousands of soldiers' families affected, commented very favorably on Mr. McLimont's action in getting behind the Christmas gift fund. He feels that the company's employes have greatly benefitted from being privileged to participate in the campaign

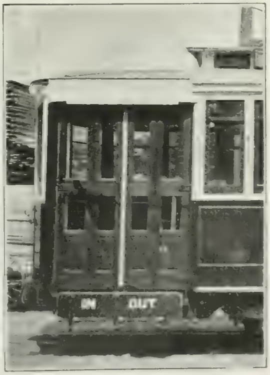
Prepayment Cars on the Toronto Railway.

Twenty-five p.a.y.e. cars were placed in operation on the Toronto Ry.'s College St. route during the first week in January. Although these are not actually the first p.a.y.e. cars which the company has operated, they are the first of a modern type. The first p.a.y.e. cars tried on the Toronto Ry. were merely the ordinary cars, on which passengers paid their fares on entering. There were none of the devices on the car which tend to make the operation of prepayment cars easy and sure, and their use was abandoned.



Toronto Railway Prepayment Car, with doors open and step down.

In the present case, a number of the company's existing palace type of cars were taken off their routes and remodelled, the chief change being made with the rear vestibule. The rear bulkhead was removed and the main floor of the car projected into the vestibule, in order to accommodate a seat for the conductor, and a stationary fare box. By this arrangement, the seating capacity of the car is not interfered with, and there is ample room on either side of the conductor for the entrance and exit of passengers. The rear vestibule is fitted with folding doors and steps, operated by a small pneumatic engine located over the doors, air for its operation being taken from the air brake supply. The folding of the step and the closing of the doors automatically signals the motorman by means of a light, to proceed, and this signal cannot be given until the doors are closed. The space occupied by the conductor projects about 3 ft. into the vestibule, and is 2 ft. wide, the vestibule measuring 6½ ft. from the original car floor line. On entering the car, passengers pass in front and to the right of the conductor, place their fares in the box and go into the car. When all passengers are on, the conductor turns the air to the pneumatic engine, which then closes the doors, folds the step and gives the motorman the signal to proceed, all in one operation. The use of the pneumatic control eliminates any possible strain on the conductor in continually opening and closing doors, and also relieves him of giving the starting signal, thus leaving him entirely at liberty to attend to the collection of fares and the selling of tickets. The door opening is 5 ft. wide and the folding step, when down to allow passengers to enter the car, is 15 in. from the street level, with a rise of 12½ in. to the vestibule floor, which is 9½ in. below the car floor. Exit can be made either at the front or the rear. The door and step operating equipment is supplied by the National Pneumatic Co., New York, N.Y.



Toronto Railway Prepayment Car, rear vestibule, showing doors closed and step up.

Additional cars are being remodelled, and these will be placed in service as soon as possible. It is expected that an additional 25 will be ready early in March.

Edmonton, Alta., city commissioners have let a contract for 110 uniforms for Edmonton Radial Ry. employes at $65 a suit.

Nova Scotia Tramways and Power Co's Operation.

The Nova Scotia Public Utilities Commission issued an order recently, after an investigation of certain matters relating to the Nova Scotia Tramways & Power Co., which operates a street railway in Halifax. It directs the company as follows:

Operate the Gottingen St. extension of its tram lines with through cars, not less frequently than a 20 minute schedule.

On week days between 12 noon and 2 p.m., and between 5 and 6.30 p.m., to operate a car from Buckingham St. via Barrington to Oxford St.

Operate regularly not less than 8 cars on the main line.

Operate regularly not less than 16 cars on the Belt line.

Operate regularly not less than 4 cars on the Gottingen St.-Armdale line.

Not to permit any car to be operated on Buckingham and Jacob Sts. carrying passengers on the rear platform, and it shall be the conductor's duty to stand on the rear platform while the car is being operated on these streets.

With all reasonable expedition to procure and add to its equipment 12 new cars, each equipped with 4 motors, double trucks, air brakes and adequate safety appliances. The type of such safety appliances to be submitted to the board for approval.

To provide at the earliest possible date additional cars to be used as reserve equipment.

To report to the board within 14 days from the date of the order the action taken by the company to comply with the two preceding sections.

Provision is also made in the order for the filing by the company with the board of reports as to cars operated behind schedule, causes for extras, noisy cars, interruptions of service, etc. The time for the round trips of the Belt line between noon and 2 p.m. and between 5 and 7 p.m. on week days is to be 45½ minutes.

Prepayment Car, Toronto Railway, Interior, looking toward rear end.

Electric Railway Notes.

Toronto Ry. directors met in Montreal, where several of them live, on Jan. 27, to consider the annual report, etc.

H. Holgate, C.E., and Professor Ritchie have been appointed by the New Brunswick Public Utilities Commission to value the property of the New Brunswick Power Co., which owns the St. John Ry. They began their investigation at St. John, Jan. 13.

J. H. Moir, Superintendent, Edmonton Radial Ry., and the city commissioners are considering making certain improvements in the electric railway service in the city. Their recommendations are expected to be laid before the city council at an early date.

Sandwich, Windsor & Amherstburg Ry. employees threatened to strike early in January, unless the company would dismiss the Superintendent, F. E. Hayes, and reinstate a dismissed conductor. Subsequently the men applied for a board of conciliation.

London, Ont., ratepayers, on Jan. 6, by a majority of 2,283, voted in favor of permitting the London St. Ry. to operate cars to Springbank on Sundays. Application will have to be made to the Ontario Legislature for the necessary authority to run cars on Sundays outside the city.

W. Dickson was delivering ice in Lachine, Aug. 28, 1917, when he was knocked down by a Montreal Tramways Co.'s car, sustaining injuries resulting in the amputation of his left arm at the shoulder. He brought an action in the Quebec Supreme Court for the recovery of damages assessed at $20,998. After a two days hearing the jury, on Jan. 17, awarded $10,000 for damages and $206 for expenses, but also found that the plaintiff had been guilty of contributory negligence, for which reason the total amount of damage to be paid by the company was fixed at $6,804 with costs.

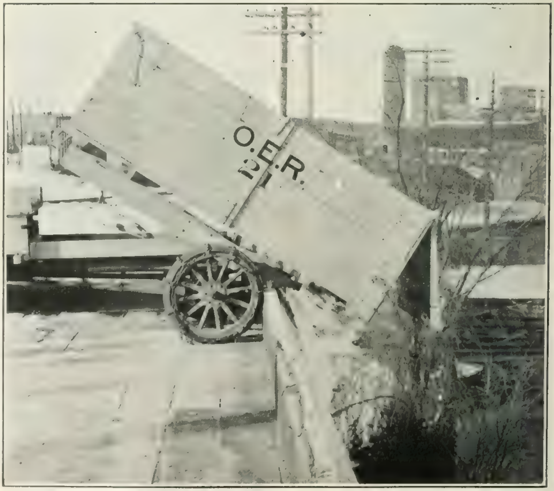
At the Winnipeg Board of Trade's dinner to the Minister of the Interior, Jan. 21, a special table for reserved for officers and employes of the Winnipeg Electric Ry. and there were 30 representatives of the company in attendance. Of these, 12 were members, and it was announced that A. W. McLimont, General Manager, had ordered that membership cards be taken out for the remaining 18.

The Winnipeg Electric Ry. expects to place in service very soon, 10 steel cars, which are being built at Ottawa. These cars were contracted for in June, last, and delivery should have been made on Oct. 31, but in Ottawa, as elsewhere, war conditions interrupted the carrying out of the contract, and the cars will probably be delivered about three months after the specified time. Inability to secure material and labor was directly responsible for the delay. The company is also proceeding rapidly with a rehabilitation programme and has 40 reconstructed cars in commission. Cars are reconstructed at the rate of 10 a month.

Ottawa Electric Railway Snow Dumping Motor Truck.

The accompanying illustration shows one of 25 snow, box, dump motor trucks, which the Ottawa Electric Ry. is using for the rapid and economical removal of snow from streets on which it operates.

As shown in the illustration, special plank driveways are built, so that the snow can be dumped without being shovelled out. The system has proved very successful this winter up to date, and promises great efficiency in both expedition and economy. The truck was designed by the company's Assistant Superintendent, J. M. Ahearn.



Snow Dumping Motor Truck, Ottawa Electric Railway.

Mainly About Electric Railway People.

W. H. Armstrong, heretofore Chief Car Inspector, has been appointed Master Mechanic British Columbia Electric Ry., Victoria, B.C., vice W. S. Fraser, who has been appointed City Electrical Engineer, Kamloops, B.C., as reported in our last issue. The position of Chief Car Inspector is held in abeyance, a redistribution of the work having been made.

Sir Adam Beck has been re-elected chairman of the London Railway Commission, which operates the London & Port Stanley Ry. It is proposed to ask the Dominion Parliament to alter the Incorporation Act so that the directors will be elected by the people in future, instead of being appointed by the city council.

F. J. Calbeck has been elected Chairman, Brantford, Ont., Municipal Railway Commission.

A. Eastman, Vice President and General Manager, Windsor, Essex & Lake Shore Rapid Ry., and President, Canadian Electric Railway Association, who was not at all well when he attended a meeting of the association's executive committee in Ottawa, Jan. 14, returned home at once to Kingsville, Ont., where he became worse and suffered from a slight attack of pneumonia. He is now convalescent.

C. H. Hartman was re-elected a member of the Brantford, Ont., Municipal Ry. Commission, at the municipal elections, Jan. 6.

H. McKay, electrical engineer, Pictou County Electric Co., was instantly killed in the company's power house at New Glasgow, N.S., Dec. 31, while locating some wire trouble.

Wm. A. Martin, who is spoken of by a local paper as agent of the Delaware, Lackawanna & Western Rd., has been appointed a member by the London, Ont., City Council as a member of the London, Ont., Railway Commission which operates the London & Port Stanley Ry., in place of Wm. Spittal, who has been a commissioner and honorary secretary of the board.

E. W. Oliver, heretofore Assistant Engineer, Canadian Northern Ry., Toronto, has, consequent on the appointment of E. F. Seixas, heretofore Manager, Niagara, St. Catharines & Toronto Ry., as General Manager and Official Representative of the Monterey Ry., Light & Power Co., been appointed General Superintendent, N., St. C. & T. R., reporting to S. J. Hungerford, Assistant Vice President, Canadian National Rys. Office, Toronto. Mr. Oliver will also be in charge of the Toronto Suburban Ry. and Toronto Eastern Ry.

G. L. Snelling, heretofore accountant, Ottawa Electric Ry., has been appointed acting Secretary-Treasurer, consequent on the death of Jas. D. Fraser, Secretary-Treasurer.

W. J. Weir has been appointed acting Secretary, Saskatoon Municipal Ry. Saskatoon, Sask., vice L. H. Hardy, Secretary, deceased.

Electric Locomotives Ordered. The Hydro-Electric Power Commission of Ontario has ordered six 50-ton steel locomotives for its Queenston-Chippawa construction railway. The bodies and trucks will be built by Canadian Car & Foundry Co., and the electrical equipment has been bought second hand from the Schenectady Ry., Schenectady, N.Y.

Proposed Purchase of Ottawa Electric Railway by City.

The three questions submitted by Ottawa City Council to the ratepayers, at the municipal elections Jan. 5, as to the Ottawa Electric Ry., were answered in the affirmative by large majorities. Following are the questions with the vote on each:—

If not earlier acquired, are you in favor of the City of Ottawa acquiring the property and assets of the Ottawa Electric Ry. at the expiration of its franchise in 1923, by arbitration, as provided by the agreement between the city and the railway? Yes, 8,174. No, 2,700. Majority, 5,474.

Are you in favor of the City of Ottawa acquiring the property and assets of the Ottawa Electric Ry. by arbitration, as provided by the agreement between the city and the railway, at such date prior to 1923, as may be mutually agreed upon? Yes, 8,770. No, 2,309. Majority, 6,461.

Should the Ottawa Electric Ry. be acquired by the corporation, are you in favor of it being managed by an appointed commission? Yes, 8,943. No, 2,008. Majority, 6,935.

The Hamilton Radial Electric Railway Situation.

The situation which has developed out of the Hamilton Radial Electric Ry.'s application to the Board of Railway Commissioners in July last, continues to be as obscure as ever, and a settlement as remote as ever. The Board of Railway Commissioners granted the application for increased fares, subject to the approval of the municipalities which had bylaws fixing certain fares. The Village of Burlington led the way in refusing to suspend the operation of the bylaw, and finally the company suspended its service. Some temporary expedients were made to provide accommodation, while negotiations were initiated between various interests with a view of bringing the parties together, but without effect.

The Hamilton Radial Electric Ry., on Jan. 2, filed with the Exchequer Court of Canada a scheme of arrangement with its creditors, but containing no provision for settling and defining the rights of shareholders among themselves. The statement of facts contained in the petition showed that the company was incorporated by an Ontario charter in [illegible], and has operated a railway between Hamilton and Oakville for a number of years, and in the operation has lost a large sum, and is now unable to continue operating owing to lack of funds. The company has a bonded indebtedness of $160,000, and other liabilities of $570,300, none of which is secured by bonds. The directors propose that the company's assets be sold, believing that at the present high prices of materials a considerable portion of the creditors' claims can be paid, which would not be the case if the railway continued to operate under existing conditions. The directors therefore ask for the court's authority to sell the company's assets as a whole, or piecemeal or in parcels, as may be most expedient. The petition states that the following are the officers and directors of the company:—President, Sir John Gibson; Vice President, [illegible] Dixon; acting Secretary, Wm. C. Hawkins; other directors, J. R. Moodie, W. F. Phin, A. Bruce, and J. M. MacDonnell.

After a number of meetings, the Burlington council passed a resolution favoring the suspension of its fare bylaw for a year, but it was reported that the company declined to accept this as a settlement. Meanwhile advocates of the system of electric railways to be built by the Hydro Electric Power Commission of Ontario were active, and as a result Sir Adam Beck attended a meeting of the Burlington council Jan. 17. Bylaws for building lines under the commission's plans were defeated in Hamilton city, Saltfleet and Nelson Townships in 1917, and it was urged that these be resubmitted as speedily as possible, so that advantage could be taken of the present situation to take over the Hamilton Radial Electric Ry. and incorporate it either in its entirety or in part into the commission's projected Toronto-Niagara line.

The whole situation was still in the air at the time of writing, Jan. 20.

Moose Jaw Electric Railway's Financial Position.

The Moose Jaw Electric Ry. submitted alternative propositions to the Moose Jaw, Sask., City Council Jan. 13. The directors stated their willingness to advise the shareholders to offer the company's railway and other property, franchises, etc., to the city on a basis to be determined, and to accept therefor the city's 5% debentures. As an alternative, the company asks for assistance from the city as follows:—Cancellation of the company's present indebtedness to the city for materials and labor in the matter of extra cost of pavements; the company to have immunity from taxation and [illegible] charges until the maturing of the present bond issue in 1930, together with a release from all claims for such as have accrued under the present franchise; an increase of passenger rates to 7c., tickets to be sold at six for 40c. or 16 for $1; the city to support application to the Saskatchewan Legislature in favor of the [illegible] of [illegible], exemption of the company from street maintenance until 1930; and that the city bear the expense of repairing pavements between tracks and 18 in. on either side thereof. The company is favorable to continuing the former half line service on the reopening of the Fourth Ave. bridge, but is opposed to the proposed South Hill extension; the directors will consider the completing and connecting up of the Hall St. extension. The directors point out that by the exercise of the strictest economy, they have been able to provide a street car service during the past seven years at a cheap rate, the receipts having barely covered the cost of operation. The company is not in a position after having met the losses of the past seven years, to meet the expenses of renewals, etc. Unless assistance is given at once, the company will be forced to abandon the enterprise.

After some discussion, it was decided to refer the communication to a special committee to be appointed by the mayor.

The Montreal Tramways Employees Union was reported recently to have under consideration the question of asking for higher wages, pay for spare hands, allowance for clothing, holidays and for a 9-hour day. The president is reported to have stated that it would be some time before the union decided whether to present the demands to the company or not.

Electric Railway Finance, Meetings, Etc.

Brantford Municipal Ry.—W. R. Turnbull, who was chairman of the commission in charge of the Brantford Municipal Ry. for 1918, reported at the commission's inaugural meeting for 1919, on Jan. 17, that the receipts for 1918 were $115,000, and that 2,500,000 passengers had been carried without a single accident. F. J. Calbeck was elected chairman of the commission for this year.

British Columbia Electric Ry. and allied companies.—

	Nov. 1918	Nov. 1917	5 months to Nov. 30, 1918	5 months to Nov. 30, 1917
Gross	[illegible]	$525,629	$2,727,030	$2,368,105
Expenses	[illegible]	384,320	2,192,418	1,935,641
Net	[illegible]	141,309	534,612	141,309

London & Port Stanley Ry.—A proposal was made at a recent meeting of directors of this municipally owned line to have the clauses providing for the increase of yearly rental to the city of London to $30,000, $40,000 and $50,000 at certain intervals repealed, and to insert a provision that at no time should the rental payable to the city exceed $20,000, but it was decided to leave the matter over for the consideration of the 1919 directors.

Moncton Tramways, Electricity & Gas Co.—Under the terms of the trust deed of Jan. 16, 1912, the company received tenders to Jan. 20 for the sale to it at a price not exceeding 5% above par and accrued interest of a sufficient number of bonds to exhaust $15,000 held in the sinking fund for the redemption of bonds.

Mount McKay & Kakabeka Falls Ry.—The annual meeting called to be held in Fort William, Ont., Jan. 15, was adjourned on account of the absence from the city of several of the directors.

Niagara, St. Catharines & Toronto Ry.—Niagara Falls, Ont., ratepayers, on Jan. 1, voted in favor of the bylaw providing for the purchase of the company's subsidiary, the Niagara Falls, Wesley Park & Clifton Tramway Co., with all its real and personal property, on payment of the actual value, to be determined by the Ontario Railway and Municipal Board. The vote was: "Yes," 682; "No," 193. The line is 4.56 miles long, and is operated under franchises which expire in March and April, 1920.

Regina Municipal Ry.—

Estimated revenue, Dec., 1918 ..	$21,800
Estimated passengers carried, Dec., 1918	454,000
Estimated total revenue, 1918	$230,582.25
Total revenue, 1917 .	$215,074.05
Passengers carried, 1918	4,923,752
Passengers carried, 1917 ..	5,112,460

Toronto Civic Ry.—The revenue for Dec., 1918, was $32,075.47; passengers carried, 1,922,409, against $26,971.02 revenue, and 1,605,611 passengers carried in Dec., 1917. The total revenue for 1918 was $331,896.73; passengers carried, 19,-[illegible] against $278,147.15 total revenue and 16,478,391 passengers carried in 1917.

Toronto Railway.—The gross railway earnings for 1918 were $6,528,800, against $6,[illegible] for 1917. The percentage paid to the city for 1918, was $1,046,495, against $[illegible] for 1917.

Toronto Ry., Toronto & York Radial Ry., and allied companies.—

	Nov. 1918	Nov. 1917	11 months to Nov. 30, 1918	11 months to Nov. 30, 1917
Gross	$[illegible]	$1,[illegible]	$11,716,181	$10,986,998
Exp	[illegible]	[illegible]	6,444,925	5,954,822
Net	486,042	[illegible]	5,271,256	5,032,176

Winnipeg Electric Ry. and subsidiary companies.—

	Nov. 1918	Nov. 1917	11 months to Nov. 30, 1918	11 months to Nov. 30, 1917
Gross	$283,721	$305,881	$3,252,863	$3,039,397
Expenses	260,601	218,993	2,550,492	2,290,421
Net	23,120	86,888	702,371	748,976

The deficit, after allowing for fixed charges, for November, was $33,814.

Elimination of Unnecessary Stops in Winnipeg.

One of the first things A. W. McLimont, General Manager, Winnipeg Electric Ry., did when he first went to Winnipeg in Oct., 1917, was to have a careful survey of the stop situation in the city made. At that time very few of the stops were designated and it was the practice for the cars to stop at the far side of street intersections. He had the various routes taken one by one, unnecessary stops eliminated, and plans submitted to the civic authorities in each case showing the stops it was proposed to designate as permanent. The general public and the authorities recognized the improvement in service that would result from eliminating unnecessary stops and co-operated. The permanent stopping places were designated by painting the lower portions of street poles adjacent to the stopping place, white, and lettering the words "Car Stop" in black on the white surface. The telephone, telegraph and electric lighting companies, as well as the city street lighting system, gladly granted permission to use their poles for this service without charge.

Before stops were eliminated on any route, the public was notified by window posters pasted on the windows of the street cars or by large advertisements in the daily newspapers. The net result is that within a year Mr. McLimont eliminated at least one-third of the stopping places in the city. The service has been speeded up and the general public is much better satisfied. No reason other than that it resulted in faster service was given to the citizens or authorities when stops were eliminated. Mr. McLimont has eliminated the stops and faster service is being supplied and everybody seems to be satisfied. Although minor adjustments in the location of stops will inevitably have to be made from time to time as local conditions change, no one has even suggested that the old system be reverted to.

The Winnipeg Electric Railway's Franchise, Value, Etc.

Winnipeg's city solicitor, in a recent report to the city council on the Winnipeg Electric Ry.'s contract, pointed out that the company's franchise does not expire in 1927, as generally understood, but that in that year the city will have, on giving six months notice of its intentions, the right to take over the line at a valuation. If the city does not exercise its option, the company's franchise would continue, but the city has the right, on giving one years notice, to take over the line at the end of any five year period. If the company secures a variation of the contract as to fares, it might be argued that a restriction of the period of the franchise would be a proper concession for the city to ask from the company. Then there is the question that might arise when the time for taking over the line arrived, viz.: whether the city transportation could not be conducted in a more efficient manner than by an electric railway as at present laid out, in which event the city might have to purchase an obsolete system in order to rid itself of a franchise incubus on its streets. The letter was filed without discussion.

In the report referred to, mention is made of the fact that the city may take over the line at certain fixed periods on a valuation basis. An appraisal is being made of the company's property by engineers and accountants for the Manitoba Public Utilities Commission, and by representatives of the company, in connection with the company's application for authority to charge an increased fare on its electric railway. It is pointed out that the investigation will show the reproduction value of the company's electric railway property, and that to have the value of the electric railway thus independently determined should completely eliminate any question about the company's capitalization.

At a meeting of the Winnipeg board of control on Dec. 31, it was reported that the amount of taxes, percentages and arrears due by the company totalled $407,499.47, made up as follows:—1916, $4,012.77 taxes and $722.30 in percentages; 1917, $185,139.03, with $16,662.51 in percentages; and 1918, $200,918.86. The percentage for 1918 had not been ascertained.

Regret at Jas. D. Fraser's Death.

The following resolution was unanimously adopted at Ottawa Jan. 14:—"The members of the Canadian Electric Railway Association's executive committee, at their first meeting after the death of Jas. D. Fraser, and at the scene of his activities for over a quarter of a century, desire to place on record their deep regret at his death, and their appreciation of him as a trusted advisor, a true friend and a most lovable character. As a member of the association's executive committee for many years, and as Vice President and President, he rendered most valuable services to electric railways throughout Canada. The members of the committee also desire to express their deep sympathy for Mr. Fraser's relatives and with Messrs. Thos. Ahearn and Warren Y. Soper, with whom he was associated in business, and of whom he was a trusted friend for very many years."

Montreal Tramways Co.'s Franchise.—A Quebec press dispatch of Jan. 22 stated that G. Mayrand, M.L.A. for Dorion, would give notice that afternoon, in the Legislative Assembly, of a bill to abolish the Montreal Administrative Commission and annul the Montreal Tramways Co.'s franchise, and that the bill would provide that no franchise be granted hereafter by the Quebec Legislature without being ratified by a referendum. In this connection it should be borne in mind that the act respecting the city of Montreal, which included among other things the Montreal Tramways Co.'s new franchise, was a government measure. It seems hardly likely that Mr. Mayrand's bill will be seriously considered.

The Quebec Ry., Light & Power Co. is about to place "Cars stop here" signs at all points where its cars stop to let off and take up passengers. The signs have been ordered from Acton Burrows, Limited, Toronto.

R. S. Bauer, Lynn, Mass., advocates a free street car service, by cities, on the same principle that free elevator service is provided in public buildings, and free bridges and highways are maintained at the cost of the taxpayers.

Toronto Suburban and Toronto Eastern Railways Acquired by Canadian Northern Railway.

As stated in Canadian Railway and Marine World for January, the Canadian Northern Ry. is taking over the Toronto Suburban Ry. Co.'s property, including 69.53 miles of line under operation, and is also taking over the Toronto Eastern Ry. Co.'s charter, partially constructed railway, etc. Both are electric lines. It is said that the C.N.R. Co. has acquired the common stock of both companies in consideration of assuming their liabilities, including bonds, etc.

The Toronto Suburban Ry. Co. was incorporated by the Ontario Legislature in 1894, with authorized capital of $250,000, and with power to issue bonds for $20,000 a mile, mainly for the purpose of taking over and amalgamating two separate pieces of electric railway in municipalities north and west of Toronto, but terminating at the city boundary. These lines were built under franchises granted to the Davenport Street Ry. Co., dated Apr. 20 and June 8, 1891, and to the City & Suburban Electric Ry. Co., granted Oct. 5, 1891, and amendments to the same. The municipalities concerned were the township of York, the town of Toronto Junction, the franchises being for 20 years, with certain renewal privileges. A subsequent agreement was made with the village of Weston. The City & Suburban Electric Ry. Co. was the successor of the Weston, High Park & Toronto St. Ry. Co., incorporated under the Ontario Joint Stock Companies Act. Nov. 12, 1890, the title of the company being changed in the following year by the Ontario Legislature. The lines built and operated under these franchises were as follows:

The City and Suburban Electric Ry. built on Keele St., from St. Clair Ave. to Dundas St.; Dundas St., from Humberside Ave. to Lansdowne Ave.; Humberside Ave., from Dundas St. to Glendonwynne Road; Glendonwynne Road to Glenholme Drive, along Glenholme Drive to Fairview Ave., on to Louisa St., along Louisa St., to Lansdowne Ave., and along this avenue to Dundas St.

The Davenport St. Ry. built from the crossing of Bathurst St., by the C.P.R., to St. Clair Ave., thence westerly along Davenport Road to St. Clair Ave., and along that avenue to Toronto Junction.

When consolidated as the Toronto Suburban Ry. Co., there were 9.89 miles of lines, extending from Humberside Ave., on Dundas St., the then boundary of the City of Toronto, along Dundas St. to Lambton Park, with a branch southerly to Evelyn Crescent, a line to Weston, branching from Dundas St. at Keele St., and the Davenport Road line, branching from the Weston Road line, and terminating just north of the C.P.R. tracks on Bathurst St. The gauge of these lines was 4 ft. 10¾ in. On the extension of the Toronto city boundaries in 1899, an arrangement was made by which the Toronto Ry. operated its cars over the T. S. Ry. line from Humberside Ave. to Keele St., that piece of line being relaid to the Toronto city gauge. The corner of Keele St. and Dundas St. thus became the meeting place of the two lines.

In 1901, the company obtained legislative authority to extend its line from Lambton to Hamilton, and in subsequent years the legislature granted further powers for the construction of lines from Hamilton to Niagara Falls, from Weston to Woodbridge, from Lambton to Brampton; branch lines in the Niagara Peninsula; Lambton to Guelph, Berlin, etc., a branch from Cooksville, and a line from near Brampton to connect with the existing Davenport Road line. Some of these lines were authorized to be built, subject to agreements with the local municipalities, along the public highways, and as late as 1916, surveys were made along the highways in certain parts of Peel County by the company's engineers.

It was not until 1911, however, that steps were taken to undertake any construction, following the passing of the control of the company to Sir William Mackenzie and associates in June of that year. This was followed by an issue of £540,000 of 4½% debenture stock in England. The first line built was that from Weston to Woodbridge, of which 0.6 of a mile was built on the highway between the northern boundary of the Village of Weston to the boundary of York Tp., the rest of the route being along the Humber River valley on private right of way. Construction was started in the spring of 1912, and the line was put in operation Oct. 10, 1914.

Construction was started on the Lambton-Guelph line in 1913, and tracklaying was completed in 1915; but it was not until the autumn of 1917 that the line was put in operation. Some grading has been done between Guelph and Berlin, but work was suspended owing to the war.

Both the Woodbridge and Guelph extensions are standard gauge, and in order to operate cars to the Keele-Dundas St. junction with the Toronto Ry., the company, in 1916, applied for power to connect the Guelph extension with the old line at Lambton Park, and to change the gauge of the line. The City of Toronto objected, but the Ontario Railway and Municipal Board gave the necessary powers.

The company built a large car barn, etc., at Lambton, a full description of which was given in Canadian Railway and Marine World for May, 1916.

The statistics for the year ended June 30, 1917, show that the company had outstanding $1,500,000 common stock, and $2,628,000 of bonds. It then owned 15 closed and 3 open passenger cars, 1 freight car, 1 mail, express and baggage car, 2 work cars and 2 sweepers; but this equipment has been added to considerably since then, by the addition of the 10 center entrance cars, built for the Lambton-Guelph line, described and illustrated in Canadian Railway and Marine World for Mar., 1916. Other cars have also been added on both the Guelph and the Woodbridge lines.

The earnings for the year ended June 13, 1917, covering the operation of 18.79 miles of track, were:—Passenger, $168,895.15; freight, $1,076.43; mail and express, $1,991.41; miscellaneous earnings, $35,351.90; gross earnings, $207,317.50. Operating expenses absorbed $104,406.02, leaving $102,911.48 as net earnings from operation. The company received $1,863.70 from miscellaneous sources which gave a total of $104,775.18, out of which taxes absorbed $2,698.39; interest on funded debt $29,929.72; interest on floating debt, $6,255.83; all other deductions from income, $19,661.07, making a total of $58,545.01, and a net income of $46,230.17.

The officers of the Toronto Suburban Ry. Co. are: President, Sir Wm. Mackenzie; Secretary-Treasurer and General Manager, G. C. Royce. Alan H. Royce was Vice President, up to the time of his death, some months ago. The other officials are, Assistant Manager, W. J. Radford; Purchasing Agent, R. Gilbert; Superintendent of Rolling Stock and Substations, J. W. Walker; Electrical Engineer, S. Rosevear; Roadmaster, F. Lindsay; Assistant Road Master, B. Sharpe.

The management of both the Toronto Suburban Ry. and the Toronto Eastern Ry. will, it is said, be given to F. W. Oliver, heretofore Assistant Engineer, Canadian Northern Ry., Toronto, who has been appointed General Superintendent, Niagara, St. Catharines & Toronto Ry., to succeed E. F. Seixas, heretofore Manager, who has been appointed General Manager and Official Representative, Monterey Ry., Light & Power Co.

The Toronto Eastern Ry. Co. was incorporated by the Dominion Parliament, April 12, 1910, to build and operate a railway from Toronto easterly through Whitby, Oshawa and Bowmanville to Cobourg, Ont., with the following branches:—From Cobourg or Port Hope northerly to Peterborough; from Scarborough Tp. northerly to Markham, Stouffville and Uxbridge; from Oshawa northerly via Scugog to Lindsay; from Oshawa southerly to Lake Ontario. Extension of time for construction was granted in 1915, the time for starting construction being limited to 2 years, and for completion of the lines to 5 years.

In July, 1910, the main line was located from Bowmanville to Cherrywood, 23.5 miles; the route map being approved by the Minister of Railways Oct. 14, 1910, and the location plans by the Board of Railway Commissioners Feb. 24, 1911. On Sept. 12, 1912, a route map was submitted to the Minister of Railways and approved by him for the route from Pickering westerly. This line was to cross the Kingston Road just west of Pickering Village and pass through the territory adjacent to the lake, and recross the Kingston Road close to the G.T.R. crossing near the Scarborough Golf Club; the location plans for which were approved May 29, 1913. The location of the line through Bowmanville is along Wellington St., one of the main thoroughfares; through Oshawa, the line passes along Bond St., and through Whitby, along Mary St. In general, the location is as close to the Kingston Road as possible.

A contract was let and work was started in the spring of 1912, and grading has been completed from the eastern end of Wellington St., Bowmanville, westerly to Pickering Village, 10.5 miles. Track was laid and ballasted from Bowmanville to the western limits of Whitby, 14.5 miles. The rails used were 60 lb., with continuous angle bars, except along the streets through towns, where 80 lb. rails were laid. No overhead or other electrical work was done, and all operations came to a standstill after war broke out. A suit over the right of way through the Ruddy property at Pickering, the site of the old Pickering College, is reported to have also affected the progress of construction.

The Winnipeg Electric Ry. has organized a welfare bureau for its employes.

Montreal Tramways Co's Finances.

The Montreal Tramways Co. was reported at the Montreal City Council, Jan. 13, to be indebted to the city to approximately $800,000, and instructions were given to the legal department to take steps to collect it.

In this connection there have been reports for some time as to negotiations for the placing of $7,300,000 of 6½% five year notes of the Monteral Light, Heat & Power Co., in which notes the Montreal Tramways Co. was interested. It was reported Jan. 13 that the notes had been placed with a Montreal syndicate, but on the following day it was stated that the matter had not been finally concluded. The object of the issue is to provide for the retirement of $5,350,000 two year 6% notes falling due in New York in April, and to provide some additional capital. The nature of the arrangement between the two companies is reported to be such as will concentrate all power business in the Montreal Light, Heat & Power Co. control, leaving the electric railways only to the Montreal Tramways Co.

Electric Railway Employes' Wages Arbitrations.

Grand Valley Ry. and Lake Erie & Northern Ry.—As stated in Canadian Railway and Marine World for January, the Minister of Labor appointed a board of conciliation to deal with the question of wages, etc., for this company's employes, F. H. McGuigan, Toronto, representing the companies, J. G. O'Donoghue, the men, and County Judge McGibbon, of Brampton, being chairman. As a result of the award, an agreement was signed Jan. 14 between the company and its employes, who are members of the Amalgamated Association of Street and Electric Railway Employes of America, Division 833. Following is a comparison of the old rates per hour, the rates asked by the men, and the rates awarded by the arbitrators, the new rates being effective from Dec. 16, 1918, to Oct. 31, 1919.

	Old rates	Rates asked	New rates
Conductors and motormen, passenger:			
First 6 months	...	36c	...
Second 6 months	...	37c	...
First year	34c	...	36c
Third 6 months	...	38c	...
Thereafter	...	40c	...
Second year	35c	...	37c
Third year	36c	...	38c
Fourth year and after	37c	...	39c
Conductors and motormen, freight	40c	...	42c
Junior brakemen:			
First 6 months	34c	36c	36c
Second 6 months	34c	40c	36c
Thereafter	34c	43c	36c
Senior brakemen, freight	37c	...	39c

The Toronto Ry. made an agreement with its employes in Aug., 1917, granting an increase in wages from June 16, 1919, based not only on the then increase in the cost of living, but also to some extent on the increased cost of living anticipated thereafter, and until the expiration of the agreement on June 30, 1919. Towards the end of 1918, the men decided to ignore the agreement and asked further advances, by way of bonus, commensurate with the increased cost of living, which they claimed should be an average of a percentage varying from 29.7 to 53.3%. They applied for a board of conciliation, which was opposed by the company on the ground of the existing agreement, but the Labor Minister decided to appoint a board, which was constituted as follows: F. H. Phippen, K.C., representing the company; H. W. Harper, representing the men, and County Judge Barron, of Stratford, as chairman. On Jan. 3, Judge Barron and F. H. Phippen signed a majority report, stating that, for the reasons given fully in their respective judgments, they awarded as follows, That the employes affected by the reference, whose wages under the existing schedule are 30c an hour, be given an increase of 2½c; that all other employes affected by the reference be given an increase of 2c; all increases to date from November 1, 1918. They decided that no change be made in the payment of overtime, and no change in the length of time to elapse before employes go on a higher scale of wages. The men's representative, H. W. Harper, made a minority report, to the effect that the men were entitled to their full demands. The following table shows conductors and motormen's wages per hour under the agreement to June 30, 1919, the increased rates they asked and the rates granted by the majority of the board,—

	Old rate	Asked by men	Rate granted
First 6 months	30c	...	32½c
First 3 months	...	43c	...
Next 3 months	...	43c	...
Second 6 months	32c	...	34c
After 6 months	...	48c	...
Second year	35c	...	37c
Third year and after	37c	...	39c

The following table shows the motor and truck repair and shedmen's wages, under the agreement to June 30, 1919, and the increases awarded by the majority of the board.—

	Old rate	New rate
Motor and truck repair men:		
First 6 months	30c	32½c
Second 6 months	32c	34c
Second year	35c	37c
Third and subsequent years	37c	39c
Shedmen:		
Foremen	37c	39c
Operating shedmen, who operate and do general shed work	33c	35c
Shedmen doing general work, but not operating cars	32c	34c
Car cleaners	31c	33c

It is said that the additional outlay for the company for the period for which increases are granted, viz., to June 30, 1919, will be between $75,000 and $85,000.

The company has intimated its willingness to accept the award, and the men were to meet on Feb. 1 to decide whether they would accept it or appeal to the Dominion Appeal Board.

Electric Railway Projects, Construction, Betterments, Etc.

Berlin & Northern Ry. Co.—The Ontario Legislature is being asked to authorize the company to change its name to the Waterloo-Wellington Ry. Co., and to extend for three years the time within which it may extend its line from Bridgeport to Elora and Fergus, Ont. (Sept., 1914, pg. 431.)

Brantford Municipal Ry.—The ratepayers of Brantford, Ont., on Jan. 6, by a majority of 838, approved of a bylaw authorizing the extension of the line into the Terrace Hill district, and the provision of extra rolling stock at a total estimated cost of $125,000. (Jan., pg. 40.)

Calgary Municipal Ry.—The commissioners were asked by a deputation on Jan. 11, to extend the line up Centre St. on the north hill to North Balmoral, Calgary, Alta. It was stated in the course of the discussion that the commissioners had practically decided to extend the Centre St. line as a single track to Sixteenth St., for which rails are on hand. One objection to the extension to North Balmoral is the estimated cost of $10,000 for the double intersection at Sixteenth St. The matter will be considered further. (Oct., 1918, pg. 453.)

Cape Breton Electric Co.—At a recent meeting of the Sydney, N.S., City Council the extension of the company's lines was advocated, and Alderman Steel asked for the promotion of a line from Sydney to Low Point and New Waterford.

London & Lake Erie Ry. & Transportation Co.—A St. Thomas, Ont., press report Jan. 15 stated that the estate of the late James Duffield, of London, Ont., had arranged to take over a controlling interest in the company's holdings and to reopen the line; that Grand Trunk Ry. and Wabash Rd. interests were associated with the new undertaking, and that the electric railway would be connected up with the G.T.R. in St. Thomas. (Dec., 1918, pg. 557.)

We are officially advised that the reports are without any foundation. (Dec., 1918, pg. 557.)

London St. Ry.—We are officially advised that the company may relay some small sections of its line in London, Ont., if the city council decides upon paving the same during this year. The company is also considering making some alterations and slight extensions to its shops. It may therefore be in the market a little later for rails, ties, and shop material. C. B. King, London, Ont., is Manager. (Feb., 1918, pg. 77.)

Toronto Ry.—At a meeting of the Toronto City Council's works committee, Jan. 16, the Works Commissioner was instructed to report as to the possibility of the completion of construction of the line on Pape Ave.

Edmonton Radial Railway's Future.

In the course of a review of the Edmonton Radial Ry.'s operations published Jan. 14, Superintendent Moir is reported to have said that the influenza epidemic hit the system at a most critical time. Receipts fell away alarmingly, and expenses took a new spurt. Despite all the unexpected setbacks, the system is regaining its strength rapidly and the worst is over. The present average fare is 5.02c, and although the operating surplus for 1918 was $125,000, the deficit is constantly mounting up. The total operating costs and capital charges amount to about $636,000 a year. The present number of passengers carried is 10,300,000, and conceding that there will be a drop to 10,000.-000 with the 6c fare, the revenue would be $600,000. The one-man cars are giving good satisfaction, and have resulted in a saving of $245 a day. With a full service of one-man cars and a 6c fare, the railway should break approximately even. When the population of the city reaches 100,000 it will be necessary to operate two-man cars and to have a zone system of fares.

Superintendent Moir estimated that it would take about three months to catch up on the repair work of the cars. New wheels, with ample gearing for 20 cars, are in stock. During the past two years 50 cars have been remodelled, at a cost varying from $50 to $400 each.

The Nipissing Central Ry. has 2 motor passenger cars on order with the Preston Car & Coach Co., and will shortly be in the market for 2 more cars of similar type.

Marine Department

Trawler and Drifter Construction in Canada for British Government, Through the Canadian Naval Service Department.

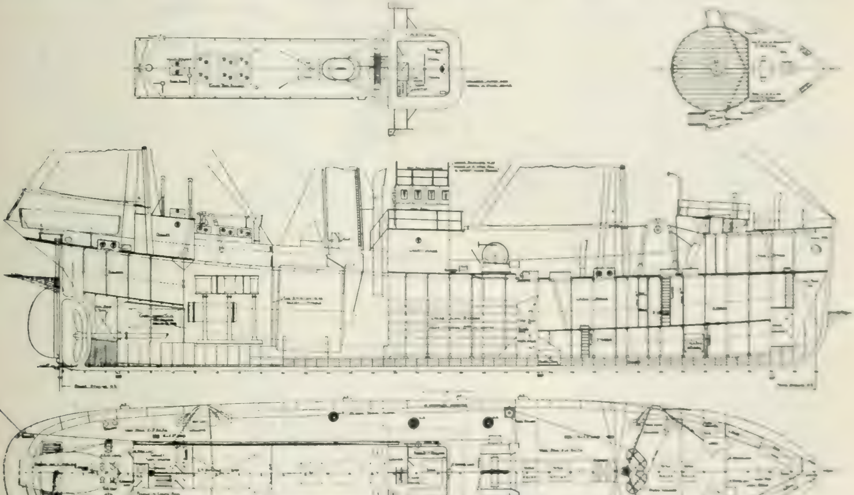
A few years previous to the outbreak of war, the British Admiralty realized that the ordinary steam trawler, on account of the arrangement of the fishing gear and the general design of the vessel, would be particularly adapted for the purpose of mine sweeping. A very large number or these vessels are always in operation from the great fishing centers of the British Isles, and in case of necessity can immediately be called upon for naval duties.

It was decided, after consultation with the large trawler owners, to establish a trawler reserve, and the conditions of hire and payment were provisionally arranged. This branch of the navy came under the Royal Navy Reserve, and was called the Royal Navy Reserve, Trawler Division—known as R.N.R.(T.). It consisted of about 100 steam trawlers owned by fishing companies in various ports around the British Isles. Arrangements were made that the vessels enrolled in the R.N.R.(T.) could be called upon at any time and used for naval service.

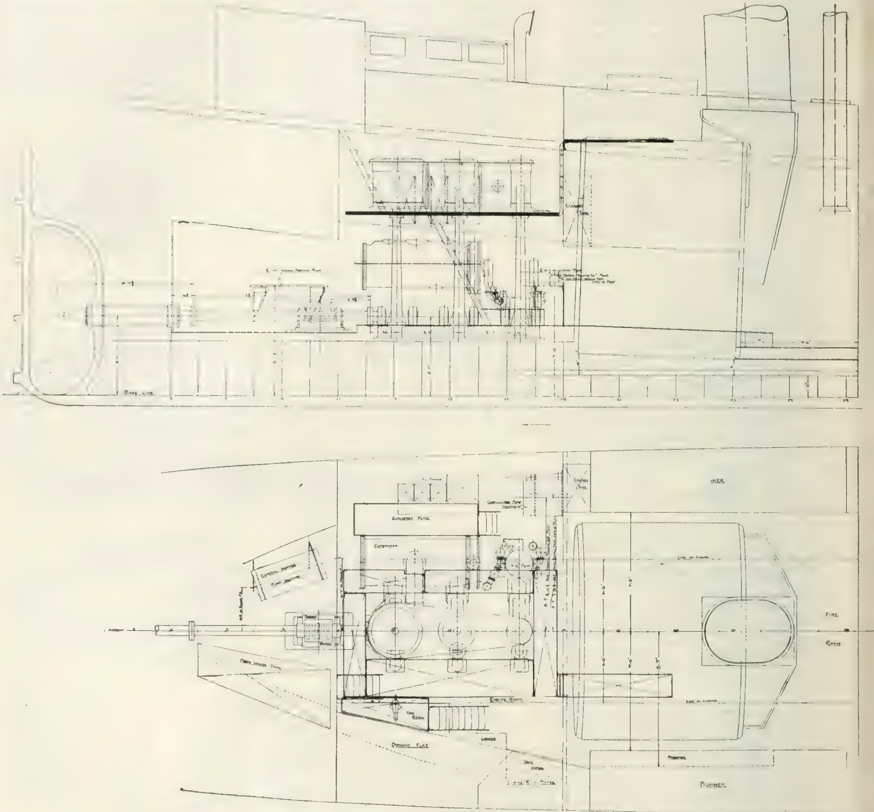
In order to provide crews, recruiting officers were sent to the large fishing centers, and the fishermen and engineers (who largely constitute the crews of the steam trawlers), were recruited and enrolled in the R.N.R.(T.) section. These men were paid a yearly retaining fee, on condition that they carried out certain drills every year. In order that proper instruction could be given to this new branch of the service, the Admiralty purchased four modern trawlers, which were fitted in exactly the same way as the ordinary steam trawler, but in addition, mine sweeping kites and arrangements were introduced. These vessels operated at stated periods from the large fishing centers in the British Isles, so that the men resident in each district could carry out their training and become fully proficient in the proper use of mine sweeping gear.

On the outbreak of hostilities the R.N.R.(T.) mine sweeping flotilla was immediately mobilized and commenced its duties in the North Sea on the second day of the war. Mines had been laid off the east coast of England on the first day of the war by a German mine layer, which was no doubt in readiness to commence operations before war was declared, and it was the duty of the R.N.R.(T.) mine sweepers to keep a clear course along the coast, so that the coastal traffic could be carried on without interruption.

The expected naval battle of the Grand Fleet and the German High Sea Fleet did not take place. The German fleet was kept in port, and it was immediately seen that their policy was one of attrition, attacking our vessels singly, by submarines and mines, until the numbers had become so reduced that they could risk


General arrangement, Steel Screw Trawlers.

an engagement with some hope of victory. To meet this new condition, it became necessary to place our fleet in a safe harbor, where it could be always held in readiness, and at the same time not exposed to attacks from enemy submarines, which were operating at this time in the North Sea in large numbers. Scapa Flow, in the Orkney Islands, was chosen for this purpose and the fleet safely berthed, but always ready.



Boiler and Engine Arrangement, Steel Trawlers.

At the same time it was also necessary to provide a constant watch around the shores, and to employ such vessels for submarine attacks as would not prove an easy target, and yet be effective in destroying the submarines. The trawlers were chosen for this purpose, as they could cover the sea in great numbers, and each vessel being of comparatively small value, and their crews consisting of 12 men, the losses would by this means be reduced to a minimum.

It became apparent that the trawler reserve would not meet the requirements, and to carry out this important work practically the entire British fishing fleet, comprising about 4,000 vessels, was taken into Admiralty service. Only a few vessels were left to their owners for fishing work, and these were compelled to operate in prescribed areas which were cleared of mines. The trawlers taken over were first manned by R.N.R.(T.) crews, but when this division became exhausted, the ordinary fishing crews were taken into the service, and the work which they have accomplished is now known to the whole world as one of the finest achievements of the war.

The whole of the British Isles was then divided into a series of numbered areas, each under the control of a naval staff and directly controlled by a central administration at the Admiralty. Each area was divided into bases, from which ports the trawlers operated, and patrols were arranged so that a complete chain could be maintained on watch around Great Britain continually. In addition to this work, escorting duties were also carried out by the trawlers, and operations with submarine nets conducted by the drifters.

As the war progressed and operations were commenced in the Mediterranean, it became necessary to send the fishing vessels to foreign waters. The sphere of action became so extended and continually increased, that it was found that the number of vessels available would not meet the demand. The Admiralty then decided to build 500 new trawlers in the British Isles, but as the ranks of the workmen were already thinned to a minimum for military purposes, and all shipyards were working at full pressure on important naval orders, great difficulty was found in obtaining the number of vessels required without interfering with equally important work.

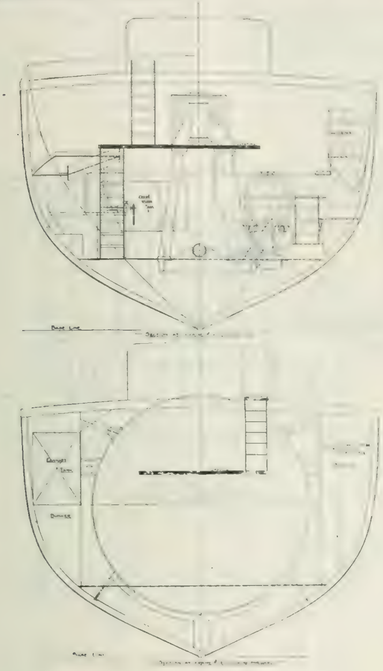
Canada was then asked if it could assist the Admiralty by building trawlers and

drifters to meet this urgent need. The then Minister of Naval Service, the Hon. J. D. Hazen, and the Deputy Minister, Geo. J. Desbarats, C.M.G., immediately enquired what could be done, and it was ascertained that 100 wooden drifters and 36 steel trawlers could be built in this country, as the shipyards were in a condition to carry out this work.

A branch of the Naval Service Department was thereupon organized to handle this work, and J. W. Norcross, Vice President and Managing Director of the Canada Steamship Lines, who offered his services, was appointed at its head, as Director of Ship Construction. The department was glad to avail itself of his intimate knowledge of the shipbuilding resources of the country, and of his organing ability and energy. Commander J. W. Skentelbery, R.N.V.R., was lent by the British Admiralty as expert adviser for the whole of work. The task was a great undertaking, considering that vessels of this kind had not been constructed in Canada, and that the supply of labor and facilities were of a very limited order. The shipbuilders and engineers were immediately called together and after careful consideration, orders for the vessels were allocated to the various firms, and the work was placed as follows:

Drifters.

Canadian Vickers Limited	26
Montreal Harbor Commissioners	4
Leclair & Sons, Sorel, Que.	6
Sorel Shipbuilding & Coal Co.	8
Dominion Government Shipyard, Sorel, Que.	[illegible]
Jas. Sheppard & Sons, Sorel, Que.	3
Davie Shipbuilding & Repairing Co.	50
	100



Boiler and Engine Arrangement, Steel Trawlers.

Trawlers.

Canadian Vickers Limited	11
Dominion Government Shipyard, Sorel, Que.	[illegible]
Kingston Shipbuilding Co.	[illegible]
Polson Iron Works	[illegible]
Collingwood Shipbuilding Co.	8
Port Arthur Shipbuilding Co.	6
	36

In July a further order for 24 trawlers was placed as follows:—

Port Arthur Shipbuilding Co.	[illegible]
Davie Shipbuilding & Repairing Co.	[illegible]
Dominion Government Shipyard, Sorel, Que.	3
Kingston Shipbuilding Co.	4
Toronto Shipbuilding, Ltd.	3
	24

The entire work of making out plans and ordering material was placed in the hands of the Canadian Vickers, Limited, which supplied full detailed drawings to all firms.

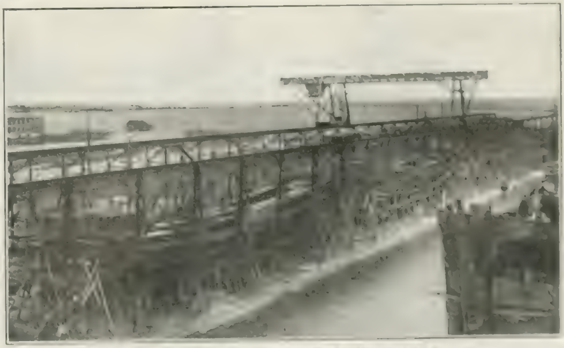
The trawler, which obtains its name from the French word "tralieur"—to drag or pull, was built of steel; length 125 ft., breadth 23½ ft., moulded depth 12½ ft. These vessels when fully loaded and ready for sea have a draft of water aft of 15¼ ft., and are a fine sample of the best design of British trawler.

The machinery consist of triple expansion engines having cylinders h.p., 12¾ in.; i.p., 21½ in.; and l.p. 35 in. diameter by 24 in. stroke, capable of developing about 500 indicated horse power at 118 revolutions a minute, which drives the vessel a speed of 10 knots an hour. A separate surface condenser is fitted, also a direct-acting steam reversing engine, and the most modern and up-to-date equipment for a vessel of this type. Steam is supplied by a large 3-furnace marine multitubular boiler of 180 lb. working pressure.

The coal bunker capacity is 160 tons, which will allow the vessel to remain at sea for 30 days. Large water tanks are fitted for the supply of fresh water for the boilers and accommodation arranged for 14 men in all.

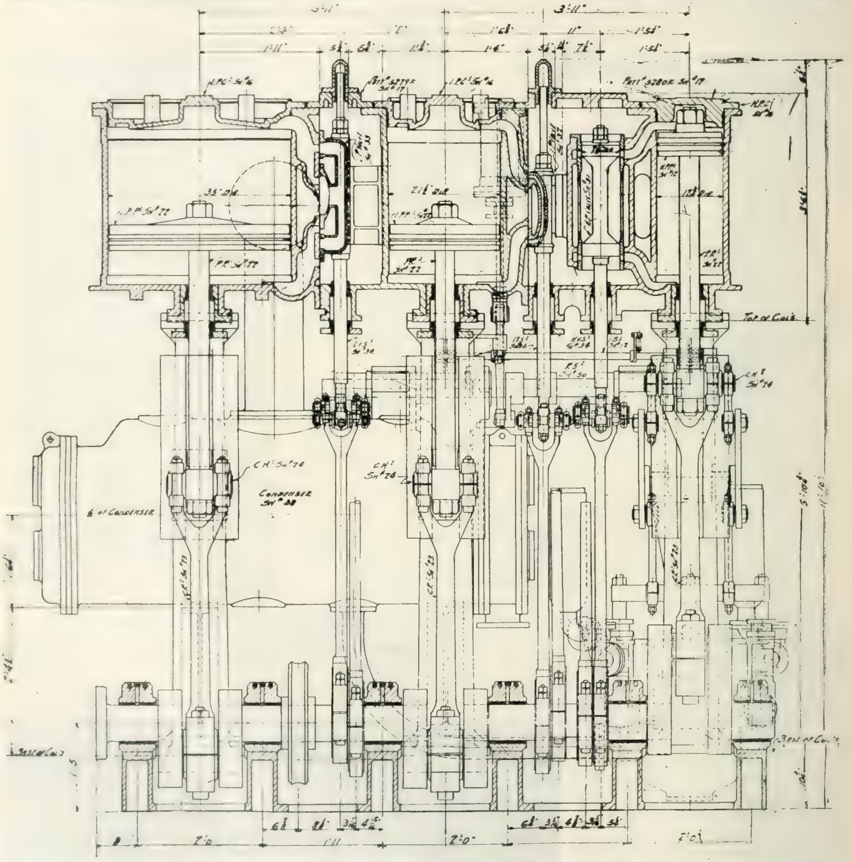
The trawlers are fitted with electric light and wireless telegraphy installation. The electric light installation consists of a 7½-k.w. generator, which serves for lighting the vessel, and also for operating the wireless telegraphy gear. The generating engine is designed in accordance with the best practice and built of the highest grade material of respective sorts procurable.

All bearing surfaces are very large [illegible] necessary for high-speed engines of this type. The crank shafts and connecting rods are of forged steel, [illegible]



Steel steam trawlers being built at Collingwood Shipbuilding Co.'s yard.

being forged solid on the end of the piston rod. All surfaces are lubricated by forced lubrication under an oil pressure of 20 lb. a square inch. The governor is of the centrifugal type, mounted direct on the crank shaft, and is so adjusted that a full load could be thrown on and off without affecting the speed of the engine. Owing to the limited space, these machines are of a very compact design, and are so arranged that they will run for long periods practically without attention.



Triple expansion engines for steam trawlers, 12¾-21½-35 x 24 in. stroke, 180 lb. w.p.

The whole of the fishing machinery is fitted on deck, arranged identically with the best type of British steam trawler. The trawl winch, which plays an important part both in fishing and mine sweeping, has cylinders 9 in. diameter by 14 in. stroke, and works at full boiler pressure. The main shaft is of forged steel, 7 in. diameter, and carries 2 cast-steel barrels with heavy brass bushings and steel sides, each barrel being capable of winding 1,000 fathoms of steel cable. The main driving wheels are of helical cast steel gearing, and the main clutch gear, which engages the barrels, is of cast steel fitted on a square so as to do away with the use of keys. This winch, when complete, weighs over 9 tons.

Full detailed drawings were supplied for all machinery, boilers, winches, deck fittings, and in fact, every part of the vessel was specially designed to withstand the arduous duties which it has to perform.

The drifter, which obtained its name from the mode of fishing with drift nets, was built of wood, length 84 ft., breadth 19¼ ft., draft of water aft 9 ft.

These vessels were fitted with compound surface condensing engines having cylinders h.p. 12 in., l.p. 24 in., stroke 16 in., designed to indicate about 200 h.p. at 140 revolutions a minute, which would give the vessels a speed of 8½ knots an hour. Steam was supplied by a multitubular marine type boiler, fitted with two furnaces, designed for 140 lb. working pressure.

The vessels were arranged in every way similar to the ordinary British herring drifters, a very large number of which are continually operating around the British Isles. Accommodation was arranged for a crew of 10 men, some being placed in the cabin aft, and the remainder in the forecastle. Steel casings were fitted over the engine and boiler room, the after part of which forms a galley on deck, and the forward part the wheelhouse.

Coal bunker capacity was provided for 13 tons in side bunkers, and 7 tons in a cross bunker, and 2 large tanks were fitted for supplying fresh water for the boiler. Seventeen of the vessels were fitted with accommodation for an officer and wireless telegraphy installation.

These little vessels are of such a model that they are considered the most seaworthy type, and are able to proceed to all parts of the world under their own power.

The whole of the vessels were each fitted with a gun, but have been so arranged that the armament and naval equipment can be easily removed and the vessels used as fishing vessels.

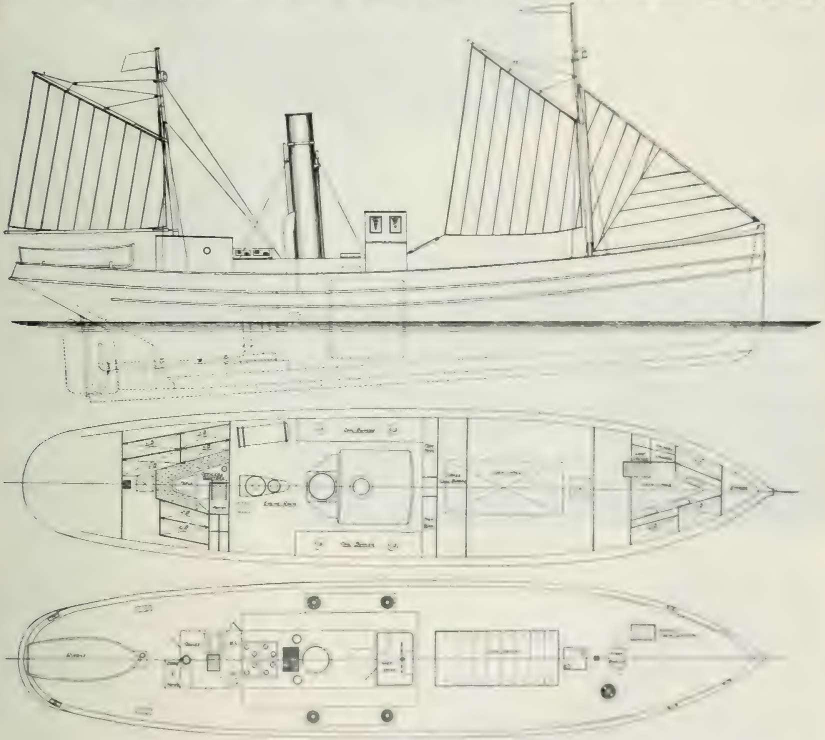
As these vessels were required for war purposes to be used on submarine attacks, the question of prompt delivery was of paramount importance. Even in ordinary times, when factories and labor were not engaged in munition work, the building of 160 vessels of a new type is a formidable undertaking. Mr. Norcross, however, tackled the problem in no uncertain manner. His able assistant, A. A. Wright, proceeded direct to the Pacific coast to obtain the timber to build the vessels, and although the orders to build were only placed about the middle of Feb., 1917, the timber was arranged for and delivery commenced in six weeks.

Transportation offered many difficulties, owing to the already congested state of the railways, but in spite of all this, some cars were only 10 days between Vancouver and Quebec.

The timber used in the construction of the drifters is fine clear Douglas fir, which was purchased sawn to specifications and delivered to the yards, and the whole order of 100 drifters has long since been completed, and many of them have crossed the Atlantic and done service on the other side, whilst the remainder have been used in naval service on the Canadian coasts. The steel plates for the trawler hulls and boilers were ordered and delivered with the greatest possible speed, and the construction of the vessels proceeded without delay.

Whilst the hulls were being built the problem of installing the machinery and finishing the vessels was considered, and a fitting-out basin at Shed 14, Louise Basin, Quebec, was arranged. All machinery and boilers which were not installed at the builders' yards were sent to this place. A carefully considered pipe arrangement drawing was prepared, with each item and pipe numbered. All auxiliary machinery, piping, fittings and other gear were then laid out in sets, and fitted up into units ready to be placed in the vessels. By this means, work could be prepared and easily fitted in place, and in one week 12 drifters were completed, tried under steam and handed over for service. This department handled every vessel which passed through Quebec before proceeding to sea, and in addition to fitting the machinery to the vessels, all gun pedestals and guns were fitted.

One of the most important features of these vessels is the wireless telegraphy equipment, which was fitted to the whole of the trawlers and as before mentioned, to seventeen of the drifters. When on patrol, the vessels are divided into units of six, and two out of this number are fitted with wireless telegraphy gear. By this means direct communication is always maintained between the base from which the vessel operates and the leaders of the patrol, and instructions are sent to each vessel which are communicated by visual signal to the remainder of the patrol which are not equipped with wireless apparatus. Some years ago the Naval Service Department organized a wireless branch, which controls all the wireless work in Canada, coast and ship



Wood Steam Drifter, 84 ft. Between Perpendiculars.

ates the coast stations, inspects all ship stations and operates wireless installation on government ships.

The limited dimensions of these vessels presented a somewhat difficult problem in wireless equipment, but as this was indispensable, and the utility of the vessels largely dependent on their ability to maintain efficient wireless communication, it was essential that this problem should be solved, and after careful consideration and experiment the "cabinet set" was evolved and constructed in the Marconi Telegraph Co.'s factory at Montreal. The result has proved very satisfactory, as the whole installation occupies very small space, and can practically be placed on an ordinary desk, whilst communication could be kept up at 150 miles radius. The cabinets were finished in mahogany and ebonite, and specially designed to withstand the hardest wear and tear which would be encountered at sea, as the work is particularly arduous on such small vessels as trawlers and drifters.

Steel steam trawler T.R. 7, ready for launching by Collingwood Shipbuilding Co.

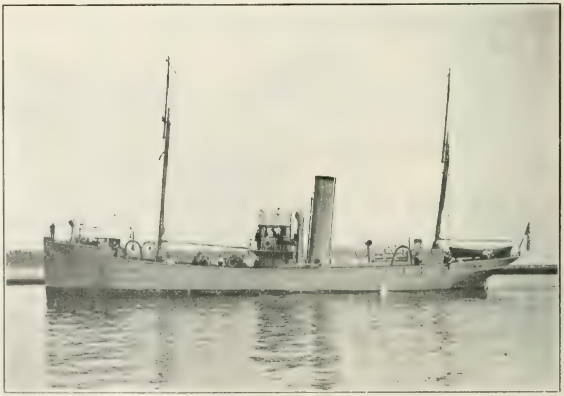
J.F.LEADS
YRDS
Steel steam trawler, being launched by Port Arthur Shipbuilding Co.

Without going into details beyond the scope of this article, the operator's procedure in receiving signals is briefly as follows: A steel needle, not unlike a phonograph needle, is set upon a crystal of carborundum, so as to detect incoming signals, which are made audible by means of a pair of telephones. Having detected signals and made one or two simple adjustments, the operator next proceeds to "tune," that is, to set his receiver in resonance with the distant transmitter, so as to obtain maximum response in his telephones, and this is accomplished by turning an ebonite knob which works a resistance and obtains the desired effect. By following this "tune" until the signal is clearly received, the interference of any other station may be subdued and communication carried on without interruption.

The [illegible] in designing these sets [illegible] both simplicity and efficiency, so that an ordinary operator would be able to carry out any slight adjustment [illegible] worked with practically no attention whatever. The Marconi Co. [illegible] in its up-to-date factory [illegible] and turned out the [illegible] for the service, which, considering the abnormal amount of work which was passing through its hands, reflects great credit upon its enterprise. The completed sets were delivered to the vessels and the installation carried out by the Naval Service's Radio Telegraph Department, and in many cases only two days elapsed from the time that the sets were delivered until they were in working order.

The greater part of this work has long since been completed. A few of the vessels have been sent overseas, but almost the entire fleet has been employed under the Naval Service Department for patrol service and anti-submarine defence work on the Atlantic coast. For obvious reasons, this work was done without publicity, but now that the necessity for secrecy has disappeared, too much cannot be said for the way in which Mr. Norcross and his able staff have carried out this great undertaking, and have constructed 160 vessels to guard our shores, and engage in the protection of our transports from the attacks of the enemy's submarines.

This undertaking has also proved of immense value and education to Canadian


Steel steam trawler, built by Polson Iron Works.

shipbuilders and engineers, as men have been trained, who before the war had no knowledge whatever of the work, and today the result is being clearly shown in the building of ships for the Dominion Government Merchant Marine.

Wooden steam drifter, built by Canadian Vickers, Limited.

Innumerable difficulties were encountered and overcome, and the carrying out of this large programme of ship construction which has been going on almost unnoticed, reflects the greatest credit on the organization, workmen, and all concerned, and speaks volumes for what Canada is able to do in the construction of ships for war purposes.

Although constructed primarily for war purposes, these vessels may now be used as fishing vessels and will prove of great value for this purpose for many years to come. Thus the money invested in them will have a marked effect in stimulating the great industry engaged in turning to account the food resources of the sea.

Editor's Note.—In connection with the foregoing, it may be mentioned that while, for obvious reasons, complete details could not be published when the trawlers and drifters were ordered, Canadian Railway and Marine World was able, in April, 1917, to publish information as to the numbers ordered and to give a pretty complete general description of their types, with illustrations. That article was the first published in connection with the orders and was very favorably received, and widely quoted.

The Gaspe Shipbuilding & Trading Co., Ltd., has been incorporated under the Dominion Companies Act, with $75,000 capital and office at Gaspe, Que., to build, deal in, and operate steam and other vessels, and to carry on a general navigation business, and transport passengers and freight. The incorporators are: A. Lacouvee, master mariner; H. J. Hyman; T. H. Jopling; J. Baker; R. H. Gould; R. Coffin, mariner, and H. S. Leboutillier, insurance and shipping agent, all of Gaspe.

Geodetic Survey Work During 1918.

The Interior Department's Geodetic Survey Branch had, during 1918, cooperation of an international character in war service of some importance. At the request of the United States Coast and Geodetic Survey a party was detailed for triangulation work on the Atlantic coast. A wire drag survey was carried on by the U.S. organization to make certain [illegible] waters available as a naval base for allied fleets, and the positions of numerous points and lighthouses to control the accuracy of this survey were furnished by the operations of the Canadian party.

At the commencement of the war, when the presence of German cruisers was feared in the North Pacific, a Geodetic Survey party in Dixon Entrance and Hecate Strait was able to render some assistance to the naval authorities at Prince Rupert. As the survey had parties on prominent points on the outlying islands, the connecting of these points with Prince Rupert was of great importance in keeping the authorities there acquainted with what might be transpiring on the nearby waters.

The activities of the Canadian Geodetic Survey during 1918 were confined to work of strictly economic importance. Besides the operations mentioned above, triangulation surveys were extended in New Brunswick eastward toward Nova Scotia to fulfil requests made by the Militia Department for the geographic position of points to control the accuracy of its topographic maps in the Halifax vicinity. Reconnaissance surveys were also extended in the direction of Sydney, N.S., at the request of the same department. Smaller surveys were undertaken in the St. John, N.B., and Moncton, N.B., vicinities, at the request of the Geological Survey's Topographic Division.

On the lower St. Lawrence River one party was engaged on primary triangulation, determining also the positions of lighthouses and church spires used in connection with the mapping operations of the Naval Department's Survey.

In British Columbia there was another example of international geodetic cooperation. The Canadian Geodetic Survey's engineers continued the projection

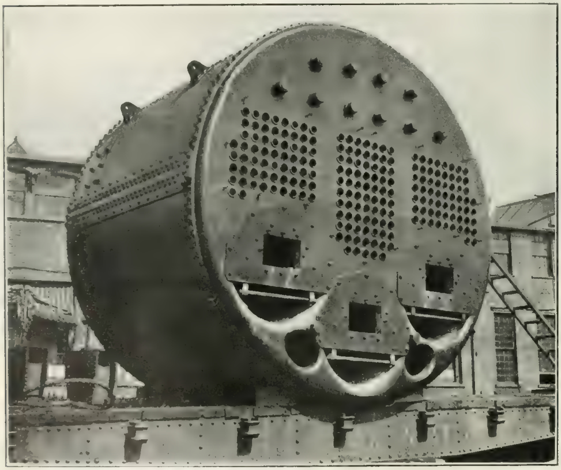
Completed steel steam trawler being launched by the [illegible] Shipbuilding & Repairing Co.

the head of Lynn Canal, the Canadian Geodetic Survey is contemplating the continuance of the primary triangulation along the Yukon River to the point of crossing of the 141st meridian of longitude. This work, when completed, and taken in conjunction with the extension contemplated by the U.S. Coast and Geodetic Survey of their triangulation in the vicinity of Tacoma, Wash., to the Canadian triangulation in the Juan de Fuca Strait, will constitute a geodetic arc of over 25 degrees of latitude and will connect Alaska, Yukon and B.C. with the adopted North American datum.

Dominion Wreck Commissioner's Judgments on Casualties, Etc.

Collision of s.s. Shrigley with Bridge on the Welland Canal.

Held at Montreal before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capts. F. Nash and C. Lapierre as nautical assessors, into the causes which led to the s.s. J. H. Shrigley, bound from Ashtabula, Ohio, to Montreal, with coal, striking the G.T.R. bridge over the Welland Canal, near Port Colborne, on May 11, 1918. From the evidence given, the court decided, without deeming it necessary to obtain the bridge man's evidence, that the master, William Thompson, erred in judgment in under estimating the speed of his vessel after passing the first bridge. His duty was clear, and he should have waited until the bridge was fully opened, before attempting to steer between the center pier and the bank. It was said that the bridge men were slow in responding to his signals to open the bridge, but even if that were the case, and they had been slower still, it was still his duty to await the opening, and if any delay occurred through lack of diligence on the part of the G.T.R. employes, a complaint should have been lodged. The court therefore concluded that the master attempted to rush the bridge and miscalculated his distance, as well as the speed of the vessel, and therefore he was to blame. The evidence did not show that the bridge was damaged, but if it had been, the court was of opinion that the master and owner, William Thompson, would have been liable.



Boiler for steel trawler, built by Dominion Bridge Co.

Collision of Barge Brookdale with Canal Bridge at Thorold, Ont.

Held at Toronto, before Capt. L. A. Demers, Dominion Wreck Commissioner, assister by Capts. J. B. Foote and Jas. McMaugh, as nautical assessors, into the cause of the collision of the barge Brookdale with bridge carrying the Niagara, St. Catharines and Toronto Ry. over the Welland Canal at Thorold, Ont. The court found that the master of the tug Escort, which had the barge Brookdale in tow, was navigated through the canal on the assumption that the bridge would be left open after midnight, as he claimed was the custom two years ago. He claims to have kept observations and a lookout on his vessel, but this must have been more than indifferent, and the master's evidence on this point was demolished by the vessel's engineer, who stated that the fact of the bridge being closed was observed on the barge Brookdale, which was 100 ft. astern, and means were taken, on board her, to fasten her to the bank. The strain caused by the Escort going ahead caused the mooring lines to part, and the Brookdale's mast came in contact with the bridge and was broken. The court found the master of the tug Escort, William Wright, at fault, that he was remiss in his duty, and suspended his certificate for two months, but as navigation closed Dec. 1, or thereabouts, and a suspension during winter months would be of no avail, the suspension is dated from Nov. 27 to Dec. 1, 1918, and from May 1 to June 27, 1919.

Fire on s.s. Somali.

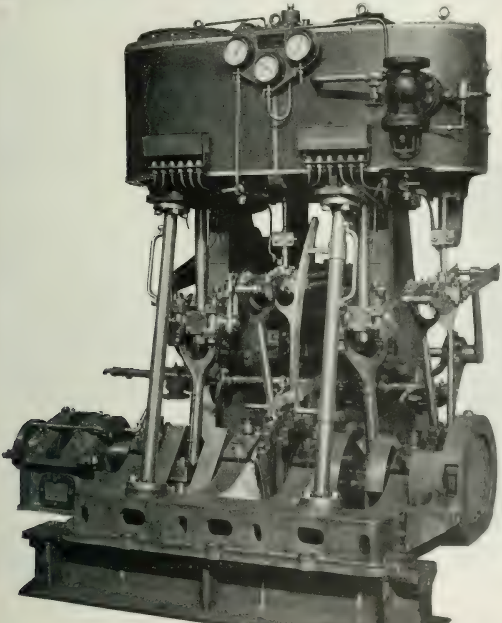
Held on board the vessel at Quebec, Que., before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capts. C. Koenig and G. Houlgrave as nautical assessors, into the causes of a fire in hold no. 1 of the s.s. Somali, in Quebec harbor, Oct. 6, while en route from Montreal to a British port. After hearing the evidence, the court stated that it could come to no other conclusion than that inflammable material was wilfully placed among the cases of lard stowed in the hold. A so-called supervision of cargo entering the vessel was exercised by the second officer, but this supervision relaxed into uselessness on the part of the third officer, while the chief officer frankly admitted that he witnessed smoking in the holds by laborers to an extent to justify him in complaining to the Montreal officials, who informed him that the practice could not be controlled. The court expressed its opinion that under normal conditions the nature of the cargo would not require rigid supervision from the standpoint of thievery, but as it is realized that the hand of the enemy is ever ready to strike through the treasure of our vessels, an unflinching surveillance should have been exercised of the men permitted to enter the vessel, and if the crew proved inadequate, a military picket should have been detailed to assist in this essential duty.

Pacific Transport-Dartmouth Collision.

At Halifax, N.S., Jan. 3, before Commander H. St. G. Lindsay, commissioner, assisted by Capts. F. Dodd, master s.s. War Erie, and A. J. White, master s.s. War Huron, as nautical assessors, into the cause of the collision between the steamship Pacific Transport and the Dartmouth Ferry Commission's ferry Dartmouth, in Halifax harbor, Dec. 18. The court came to the unanimous conclusion that the collision was due to the action of the Dartmouth's master, M. P. Murphy, in failing to carry out the regulations provided in the International Rules of the Road, articles 19, 22 and 23, thereby placing his vessel and her passengers in a dangerous position. It therefore found the Dartmouth entirely to blame for the collision and severely censured the master, cautioned him to be more careful in handling his vessel in future, and ordered that he pay the costs of the enquiry.

Corinthian Stranding.

Held at St. John, N.B., Dec. 19, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capts. J. E. Everest and A. J. Mulcahy as nautical assessors, into the cause of the stranding of the s.s. Corinthian on the northwest ledge of Briar Island in the Bay of Fundy, Dec. 14. The court came to the conclusion that the casualty was due to indifferent navigation on the part of the master and first officer, and especially when the circumstances seemed to demand the exercise of greater precaution. The vessel set out to sea under the guidance of compasses, the general susceptibility of which to unexpected agencies is well recognized, and the correction of which by the usual methods was precluded on the day of departure by adverse weather conditions. The court held that the master, in view of the uncertain weather conditions, should have verified the very questionable accuracy of bearings taken, before attempting to navigate so close to the reef as 2½ miles, and it declared it to be a physical impossibility for the vessel to have traversed 8 miles on the last stage within the time given in the evidence. The navigation methods adopted by the master were extremely hazardous, and his ill considered actions involved the total destruction of a costly vessel and of an equally valuable cargo, and while giving weight to this, the court was not unmindful of his previous extended and untarnished record. It therefore held the master, D. T. Tannock, in default, and suspended his certificate for three months from Dec. 20, 1918, to Mar. 20, 1919.



Engine for wooden drifter, built by Goldie & McCulloch Co.

With respect to the first officer, B. [illegible] Simpson, while it was not shown that his observation was negligently or indifferently taken, yet if viewed from the standpoint of his subsequent actions, the accuracy of his word was brought into grave question, and could not be accepted without reserve. It was the court's opinion that if he had, in addition to ordering the helm hard aport, ordered the engines astern, the vessel might have swung more rapidly, and possibly the disaster might have been averted. His total lack of even the elementary demands of seamanship was so obvious, that the court found it incumbent to suspend his certificate for 6 months from Dec. 20, 1918, to June 20, 1919. The circumstances attending the disaster free the Bay of Fundy from any stigma or criticism which may be launched against it as an unsafe or dangerous channel of commerce.

Stranding of s.s. Afghan Prince.

Held at Sydney, N.S., before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capt. A. J. Morrison and Lieut. H. C. Owens, R.N.R., as nautical assessors, into the causes of the stranding of the British s.s. Afghan Prince, on or near Guion Island, Cape Breton, N.S., on July 30. The evidence showed that the vessel was carefully navigated from the time of leaving Hampton Roads until she reached Canso, frequent casts of the lead being taken, and a chain established when off Canso, which was passed at a safe distance. The weather was fair regarding wind and sea, but foggy at intervals. The court considered that the master set too fine a course after leaving Canso, especially seeing he was working on a large scale chart and had never navigated these waters before. When 17 fathoms was obtained, ordinary prudence demanded that the vessel's head should have been turned seaward and her half speed brought to slow, and she should have been navigated carefully until 40 or 45 fathoms had been reached, and then the former course resumed. To have remained on the same course in 17 fathoms was an act of poor judgment. The chief officer's evidence gave the impression that there was some nervousness as to the presence of submarines, and that this caused the master to hug the coast. The Admiralty orders may be to the effect that masters should navigate close to the coast line but the court is under the impression that there is a proviso, viz., consistent with safe navigation. During the evidence, it was stated that there were no buoys as indicated on the master's chart, but this statement was not considered of any value, as the intention was not to make for any whistling buoys, therefore their presence was of no consequence, and that if a buoy or aid to navigation was not seen or heard when expected, it would be foolhardy on the master's part to continue on practically half speed, and keeping the same course after finding such a depth as 17 fathoms.

The court stated that in ordinary circumstances it would deal with such a case in no lenient measure, but in view of the then existing conditions, the dread which must have existed as to meeting with an enemy vessel, it feels that, taking into consideration the care exercised in navigating up to Canso, the neat method followed in the log books and the watchfulness of the compass, it should not deal with the master's certificate, but reprimanded him severely and advised him to be more cautious in future. The court suggested that the Admiralty enclose with the folios handed to masters, some sectional charts of the coast which they are to frequent, especially those who are called upon to sail in strange waters.

The Sicilian-Canora Collision.

Held at Montreal, before Captain L. A. Demers, Dominion Wreck Commissioner, assisted by Capts. F. Nash and C. Lapierre as nautical assessors, into the cause of the collision between Canadian Pacific Ocean Services' s.s. Sicilian and the Canadian Northern Ry. car ferry Canora in Quebec harbor on Aug. 6, the latter being moored at a wharf. The evidence showed that the pilot, Jules Lamarre, placed on the s.s. Sicilian as adviser to the master, J. M. Reith, exhibited animus towards the master for effecting a landing without the pilot's counsel about a year ago. Having that in mind, and upon noticing that the master reluctantly listened to his advice, he abstained, without formal instructions, from continuing his work as pilot. This was wrong, and his whole conduct was based on assumption in concluding that the master intended taking matters into his own hands. In standing aloof, he showed a spirit of unwarrantable sulkiness, which the court condemned as childish. His statement to the master as to the tide was given in good faith, and therefore his suggestion to berth the vessel with the starboard side to the pier was justified. Yet the court was of opinion that the only seamanlike method of berthing the vessel, especially a single screw vessel, is by heading the tide. The court therefore held that the pilot purposely forgot his role as adviser, and was in default for this, but not for the casualty. The master amply demonstrated that he voluntarily ignored the pilot, and took upon himself the making of the landing and his reference to the pilot's manner is regarded by the court as simply an attempt to trifle with words. The pilot's suggestion to diminish speed was equivalent to advice and should have been carried out without that seeming nonchalance which was apparent in the evidence. The master's opinion of the ability of the pilot is not based on fact; that he was a good river pilot he did observe, but that he lacked in ability in manoeuvering a vessel had not been tested, and therefore could not be criticized. The master evoluted the vessel himself and therefore no opinion could be formed as to the pilot's knowledge. If, in the past, he had found the pilot incompetent and unequal to his task, it was his duty to report such to his chief, and especially so in view of the fact that it was a special pilot who had been engaged by the owners for some years past. The master is compelled to pay the pilotage fee, but there is nothing in the statutes which compels him to accept the services of one whom he considers incompetent. When he held the pilot's advice in apparent contempt and took upon himself the direction of affairs, it became his own responsibility, and therefore the court holds that he lacked in judgment in approaching the pier at too great speed. The court did not consider it necessary to comment on this state of affairs, more than to say that there was sulkiness on the one side and strong-headedness on the other, neither of which should have existed, and it therefore finds both pilot and master in default. The pilot, Jules Lamarre, was fined $100 and his own travelling expenses, and the master was severely reprimanded.

Wireless telegraph set for steel steam drifter, built by Marconi Wireless Telegraph Co.

Canadian Boat & Engine Exchange, Ltd., has been incorporated under the Dominion Companies Act, with $100,000 capital and office at Toronto, to conduct a general agency business.

Lake Carriers Association Annual Meeting.

The Lake Carriers Association's annual meeting was held at Detroit, Mich., Jan. 17. Consideration of President Wm. Livingstone's annual report, and reports of the welfare plan and other committees, occupied the greater part of the meeting.

A resolution was adopted authorizing an appeal to the federal authorities for an addition to the number of lighthouse tenders on the lakes. Two vessels of that type were withdrawn from the lakes during the war, and additional tenders are necessary to attend properly to the navigation aids. The association hopes to obtain additional aids as well.

The following officers were elected:—President, Wm. Livingstone, Detroit, Mich.; Vice President, J. S. Ashley, Cleveland, Ohio; Secretary and Treasurer, G. A. Marr, Cleveland; General Counsel, H. D. Goulder, Cleveland; Chief Shipping Commissioner, A. R. Rumsey, Cleveland. W. H. Smith, Manager, Canada Atlantic Transit Co., Montreal, was elected a director.

Price of U.S. Wooden Steamships.—The United States Shipping Board has fixed $700,000, or $200 a ton, as the price for each of the 3,500-ton wooden ships which were designed for ocean going traffic and which it now desires to sell to private owners. Where the ships are purchased in lots of five the price will be $675,000 each. Offers have been received from both foreign and domestic buyers.

The President of the British Board of Trade on the Shipping Situation.

Sir Albert Stanley, President of the British Board of Trade, addressing the Huddersfield, Eng., Chamber of Commerce, Jan. 25, is reported in a press cablegram to have said he would be much happier if he could see stronger indications of restoration and development of trade in Great Britain. It was the deliberate policy of the government that restrictions and control would be removed as rapidly as possible, but the blockade must be maintained until peace was definitely secured. The government also proposed to speedily end the system of priority, possibly early in March.

Sir Albert said that there was more shipping available than cargoes and it was expected that this summer the world tonnage afloat would be equal to the pre-war tonnage. They might anticipate a very big slump in shipping rates. He thought it was a fair suggestion that the government should restrict imports until manufacturers were established on a peace footing, and it might be accepted by the government. A Ministry would shortly be established and experienced men had already been invited to join the board.

Rivetless Steamships.—There has been much discussion of late about the feasibility of building electrically-welded steamships and thereby avoiding the time and expense consumed in riveting. From England comes word of the completion of a rivetless 275-ton barge, supposedly the largest electrically welded craft so far produced. It is 125 ft. over all, and 16 ft. beam. The hull is rectangular in section amidships—only the bilge plates being curved. All water tight joints as far up as the latter are continuously welded on both sides, while those thereafter are tack welded on one side. The process permitted an estimated saving of form 25 to 40% in time and 10% in material. The expense of welding amounted to $1,500, $890 of which went for electrodes. In normal times this item would be less by about 60%. Another experimental barge, with certain parts riveted and others welded, is to be built.

Suit Against Northern Navigation Co.—London, Ont., press dispatch, Jan. 20:—The suit of F. McGibbon & Sons, who claim $7,000 damages from the Northern Navigation Co., has been re-entered for trial at the approaching winter assizes. The plaintiffs claim that through the negligence of the defendants, the s.s. Majestic, owned by defendants, was moored, while burning, close to the s.s. Cataract, and as a result the latter ship was burned. The Northern Navigation Co.'s rejoinder is that it did not own the Majestic at the time of the fire, that there was no negligence, and that, in any event, the Cataract had lain for years, an abandoned wreck, on the bottom of Sarnia harbor.

Importation of Wood from Canada to U.S. War Trade Board announces that the restriction on the importation of wood, as classified under par. 647 of the Tariff Act of 1913, except cedar and balsam, and also the restriction on balsam of Oct. 17, 1918, have been modified to permit the issuance of licenses for the importation of all wood therein described, when originating in Canada and coming by any means of transportation. Import licenses, therefore, may now be issued for ocean shipment.

Canadian Government Merchant Marine, Ltd., Shipbuilding, Operation, Etc.

Orders for Steamships.—The two tables on the next page give full particulars of steel cargo steamships to be built for the Dominion Government, through the Marine Department, and to be operated by the Canadian National Railways management, as the Canadian Government Merchant Marine, Ltd. Up to the date of our last official advice, orders in council had been passed authorizing the Minister of Marine to order 47 vessels. Two of these orders in council, passed some months ago, were not acted on, and it will be noticed that the list does not contain any contracts numbered 8 and 9. However, there are contracts numbered 19a and 20a, which bring the total number authorized to be ordered up to 45, as per the following summary:—

	No.	Tons each	Total tonnage
British American Shipbuilding Co., Welland, Ont.	2	4,350	8,700
Canadian Vickers, Ltd., Montreal	2	4,300	8,600
Canadian Vickers, Ltd.	6	8,100	48,600
Collingwood Shipbuilding Co., Collingwood, Ont.	4	3,750	15,000
Collingwood Shipbuilding Co., Kingston, Ont.	1	3,750	3,750
J. Coughlan & Sons, Ltd., Vancouver, B.C.	4	8,100	32,400
Davie Shipbuilding & Repairing Co., Lauzon, Que.	2	5,100	10,200
Halifax Shipyards, Ltd., Halifax, N.S.	2	8,100	16,200
Halifax Shipyards, Ltd., Halifax, N.S.	2	10,500	21,000
John L. Mullen Construction Co., Prince Rupert, B.C.	2	8,100	16,200
Nova Scotia Steel & Coal Co., Ltd., New Glasgow, Ont.	2	2,800	5,600
Port Arthur Shipbuilding Co., Port Arthur, Ont.	4	3,400	13,600
Port Arthur Shipbuilding Co.	2	4,300	8,600
Tidewater Shipbuilders, Ltd., Three Rivers, Que.	4	5,100	20,400
Victoria Machinery Depot, Victoria, B.C.	2	8,100	16,200
Wallace Shipyards, Ltd., Vancouver, B.C.	2	4,300	8,600
Wallace Shipyards, Ltd.	2	5,100	10,200
	45		263,850

British American Shipbuilding Co., Welland, Ont., advised us Jan. 14 that neither of the kells for the 2 steel steamships of 4,350 tons d.w. each, for which it has orders for the Dominion Government, had been laid. It expected to have a berth available towards the end of January, and directly steel arrives the keel for yard no. 4 will be laid, but it will probably be the middle of March before the keel for yard no. 5 can be laid.

Canadian Government Merchant Marine, Ltd., Steamship Canadian Voyageur, 4,300 tons d.w., leaving Quebec Jan. 21 for Halifax.

Canadian Vickers, Limited, Montreal.—Following are particulars of this company's work on steel cargo steamships for the Dominion Government. As stated in Canadian Railway and Marine World for January, the vessel, yard no. 66, 4,300 tons d.w., the keel of which was laid June 10, 1918, was launched Nov. 23, 1918, and named Canadian Voyageur. She left Montreal Dec. 11 under her own steam for Quebec, was completed there and handed over to the Marine Department under the control of which she sailed from Quebec Jan. 21 for Halifax, where she will be transferred to the Canadian National Railways management for operation.

The vessel, yard no. 67, 8,100 tons d.w., the keel of which was laid July 17, 1918, was launched Dec. 3, 1918, and named Canadian Pioneer. She left Montreal Dec. 6, 1918, in tow, for Quebec, for completion there, and it was expected to deliver her to the Marine Department by the end of January.

The keel of yard no. 68, 8,100 tons d.w., was laid Aug. 26, 1918, and it was expected to launch her Jan. 16, but we had no advice of the launching up to the time of writing.

The keel of yard no. 69, 8,100 tons d.w., was laid Nov. 30, 1918, and it is expected to launch her in May.

The keel of yard no. 70, 8,100 tons d.w., was laid Dec. 2, 1918, and it is expected to launch her in May.

It is expected to launch yard no. 71, 8,100 tons d.w., in May; yard no. 72, 8,100 tons d.w., in June; and yard no. 73, 4,300 tons d.w., in June.

Collingwood Shipbuilding Co., Collingwood, Ont.—As stated in Canadian Railway and Marine World for January, the first of the steel steamships built by this company for the Dominion Government, yard no. 61, 3,750 tons d.w., was launched Dec. 21 and named Canadian Warrior. She is expected to be completed about the end of March. The keel for a similar vessel, yard no. 62, was laid June 3, 1918.

J. Coughlan & Sons, Vancouver, have contracts from the Dominion Government for 4 steel cargo steamships of 8,100 tons d.w. each. No keels have been laid, and when they will be depends on the delivery of steel.

We were advised Jan. 20 that slips for laying the keels of four vessels will be ready during February, March and April. The Dominion Government is supplying the steel, and when the keels will be laid depends on the steel's arrival. Up to Jan. 20 there was no advice when it would be shipped, so it was unable to state at all definitely when the keels will be laid.

Davie Shipbuilding & Repairing Co., Lauzon, Levis, Que., advised us Jan. 16 that it had not laid either of the keels for the 2 steel steamships of 5,100 tons each for which it has orders from the Dominion Government, owing to delay in delivery of material.

Halifax Shipyards, Limited, Halifax,

Orders for Steel Cargo Steamships for Dominion Government. Table 1.

The following is a complete list of steel cargo steamships which the Dominion Marine Department has been authorized, by order in council, to place orders for and which orders are to be carried out. Where a contract date is not given the contract had notb een signed at the time of our latest official advices.

Contract no.	Contract date	Builder	Yard no.	Tons d.w.	Type	Classification	Speed, knots
1	Mar. 4, 1918	Canadian Vickers Ltd., Montreal	66	4,300	Single deck, poop, bridge and forecastle	Lloyd's	11
2	May 22, 1918	Canadian Vickers Ltd., Montreal	67	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
3	Mar. 18, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	61	3,750	Lake type, single deck, poop, bridge and forcastle	British Corp.	9
4	Mar. 15, 1918	Wallace Shipyards Ltd., Vancouver, B.C.	100	4,300	Single deck, poop, bridge and forecastle	Lloyd's	11
5	Nov. 25, 1918	Wallace Shipyards Ltd., Vancouver, B.C.	106	4,300	Single deck, poop, bridge and forecastle	Lloyd's	11
6	Nov. 25, 1918	Wallace Shipyards Ltd., Vancouver, B.C.	101	5,100	Single deck, poop, bridge and forecastle	Lloyd's	11
7	Nov. 25, 1918	Wallace Shipyards Ltd., Vancouver, B.C.	102	5,100	Single deck, poop, bridge and forecastle	Lloyd's	11
10	July 5, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	62	3,750	Lake type, single deck, poop, bridge and forecastle	British Corp.	9
11	Oct. 17, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	63	3,750	Lake type, single deck, poop, bridge and forecastle	British Corp.	9
12	Oct. 17, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	64	3,750	Lake type, single deck, poop, bridge and forecastle	British Corp.	9
13	Aug. 9, 1918	Tidewater Shipbuilders Ltd., Three Rivers, Que.	5	5,100	Single deck, poop, bridge and forecastle	Lloyd's	11
14	Aug. 9, 1918	Tidewater Shipbuilders Ltd., Three Rivers, Que.	6	5,100	Single deck, poop, bridge and forecastle	Lloyd's	11
15		Tidewater Shipbuilders Ltd., Three Rivers, Que.	7	5,100	Single deck, poop, bridge and forecastle	Lloyd's	11
16		Tidewater Shipbuilders Ltd., Three Rivers, Que.	8	5,100	Single deck, poop, bridge and forecastle	Lloyd's	11
17	Sept. 4, 1918	Davie Shipbuilding & Repairing Co., Lauzon, Que.	459	5,100	Single deck, poop, bridge and forecastle	Lloyd's	11
18	Sept. 4, 1918	Davie Shipbuilding & Repairing Co., Lauzon, Que.	460	5,100	Single deck, poop, bridge and forecastle	Lloyd's	11
19	Sept. 4, 1918	Port Arthur Shipbuilding Co., Port Arthur, Ont.	39	3,400	Lake type, single deck, poop, bridge and forecastle.	Lloyd's	9
19a		Port Arthur Shipbuilding Co., Port Arthur, Ont.	41	3,400	Lake type, single deck, poop, bridge and forecastle.	Lloyd's	9
20	Sept. 4, 1918	Port Arthur Shipbuilding Co., Port Arthur, Ont.	40	3,400	Lake type, single deck, poop, bridge and forecastle.	Lloyd's	9
20a		Port Arthur Shipbuilding Co., Port Arthur, Ont	42	3,400	Lake type, single deck, poop, bridge and forecastle.	Lloyd's	9
21	Sept. 13, 1918	Halifax Shipyards Ltd., Halifax, N.S.	1	8,100	Two deck, poop, bridge and forecastle	Lloyd's	10
22	Sept. 13, 1918	Halifax Shipyards Ltd., Halifax, N.S.	2	8,100	Two deck, poop, bridge and forecastle	Lloyd's	10
23	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	68	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
24	Oct. 11, 1918	Canadian Vickers, Ltd., Montreal	69	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
25	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	70	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
26	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	71	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
27	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	72	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
28	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	73	4,300	Single deck, poop, bridge, and forecastle	Lloyd's	11
29		Victoria Machinery Depot, Victoria, B.C.	1	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
30		Victoria Machinery Depot, Victoria, B C	2	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
31	Dec. 11, 1918	Collingwood Shipbuilding Co., Kingston, Ont	15	3,750	Lake type, single deck, poop, bridge and forecastle	British Corp.	9
32		Port Arthur Shipbuilding Co., Port Arthur, Ont.	43	4,300	Single deck, poop, bridge and forecastle	Lloyd's	11
33		Port Arthur Shipbuilding Co., Port Arthur, Ont.	44	4,300	Single deck, poop, bridge and forecastle	Lloyd's	11
34	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	11	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
35	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	12	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
36	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	13	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
37	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	14	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
38	Dec. 10, 1918	Halifax Shipyards Ltd., Halifax, N.S.	3	10,500	Three deck, poop and forecastle	Lloyd's	12
39	Dec. 10, 1918	Halifax Shipyards Ltd., Halifax, N.S.	4	10,500	Three deck, poop and forecastle	Lloyd's	12
40		Nova Scotia Steel & Coal Co., New Glasgow, N.S.	5	2,800	Single deck, poop, bridge and forecastle	Lloyd's	8½
41		Nova Scotia Steel & Coal Co., New Glasgow, N.S.	6	2,800	Single deck, poop, bridge and forecastle	Lloyd's	8½
42		John L. Mullen Construction Co., Prince Rupert, B.C.	1	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
43		John L. Mullen Construction Co., Prince Rupert, B.C.	2	8,100	Two deck, poop, bridge and forecastle	Lloyd's	11
44		British American Shipbuilding Co., Welland, Ont.	4	4,350	Single deck, poop, bridge and forecastle	British Corp.	10
45		British American Shipbuilding Co., Welland, Ont.	5	4,350	Single deck, poop, bridge and forecastle	British Corp.	10
				263,850			

Orders for Steel Cargo Steamships for Dominion Government. Table 2.

Contract no.	Builder	Yard no.	Price per ton d.w.	Total price	Approximate delivery date	Keel laid	Launched	Name
1	Canadian Vickers Ltd.	66	$207.	$ 890,100	Dec. 31, 1918	June 10, 1918	Nov. 23, 1918	Canadian Voyageur
2	Canadian Vickers Ltd	67	180.	1,458,000	Jan. 31, 1918	July 17, 1918	Dec. 3, 1918	Canadian Pioneer
3	Collingwood Shipbuilding Co.	61	205.	768,750	May 1, 1919		Dec. 21, 1918	Canadian Warrior
4	Wallace Shipyards Ltd	100	207.	890,100	Mar. 31, 1919	Oct. 1, 1918		
5	Wallace Shipyards Ltd.	106	217.	933,100	May 31, 1919	Nov. 15, 1918		
6	Wallace Shipyards Ltd.	101	210.	1,071,000	July 31, 1919			
7	Wallace Shipyards Ltd.	102	210.	1,071,000	Sept. 30, 1919			
10	Collingwood Shipbuilding Co.	62	205.	768,750	May 15, 1919	June 3, 1918		
11	Collingwood Shipbuilding Co.	63	205.	768,750	July 15, 1919			
12	Collingwood Shipbuilding Co.	64	205.	768,750	July 1, 1919			
13	Tidewater Shipbuilders Ltd	5	200.	1,020,000	Aug. 1, 1919			
14	Tidewater Shipbuilders Ltd	6	200.	1,020,000	Sept. 1, 1919			
15	Tidewater Shipbuilders Ltd	7	200.	1,020,000	May 1, 1919			
16	Tidewater Shipbuilders Ltd.	8	200.	1,020,000	July 1, 1919			
17	Davie Shipbuilding & Repairing Co.	459	200.	1,020,000	Nov. 1, 1919			
18	Davie Shipbuilding & Repairing Co	460	200.	1,020,000	Nov. 8, 1919			
19	Port Arthur Shipbuilding Co.	39	205.	697,000	June 1, 1919	Dec. 9, 1918		
19a	Port Arthur Shipbuilding Co.	41	210.	714,000	Sept. 30, 1919			
20	Port Arthur Shipbuilding Co.	40	205.	697,000	July 1, 1919	Dec. 10, 1918		
20a	Port Arthur Shipbuilding Co.	42	210.	714,000	Oct. 31, 1919			
21	Halifax Shipyards Ltd	1	195.	1,579,500	Dec. 19, 1919			
22	Halifax Shipyards Ltd.	2	195.	1,579,500	Apr. 1920			
23	Canadian Vickers Ltd	68	188.	1,522,800	May 1, 1919	Aug. 26, 1918		
24	Canadian Vickers Ltd	69	188.	1,522,800	June 1, 1919	Nov 30, 1918		
25	Canadian Vickers Ltd	70	188.	1,522,800	July 1, 1919	Dec. 2, 1918		
26	Canadian Vickers Ltd.	71	188	1,522,800	Aug. 1, 1919			
27	Canadian Vickers Ltd	72	188	1,522,800	Sept. 1, 1919			
28	Canadian Vickers Ltd	73	215.	924,500	May 27, 1919			
29	Victoria Machinery Depot	1	198.	1,603,800	Jan. 31, 1920			
30	Victoria Machinery Depot	2	198.	1,603,800	Nov. 30, 1920			
31	Collingwood Shipbuilding Co.	15	205.	768,750	Nov. 1, 1919			
32	Port Arthur Shipbuilding Co.	43	215.	935,250	Nov. 1, 1919			
33	Port Arthur Shipbuilding Co.	44	215.	935,250	Nov. 15, 1919			
34	J. Coughlan & Sons	11	198.	1,603,800	July 31, 1919			
35	J. Coughlan & Sons	12	198.	1,603,800	Aug. 31, 1919			
36	J. Coughlan & Sons	13	198.	1,603,800	Sept. 30, 1919			
37	J. Coughlan & Sons	14	198	1,603,800	Oct. 31, 1919			
38	Halifax Shipyards Ltd.	3	197½	2,073,750	Aug. 1, 1920			
39	Halifax Shipyards Ltd	4	197½	2,073,750	Nov. 1, 1920			
40	Nova Scotia Steel & Coal Co	5	210.	588,000	Oct. 1919			
41	Nova Scotia Steel & Coal Co.	6	210.	588,000	Nov. 1919			
42	John L. Mullen Construction Co.	1	198.	1,603,800	Feb. 1920			
43	John L. Mullen Construction Co.	2	198.	1,603,800	June 1920			
44	British American Shipbuilding Co.	4	215	935,250	Nov. 1919			
45	British American Shipbuilding Co	5	215	935,250	June 1920			
				$52,691,450				

N.S., advised us Jan. 15 that building berths were ready, but that it had not been possible to lay keels for any of the 2 steel steamships of 8,100 tons each, and 2 of 10,500 tons each, for which it has orders from the Dominion Government, as the steel had not been received. It was then expected to receive steel in time to lay the keels of the first 2 steamships in February.

Nova Scotia Steel & Coal Co., New Glasgow, N.S.—Particulars of 2 steel cargo steamships of 2,800 tons d.w. each, which the Dominion Government has ordered from this company, were given in our January issue. We were advised Dec. 23 that it was expected the keels of both vessels would be laid early in January.

Port Arthur Shipbuilding Co., Port Arthur, Ont., which has orders from the Dominion Government for 4 steel cargo steamships of 3,400 tons d.w. each, and for 2 of 4,300 tons d.w. each, laid keels for two 3,400-ton ones on Dec. 9 and Dec. 10, 1918, respectively. The approximate launching date is about April 15.

Reference was made in our last issue, to the 2 steel steamships of 4,300 d.w. tons capacity each, which the Dominion Government has ordered from this company, and which, as stated, it will be necessary to cut in two for passage through the Welland Canal. It had been suggested that instead of cutting them in two, they be built in sections, but we are advised that it is the present intention to build them full size, and then cut them, but it is possible that this decision may be changed later.

Prince Rupert Shipbuilding & Engineering Co. has been incorporated under the British Columbia Companies Act, with $500,000 capital, and office at Prince Rupert, B.C., for the operation of the dry dock and shipbuilding plant leased recently from the Grand Trunk Pacific Development Co., at Prince Rupert, B.C., by the John L. Mullen Construction Co., Pittsburg, Pa. The company is said to be a subsidiary of the Empire Shipbuilding & Drydock Co. of the State of Delaware, which is capitalized at $1,500,000, and John L. Mullen, Pittsburg, Pa., is stated to be President. The company has orders from the Dominion Government for 2 steel steamships, as mentioned previously, and in addition, is reported to have several other orders, aggregating about 100,000 tons.

Victoria Machinery Depot Co., Victoria, B.C.—The Dominion Government has authorized the Minister of Marine to give this company contracts for 2 steel cargo steamships of 8,100 tons d.w. each. We are advised that the site for building is being prepared.

Negotiations are reported to have taken place regarding the purchase of this company's plant and business by the Foundation Co. C. J. V. Spratt, President, V.M.D., Ltd., is reported to have stated, recently, that the company was prepared to sell its plant at its appraised value, but that the negotiations for the sale had not been advanced to any appreciable extent during the last two months. The company has 2 contracts for vessels of 8,100 tons each at $198 a ton, from the Dominion Government.

Wallace Shipyards, Ltd., Vancouver, B.C., has laid keels for 2 steel cargo steamships for the Dominion Government. The first one, for yard no. 100, 4,300 tons d.w., was laid Oct. 1, 1918, and the second, for yard no. 106, 4,300 tons d.w., was laid Nov. 15, 1918. On Dec. 18, 1918, we were advised that it was expected to launch the first hull about the middle of February and the second one about the middle of March, and to lay keels for two 4,300-ton steel cargo steamships, yards numbers 101 and 102, about the middle of February and the end of March, respectively, and to launch them in June and August.

Incorporation of Operating Companies.—In accordance with the announcement made in our last issue, Canadian Government Merchant Marine, Ltd., has been incorporated under the Dominion Companies Act, with $1,000,000 authorized capital, and office at Toronto, to build, own and operate steam and other vessels of every description, buildings, machinery, plant, equipment, etc., of every kind connected with the building and management of such vessels, and also to build and operate any railway or branch thereof, at any port of call of any steamship lines, and such buildings as it may be deemed advisable for hotels and restaurants, and to carry on any business that may tend to the travelling public's comfort and convenience. It may also make any arrangements with any railway or navigation company, government or municipal organization, whose railway or vessel lines are or may be adjacent, or connecting, for the leasing to or from it of any part of such undertaking, or for amalgamation on terms and conditions as may be agreed upon. It may also acquire and undertake the whole or any part of such similar business, and may use its funds to acquire shares, bonds and other securities in companies carrying on any business which is capable of being operated to its benefit. The incorporators are Gerald Ruel, L. W. Mitchell, W. B. Langmore, C. D. Cowie and F. J. Buller, Toronto, all of whom are, or were, connected with the Canadian Northern Ry., now a component of the Canadian National Railways. Canadian Government Merchant Marine, Ltd., will be the operating company, through its subsidiaries, for the steel cargo steamships being built for the Dominion Government.

Canadian Pioneer, Ltd., and Canadian Voyageur, Ltd., have each been incorporated under the Dominion Companies Act, with $100,000 authorized capital each and offices at Toronto, their powers being very similar to those of Canadian Government Merchant Marine, Ltd., of which they will be subsidiaries. They will operate the steamships Canadian Pioneer and Canadian Voyageur respectively. The incorporators of both these subsidiary companies are: G. Ruel, R. H. M. Temple, G. N. Limpricht, R. P. Ormsby and R. C. Vaughan, all of whom are Canadian National Railways officials.

Location of Head Office.—There seems to be some little local irritation as to the selection of Toronto for the head office of Canadian Government Merchant Marine, Ltd., which is expressed in various ways. It is natural that the head office be located at the head office of the Canadian National Railways, which is to control the vessels, but this does not necessarily mean that all the details of vessel operation will be undertaken from Toronto. There will naturally be some sort of decentralization, and it is unlikely that other places will be overlooked in regard to local offices. The Quebec Telegraph, perhaps unconsciously, hits the nail on the head, when it describes Quebec as the "vital ganglion of the Government Railway System." A ganglion is described as "a mass of nervous matter."

The s.s. Canadian Voyageur, which, as stated elsewhere in this article, was delivered to the Marine Department at Quebec, Jan. 17, sailed from Quebec on Jan. 21 at 8.50 a.m. for Halifax, to be there transferred to Canadian Government Merchant Marine, Ltd., for operation. She left Quebec in charge of Capt. R. A[illegible], who was appointed by Canadian Government Merchant Marine, Ltd., and a Quebec pilot, the latter to go as far as Father Point. She was accompanied from Quebec by the Dominion Government icebreaking s.s. Montcalm, the latter being intended to go as far as ice conditions might necessitate. The following reports had been received up to the time we went to press:

Jan. 22, 6 p.m. Off Maitougan Bank, 200 miles from Quebec, making about 7 knots.

Jan. 23, 5 a.m. Stopped most of previous night in heavy ice; 8 a.m., making good progress, ice clearing and [illegible].

Jan. 23, 8 p.m. Off Godbout, 2[illegible] miles from Quebec, in easterly gales and blinding snowstorm.

Jan. 25. Montcalm had drifted 46 miles to west, and was then about 3 miles off Port Neuf bank, Canadian Voyageur 4 cables from her. Both vessels tried to go north, but it was impossible to move ahead or astern, there being heavy packed ice everywhere, and strong n.e. winds with blinding snow.

Jan. 26. Gave Montcalm 86 tons of coal and 50 tons water Jan. 25, and proceeded at midnight through ice.

Jan. 26, 11.30 a.m. Off St. Nicholas. Signal service reports n.w. winds, [illegible] clearing.

Steamship Passes Through the Welland Canal on Its Side.

Rolled over on its side, a large lake steamship of beam exceeding the width of the locks has been passed through the Welland Canal. The Charles R. Van Hise, a 9,000-ton Great Lakes freighter, was chosen for a tryout of this new method. It was first cut in two crosswise, as had been done previously with lake steamships too long for the canal locks, but not exceeding in beam the 44 ft. width of the locks.

With a view to securing larger lake ships for ocean traffic, F. A. Eustis, of the United States Shipping Board, suggested that a ship (or half section of a ship) might be sent through the locks when turned on its side, the depth being less than the beam. The Van Hise experiment was planned in consequence, and this experiment has been carried out with success. The forward section of the vessel was turned on its side at Buffalo by the agency of pontoon tanks placed along its side at the deck line and filled with water. The half ship was then towed to the Port Colborne entrance to the Welland Canal and passed down to Lake Ontario.

Vancouver Dry Dock.—In commenting on the possible building of a dry dock at some port on the British Columbia coast, and urging that it be built at Vancouver, the Vancouver World says:—"The Dominion Government, as is well known, stands ready under the Drydock Subsidy Act, 1910, to grant any company, which complies with the essential requirements, a percentage subsidy on its investment, extending over a long term of years. It is understood that there are several companies in Vancouver ready to comply with the conditions if only the Dominion Government will say the word." It would be interesting to know whether any of the companies referred to have applied to the Dominion Public Works Department in the usual way, for a subsidy.

Cargo Steamship Building in Canada for British Government.

Launchings of Steamships.—Following are particulars of cargo steamships ordered by the Imperial Munitions Board for the British Government, and which had been officially reported as launched up to Jan. 14, giving in each case the date of the launching, the name of the steamship, the name and address of the building company and the deadweight tonnage:—

Steel Steamships.

May 18, 1917	War Dog, Wallace Shipyards North Vancouver, B.C.	4,500
July 9, 1917	War Wasp, Nova Scotia Steel & Coal Co., New Glasgow, N.S.	1,800
Aug. 19, 1917	War Fish, Port Arthur Shipbuilding Co., Port Arthur, Ont.	4,300
Nov. 3, 1917	War Dance, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
Mar. 16, 1918	War Camp, J. Coughlan & Sons, Vancouver, B.C.	8,800
Mar. 23, 1918	War Power, Wallace Shipyards, North Vancouver, B.C.	4,600
Apr. 3, 1918	War Isis, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
May 8, 1918	War Wizard, Collingwood Shipbuilding Co., Collingwood, Ont.	2,900
May 21, 1918	War Bee, Nova Scotia Steel & Coal Co., New Glasgow, N.S.	2,400
May 27, 1918	War Osiris, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
June 8, 1918	War Earl, Canadian Vickers Ltd., Montreal	7,000
June 29, 1918	War Duchess, Canadian Vickers, Ltd., Montreal	7,000
July 20, 1918	War Hathor, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
July 29, 1918	War Charger, J. Coughlan & Sons, Vancouver, B.C.	8,800
Aug. 19, 1918	War Chief, J. Coughlin and Sons, Vancouver, B.C.	8,800
Aug. 21, 1918	War Weasel, British-American Shipbuilding Co., Welland, Ont.	3,500
Sept. 6, 1918	War Witch, Collingwood Shipbuilding Co., Collingwood, Ont.	2,900
Sept. 19, 1918	War Taurus, Polson Iron Works, Ltd., Toronto	3,500
Sept. 28, 1918	War Faith, Canadian Vickers Ltd., Montreal	7,000
Sept. 28, 1918	War Noble, J. Coughlan & Sons, Vancouver, B.C.	8,800
Sept. 28, 1918	War Storm, Wallace Shipyards, Ltd., Vancouver, B.C.	4,600
Oct. 5, 1918	War Horus, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
Oct. 15, 1918	War Hydra, Polson Iron Works, Ltd., Toronto	3,500
Oct. 24, 1918	War Fiend, Midland Shipbuilding Co., Midland, Ont.	3,400
Oct. 26, 1918	War Karma, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
Oct. 29, 1918	War Joy, Canadian Vickers, Ltd., Montreal	7,000
Dec. 22, 1918	War Hamilton, Polson Iron Works, Ltd., Toronto	3,500
	Total, 27 steel steamships	129,000

Wooden Steamships.

Dec. 28, 1917	War Songhee, Foundation Co., Victoria, B.C.	3,080
Jan. 4, 1918	War Nootka, Western Canada Shipyards, Vancouver, B.C.	3,080
Jan. 24, 1918	War Yukon, Cameron-Genoa Mills Shipbuilders, Ltd., Vic-	
Feb. 16, 1918	War Puget, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
Mar. 6, 1918	War Selkirk, Western Canada Shipyards, Vancouver, B.C.	3,080
Apr. 10, 1918	War Caribou, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
Apr. 11, 1918	War Comox, New Westminster Construction & Engineering Co., New Westminster, B.C.	3,080
Apr. 11, 1918	War Masset, Foundation Co., Victoria, B.C.	3,080
Apr. 13, 1918	War Tyee, Pacific Construction Co., Coquitlam, B.C.	3,080
Apr. 25, 1918	War Haida, Cameron-Genoa Mills, Victoria, B.C.	3,080
Apr. 27, 1918	War Cayuse, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
May 11, 1918	War Mohawk, Quinlan & Robertson, Ltd., Quebec, Que.	3,080
May 11, 1918	War Sioux, Port Arthur Dredging Co., Port Arthur, Ont.	3,080
May 21, 1918	War Atlin, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
May 23, 1918	War Tatla, Western Canada Shipyards, Ltd., Vancouver, B.C.	3,080
June 12, 1918	War Skeena, Cameron-Genoa Mills Shipbuilders, Ltd., Victoria, B.C.	3,080
	ertson, Quebec, Que.	3,080
June 14, 1918	War Edensaw, New Westminster Construction & Engineering Co., B.C.	3,080
June 15, 1918	War Babine, Foundation Co., Victoria, B.C.	3,080
June 24, 1918	War Nicola, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
June 28, 1918	War Quebec, Quebec Shipbuilding & Repairing Co., Quebec, Que.	3,080
June 29, 1918	War Ontario, Toronto Shipbuilding Co., Toronto	3,080
July 5, 1918	War Huron, Fraser, Brace & Co., Montreal	3,080
July 5, 1918	War Erie, Fraser, Brace & Co., Montreal	3,080
July 6, 1918	War Casco, Western Canada Shipyards, Ltd., Vancouver, B.C.	3,080
July 12, 1918	War Sumas, Pacific Construction Co., Port Coquitlam, B.C.	3,080
July 24, 1918	War Suquash, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
July 27, 1918	War Gaspe, Quinlan & Robertson, Quebec, Que.	3,080
July 27, 1918	War Ottawa, Fraser, Brace & Co., Montreal	3,080
Aug. 5, 1918	War Chilkat, Western Canada Shipyards, Vancouver, B.C.	3,080
July 29, 1918	War Stikine, Cameron-Genoa Mills Shipbuilders, Victoria, B.C.	3,080
Aug. 31, 1918	War Camchin, Foundation Co., Victoria, B.C.	3,080
Sept. 7, 1918	War Sorel, Quebec Shipbuilding & Repair Co., Quebec	3,080
Sept. 8, 1918	War Nanoose, Foundation Co., Victoria, B.C.	3,080
Sept. 19, 1918	War Niagara, Fraser, Brace & Co., Montreal	3,080
Sept. 21, 1918	War Halifax, Southern Salvage Co., Liverpool, N.S.	3,080
Sept. 22, 1918	War Nipigon, Great Lakes Dredging Co., Port Arthur, Ont.	3,080
Sept. 23, 1918	War Matane, Quinlan & Robertson, Quebec, Que.	3,080
Sept. 26, 1918	War Ewen, New Westminster Construction & Engineering Co., New Westminster, B.C.	3,080
Oct. 15, 1918	War Mingan, Three Rivers Shipyards, Ltd., Three Rivers, Que.	3,080
Oct. 26, 1918	War Toronto, Toronto Shipbuilding Co., Toronto	3,080
Nov. 2, 1918	War Radnor, Three Rivers Shipyards, Ltd., Three Rivers, Que.	3,080
	Total, 45 wooden steamships	138,600

Aggregate deadweight tonnage of 27 steel and 45 wooden steamships launched, 267,600 tons.

In addition to the launchings of which we had been officially advised up to Jan. 14, as given above, the British American Shipbuilding Co., Welland, Ont., launched on Jan. 21 the War Badger, 3,500 tons d.w.

In the list of launchings published in our January issue, it was stated that the Polson Iron Works, Toronto, had launched the War Aquila, on Dec. 21. Her name was changed subsequently to War Hamilton.

Steamships Under Construction.—Of the 43 steel, and 46 wooden, steamships which the Imperial Munitions Board ordered in Canada, on behalf of the British Government, 16 steel steamships and 1 wooden one still remained to be launched at the date of our last official advices, Jan. 14. Since then, the steel steamship War Badger is reported launched by the British American Shipbuilding Co., Welland, Ont. Following is a list showing the other vessels in process of construction, giving the builders' names, the names which will be given the various vessels, and the deadweight capacity of each:—

Steel Steamships.

Builder.		Tons d.w.
British American Shipbuilding Co. Welland, Ont.—	"War Racoon"	3,500
Canadian Allis-Chalmers, Ltd., Bridgeburg, Ont.—	"War Leveret"	3,500
"	"War Vixen"	3,500
"	"War Wallaby"	3,500
"	"War Wombat"	3,500
J. Coughlan & Sons, Vancouver, B.C.—	"War Chariot"	8,800
"	"War Cavalry"	8,800
"	"War Convoy"	8,800
"	"War Column"	8,800
"	"War Company"	8,800
Midland Shipbuilding Co., Midland, Ont.—	"War Magic"	3,400
"	"War Fury"	3,400
Polson Iron Works, Ltd., Toronto, Ont.—	"War Timiskaming"	3,500
"	"War Algoma"	3,500
"	"War Halton"	3,500
	15 steel steamships	78,800

Wooden Steamships.

Grand & Horne, St. John, N.B.—	"War Moncton"	3,080

Total 15 steel steamships, 1 wooden steamship, 81,880 tons.

The s.s. War Charger, one of the steel steamships built under order of the Imperial Munitions Board, for the British Government, by J. Coughlan & Sons, Vancouver, B.C., is reported to have put back to port for the second time, owing to some slight damage to her machinery. The first return is said to have been deemed advisable on account of the low quality of steam coal which had been shipped.

The Imperial Munitions Board's shipbuilding department has been removed from Ottawa to the Drummond Building, Montreal.

Canadian Pacific Ocean Services and the War.

From the outbreak of war to the signing of the armistice, Canadian Pacific Ocean Services, Ltd., carried well over 1,000,000 troops and passengers on its vessels. Its troop transports proceeded to all parts of the world, including ports in China and Japan, Singapore, Bombay, Colombo, Suez, Gallipoli, Dar es Salaam, Delagoa Bay, Durban and the Mauritius, as well as ports in the Mediterranean Sea, and the west coasts of North and South America, and they also took part in the Mesopotamia expedition. On one consecutive, continuous voyage, one of the vessels steamed 28,441 miles. Over 4,000,000 tons of cargo and munitions of war have been carried, in addition to several thousands of horses and mules.

Of the steamships engaged in the Atlantic service before the war, the Calgarian, Hesperian, Ionian and Missanabie were sunk by submarines, and during the war, two steamships have been built and placed in service, viz., Melita and Minnedosa. The Atlantic service now has 14 steamships in service, and is thus enabled to maintain a weekly schedule.

Of the Pacific Ocean vessels, the steamships Empress of Asia and Empress of Russia, after doing considerable transport service, were overhauled recently at Liverpool, and sailed from there early in January. The Empress of Asia sailed, via the Panama Canal, for Vancouver, carrying returning troops for British Columbia points, and she is scheduled to sail from Vancouver for the Orient on her usual service, Feb. 27. The Empress of Russia sailed from Liverpool, Eng., via the Suez Canal, for Hong Kong, China, carrying returning troops for India and other points.

The Canadian National Railways' car ferry Canora was docked at Esquimalt early in January, for general overhaul after her long trip from Quebec, via the Panama Canal, and preparatory to being placed in service between Port Mann and Patricia Bay.

General Shipbuilding Notes Throughout Canada.

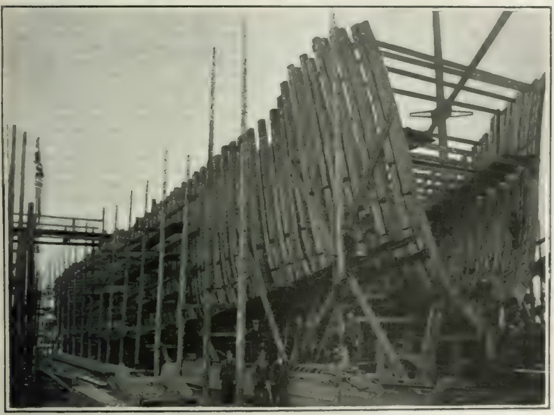
A. Boutilier & Co., Centreville, N.S., launched the s.s. Frances Boutilier at the end of December. The hull is of local wood, the general fittings being of Douglas fir. She is equipped with fore and aft engine, with cylinder 11 x 20 in., with large boiler and up to date machinery.

Burns & Kelliher, Halifax, N.S., have a wooden steamship of 1,600 gross tons under construction at Bayside, N.S., for launching in February. Her dimensions are: length 200 ft., beam 33 ft., depth 21 ft. She is of the 2-deck type, the upper one being flush, with officers' quarters amidships. The propelling machinery will consist of compound engines, with cylinders 21 and 40 in. diar, by 30 in. stroke. After launching, the hull will be towed to Halifax, where the machinery will be installed.

The Duffy-Blinn Co., Ltd., is reported to have been organized at Saulnierville, N.S., to build sailing vessels, and to have acquired a site for a shipbuilding yard there. It is stated that the company intends to confine its operations to coasting and fishing vessels of about 150 tons.

Esquimalt Ship Co. is reported to have contracts for building 4 wooden auxiliary powered schooners of 3,500 tons d.w. capacity each, and is said to be completing negotiations for the establishment of a shipbuilding plant on a site of 24 acres at Victoria, B.C.

Foundation Co., Victoria, B.C.—A recent press report stated that, in addition to the 20 wooden steamships which the company is building for the French Government, of which we have given details previously, it had received a large order for other similar steamships. We have been officially advised that the report is without foundation.



Hull for 3,000-ton wooden steamship, for French Government, under construction by Foundation Co. at Victoria, B.C.

Halifax Shipyards, Ltd., Halifax, N.S., has made an arrangement with the city for the use of the city market building as a mould loft, pending the completion of its own shops. The space utilized is 150 x 50 ft., so that the work is proceeding in somewhat cramped quarters.

International Shipbuilding Corporation, Ltd., Newcastle, N.B.—A petition by a number of creditors for the winding up of this company was before a court at St. John, N.B., recently. A statement by the provisional liquidator showed that the Royal Bank of Canada held security for $168,921. It was also stated that Job & Co., of Newfoundland and New York, had purchased a vessel to be built by the company, and had paid $40,000 on account of the total purchase price of $80,000. The company, of which F. H. McNaught, formerly Manager of the Maritime Foundry, Chatham, N.B., was Manager, had only been in operation about a year.

J. W. Kirpatrick, Eatonville, N.S., launched the schooner Ella L. [illegible], Jan. 17. She is 374 register tons, and is classed in the American Bureau for 12 years. She was built for A. Moulton, Halifax, N.S., and has since been sold to La Have parties. After launching, she was taken to St. John, N.B., where she loaded a cargo of lumber for Barbadoes.

T. H. McDonald, Meteghan, N.S., launched the barquentine T. H. McDonald, Jan. 16. Her dimensions are: length over all, 221 f.t; length on keel, 176 ft.; beam, 40 ft.; depth of hold, 19 ft.; tonnage, 1,138 gross, 1,088 net.

The Nova Scotia Shipbuilding & Transportation Co. launched the tern schooner Gordon T. Tibbo, at Halifax, N.S., recently, for S. Tibbo & Co., Grand Banks, Nfld. The dimensions are: length over all 135 ft., beam 26½ ft., depth of hold 12 ft.; 250 tons register. She is classed with the American Bureau of Shipping for 12 years. The company has under construction a beam trawler for La Have interests, and has laid the keel for a three masted schooner for launching in the spring.

Oromocto, N.B.—It is reported that some British and local interests are concerned in a project for a wooden shipbuilding plant at this point.

Quebec Steel Shipbuilding Plant Rumored.—T. M. Kirkwood, formerly associated with Three Rivers Shipyards, Ltd., Three Rivers, Que., is reported to have stated that he is working on a project having for its object the establishing of a steel shipbuilding plant, with the accompanying rolling mills for the manufacturing of ships' plates, etc., at Quebec, and that he expects to receive orders for steel steamships from various allied governments, especially France and Italy. He is also reported to have stated that vessels would be built under subsidies from the Dominion Government. Among the statements reported is one that, in the establishing of such a plant, no time would be lost in waiting for machinery, as he is owner of two plants in other parts of Canada, machinery from both of which would be utilized in the present project. Another scheme with which Mr. Kirkwood was connected recently, was one for the establishment of a wooden shipbuilding yard at Quebec, and again Dominion Government and local subsidies were to be the chief elements for the carrying out of the project. From statements made from time to time by the Minister of Marine, in enunciating his government merchant marine policy, it may be taken for granted that the Dominion Government has no present intention of subsidizing the building of steamships, either wooden or steel, by such payments. The Quebec scheme, so far as it is at present outlined, we learn, and the foundations on which it is based are more or less suppositions. Presumably, these consist chiefly of promises asked from foreign countries, for the placing of which the Dominion Government would be asked to grant licenses, and [illegible] of the granting of subsidies in cash, by local, provincial and Dominion authorities. No doubt foreign countries are quite willing to place orders for steamships, provided these can be financed satisfactorily, but whether the Dominion Government will favor the building of steel steamships in Canada for foreign registry, in view of the present shipbuilding conditions in the Dominion, is questionable. The government has already stated that steel steamships may be built in Canada for Great

Canadian Allis-Chalmers, Ltd., shipyard (near Bridgeburg), Ont., has completed a fourth slip at its yard. A press report that the company had received orders for three steamships, in addition to the four which it is building for the British Government, is, we are officially advised, incorrect.

Canadian-Chicago Bridge & Iron Co., Bridgeburg, Ont., is reported to be negotiating for 600 ft. of waterfront along the Niagara River, for the establishment of a dock and shipbuilding yard. It is reported that the company has a contract for the building of 12 steel cargo barge for the U.S. Navy.

The Dominion Shipbuilding Co., Toronto, launched a full sized canal freight steel steamship at its yard, Jan. 28. She was named General Currie, and is for private owners. She is of similar type to the s.s. Le Quesnoy, launched at the end of November, and is classed 100 A1 at Lloyd's, for trans-Atlantic service. Her dimensions are: length over all 261 ft., breadth moulded 43½ ft., depth moulded 28 ft. 2 in.; d.w. capacity, 4,300 tons. She is equipped with triple expansion engines 1,400 i.h.p., by John Inglis Co., Toronto.

dian registry, and mention has already been made of its attitude on cash subsidies, the Dominion's response in the matter of shipbuilding, and the growth of the industry, are matters of history, and it is not within our province to question the advisability of any additions to the number of shipbuilding plants, in view of existing conditions in the steel trade, but any project which may be put forward for A press report Jan. 2, stated that the the public to consider should have some reasonably substantial foundation.

J. N. Rafuse & Sons, Conquerall Bank, N.S., during 1917, launched 9 vessels, and during 1918, it launched 12 vessels, at its various yards in the province. In addition to its own yards at Conquerall Bank and Salmon River, it controls the McKay Shipbuilding Co., and the Jos. McGill Shipbuilding Co., Shelburne.

United States Shipbuilding Notes.

The U.S. Shipping Board announced recently that U.S. shipowners may accept contracts to build wooden ships for either foreign or domestic account, without special authorization from the board. Similar permission was granted to companies building steel ships so far as domestic orders are concerned, but the former prohibitions stand with respect to orders of foreign owners. Cancellations of many contracts for wood ships have been announced. The precise number of ship contracts that will be affected is not yet known, as it will depend on the money spent on the particular ship. Work is to be discontinued on every ship on which not more than $200,000 has been spent. The cancellations, however, may for the present be regarded as suspensions, since their disposition will depend upon the success of Chairman Hurley's efforts to sell wooden ships in Europe.

A Paris, France, press dispatch of Jan. 28 said it was officially that E. Hurley, 28 said it was officially announced that E. Hurley, Chairman of the U.S. Shipping Board, will return soon to the United States to take up the question of establishment of a great American merchant marine.

The U.S. Shipping Board has announced the personnel of a committee to examine the building plans of the Emergency Fleet Corporation, with a view to such revision as might be wise in view of the altered international situation. This committee is to consist of J. A. Farrell, President of the U.S. Steel Corporation; P. A. S. Franklin, President of the International Mercantile Marine Co.; George S. Dearborn, President of the American-Hawaiian Steamship Co.; H. H. Raymond, President and General Manager of the Mallory Steamship Co., and F. D. M. Strachan, President of Strachan Shipping Corporation. In addition to the foregoing, Charles Piez, Director General of the Emergency Fleet Corporation, and John H. Rosseter, Director of Operations of the United States Shipping Board, will be ex officio members of the committee. Of these, Messrs. Dearborn and Raymond are the nominees of the American Steamship Association, which was asked to designate two of its members for places on the committee.

Until hostilities ceased the purpose and effort of the Fleet Corporation was to produce useful tonnage in the largest possible quantity to keep pace with the growing need of tonnage as our overseas forces increased, and to repair the destruction wrought by submarines. With the signing of the armistice, the problem of the Fleet Corporation took on a different aspect, and the question now is, "What revisions of type are advisable and what modifications of plan or practice can be undertaken to give the Fleet Corporation's output of ships as high an economic value in world trade as possible?"

The lifting of the pressure, both of need and time, which controlled the Fleet Corporation's decisions during the actual continuance of war, makes it possible to give more consideration to economic standards, and the Director General and the other officials of the Fleet Corporation have for many weeks been engaged in a thorough examination of the corporation's building plans, and have themselves developed some important suggestions. It is to test these proposed alterations of programme that the committee above named has been appointed.

Welland Ship Canal Construction.

Canadian Railway and Marine World for December contained a copy of a Dominion order in council passed Dec. 9, authorizing the resumption of work on the Welland Ship Canal. Another order was passed Dec. 24, as follows:—"The committee of the Privy Council have had before them a report, dated Dec. 23, 1918, from the Minister of Railways and Canals, representing that by an order in council dated Dec. 9 authorization is given for the resumption of construction work upon those sections of the Welland Ship Canal which had been already commenced and partly completed.

"The Minister states that in such authorization it was decided that the work should be proceeded with on actual cost plus a percentage thereon, certain specified expenditures made by the government being excluded in the computation of the cost. That the Chief Engineer of the Railways and Canals Department estimates that during 1919 the maximum amount that would be expended on the several works would be as follows:—Section 1, $500,000; section 2, $600,000; section 3, $700,000; section 5, $500,000. That the amount upon which the percentage would be paid would not exceed more than $2,000,000 on the four sections.

"The Minister further states that the Chief Engineer of the department has made a memorandum in connection with this work in which he states as follows: 'I would most earnestly urge that the services of former contractors be again utilized under cost plus agreements, upon the sections formerly held under contract by them.'

"The Minister observes that the Chief Engineer has arranged with the former contractors to undertake such work temporarily on a cost plus 8% basis which he considers fair and reasonable. The Minister, therefore, recommends that he be authorized to enter into agreements with the former contractors for the work to be temporarily carried on, on the basis of cost plus a percentage of 8% as recommended by the Chief Engineer, the specified expenditures being excluded, and that such contracts so made with them shall not extend until a date later than Dec. 31, 1919, or earlier if in the public interest the Minister decides tenders should be called, and that on or before Dec. 31, 1919, public tenders shall be called for the completion of the works at schedule rates. The committee concur in the foregoing and submit the same for approval."

The sections under contract, and the contractors, are as follows:—

Sec. 1.—From Lake Ontario for about 3 miles, including pier and trestle work at the entrance to the canal, construction of lock 1, and canal work to bridge 2. Dominion Dredging Co., Ltd.

Sec. 2.—From bridge 2 to bridge 5, about 4½ miles, including locks 2 and 3. Baldry, Yerburgh & Hutchinson, Ltd., St. Catharines, Ont.

Sec. 3.—From bridge 5 to about halfway between bridges 9 and 10, including the erection of twin guard gates at Thorold, single lock 7, short stretch of canal below lock 7, and three twin locks, 6, 5 and 4, in flight. Doheny, Quinlan & Robertson, Montreal.

Sec. 5.—From just above bridge 12 to just above bridge 13, about 2¾ miles. Canadian Dredging Co., Ltd., Midland, Ont.; construction office at Port Robinson, Ont., in charge of W. E. Hardison.

Atlantic and Pacific Ocean Marine.

Canadian Pacific Ocean Services' s.s. Empress of Asia was expected at Vancouver about Jan. 28, from Liverpool, Eng., via the Panama Canal, with troops returning to British Columbia. She was reported to have passed through the Panama Canal, Jan. 16.

The United States s.s. Castalia, one of the vessels from the Great Lakes, which was cut in two for passage through the Welland Canal to the Atlantic, is reported to have been lost off Sable Island. After receipt of wireless messages that she had been abandoned, a vessel was sent in search of her without any trace being discovered.

The Blue Funnel Line is resuming its service to Pacific ports, and it is announced that the first vessel to arrive at Victoria, B.C., will be the s.s. Cyclops, about Mar. 1. The s.s. Protesilaus, which arrived at Vladivostock recently with Canadian troops, on a Siberian expedition, is expected at Victoria about Apr. 8, and the s.s. Tyndareus about the end of April.

The Cunard Line is reported to have bought 6 steel cargo steamships from the British Government, aggregating 29,734 tons. They are of the standard type, built for use during the war, and were given names in what is known as the "war" series. They are stated to have been renamed, the new names and the respective tonnage being as follows: Vellania, 5,272 tons; Vennonia, 5,225 tons; Venusia, 5,222 tons; Verentia, 5,185 tons; Vindellia, 4,430 tons; Vitellia, 4,400 tons.

The Ulster Steamship Co. (Head Line) announces that its regular sailings from St. John, N.B., will continue throughout the winter, and that the Montreal service will be resumed on the reopening of the St. Lawrence navigation season. During 1917, the service was carried on under the supervision of the British Ministry of Shipping, and several of the company's vessels were used in convoy and escort service, the owners being complimented by the Admiralty on their performance.

Canadian Pacific Ocean Services' appeal to the Appeal Court in England, against the judgment of the late President of the British Admiralty Court, re the collision between the company's s.s. Montreal, and the White Star Line's s.s. Cedric, off Morecambe Bay, England, during war time, was allowed with costs, in the appeal, and in the court below, the s.s. Cedric being held entirely to blame for the casualty. The Admiralty Court held that both vessels were to blame, the Cedric in the proportion of three to one of the Montreal.

Maritime Provinces and Newfoundland.

The channel approach to the government wharf at Pownell Bay, P.E.I., has been dredged to a depth of 8 ft., the width of the cut at the outer end being 60 ft., widening to 120 ft. at the pier head, to form a turning basin. A berth 220 ft. long by 90 ft. wide on the eastern side has been dredged to an average depth of 8 ft.

The St. John, N.B., ferry commissioners have included in their estimates for this year, $10,350 for repairs and overhauling of the ferry Ludlow, and $9,200 for repairs and overhauling of the ferry Governor Carleton. The operating expenses for 1917 were $90,327, and it is anticipated that there will be an increase of about $9,000 for this year, rather more than one third being due to increased wages. The estimated revenue for 1918 is $40,000.

Maintenance work on the wharf property in St. John, N.B., harbor, which it is proposed to undertake during this year, includes the repairing of decayed or worn out decking, replacement of broken fenders and decayed and broken caps, replacing some timbers in the wharves, and renewing floors, or portions of them, in some of the sheds; also strengthening the foundations of the sheds, painting, etc., and such other maintenance as will preserve the wharves and sheds in fit condition for handling traffic. The approximate amount involved is $70,000.

Province of Quebec Marine.

A shipping chamber is proposed to be established in Quebec, for the government of all matters pertaining to local shipping.

During the St. Lawrence navigation season of 1918, 640 vessels arrived at Quebec, including 81 ocean vessels, 133 coasting vessels from the lower St. Lawrence, and 364 from Montreal and the Great Lakes. This was an increase in the total, of 41 vessels over 1917.

Ontario and the Great Lakes.

The Detroit & Windsor Ferry Co. is reported to have decided to build a concrete ferry dock at Amherstburg, to cost $10,000.

The Great Lakes Transportation Co., which has the contract for icebreaking in Thunder Bay, used the tugs D. S. Pratt and F. W. Grant during the latter part of the year, and it is expected that these vessels will be able to do the work in the spring.

The Foundation Co., which acquired the Reid Wrecking Co.'s yards, etc., at Port Huorn, Mich., recently, is operating same under the name of The Foundation Co.-Port Huron Ship Yard, Inc. The building of a new dry dock at the plant is under consideration, but nothing will be done until the spring.

The U.S. Lake Survey reports the levels on the Great Lakes in feet above mean sea level for December, as follows:—Superior, 602.42; Michigan and Huron, 581.05; St. Clair, 575.42; Erie, 572.21; Ontario, 245.89. Compared with the average December levels for the past 10 years, Superior was 0.17 ft. above; Michigan and Huron, 0.03 ft. above; Erie, 0.60 ft. above, and Ontario, 0.52 ft. above.

A deputation from a number of Northern Ontario municipalities waited on the Dominion Government, Jan. 10, to urge that the proposed Georgian Bay canal scheme be proceeded with. It was stated that the carrying out of the scheme would cost about $16,000,000, or an annual interest charge of $720,000, which, it was claimed, would be met by an estimated revenue of $750,000 from water power. It was also claimed that the entire cost of the canal would be liquidated in 18 years by additional customs receipts due to increased traffic.

British Columbia and Pacific Coast.

The Dominion Public Works Department has awarded a contract to R. Moncrieff, Vancouver, B.C., for $3,500, for the construction of an adjustable slip and alterations to protective fenders on pier 3 at Victoria, B.C.

Regarding the recent loss of the C.P.R. s.s. Princess Sophia, in the Lynn Canal, it is said that from reports made by the diver who was engaged to investigate the position and condition of the wreck, it is more than possible that the vessel may be raised. J. W. Troup, Manager, British Columbia Coast Steamships, C.P.R., is, however, reported as stating that it is more than questionable if this can be done. Investigations by the diver have been more or less interrupted, and while certain fittings may be salved, and bodies recovered, it is not likely that the hull will be found in a condition to be raised.

The Naval Service Department received tenders to Jan. 22, for the purchase of H.M.S. Algerine, sloop of war. She was built in England in 1895, and has been in patrol service on the Pacific Ocean, practically since her construction. She was for some time on the Behring Sea patrol, and later on the southern Pacific. Since the commencement of the war, she has been laid up at Esquimalt. She is of steel, and fitted with twin screw, vertical type, triple expansion, surface condensing engines of 1,100 i.h.p. under natural draft, and 1,400 i.h.p. under induced draft; 2 cylindrical tubular boilers for a working pressure of 155 lb.

The Grand Trunk Pacific Coast Steamship Co.'s s.s. Prince Rupert was withdrawn from service, Jan. 15, for her annual overhaul. The company's winter schedule was put into operation Jan. 12, when the s.s. Prince George left Victoria, calling at Vancouver, Ocean Falls, Swanson Bay, Anyox and Prince Rupert, on a weekly service. On the resumption of service by the s.s. Prince Rupert, the s.s. Prince George will be withdrawn for overhaul. The s.s. Prince John, for the balance of the winter schedule, is timed to leave Prince Rupert Feb. 6 and 20, Mar. 6 and 20, for Queen Charlotte ports. The s.s. Prince Albert will be operated without schedule in the general freight business to northern ports.

Mainly About Marine People.

Capt. C. O. Allen, master of the s.s. Strathcona, formerly owned by Canada Steamship Lines, Ltd., and transferred to French service in 1917, communicated recently from Copenhagen, Denmark, with relatives in Canada, following his release from a German prison camp, where he had been confined since April, 1917, after the sinking of his vessel by a German submarine.

Capt. T. A. Clark, head of Clark Co., Ltd., transfer agents, Toronto, and master of the Toronto Ferry Co.'s steamboat Elsie, died there, Jan. 14, aged 58.

R. McLeod, a shipbuilder of Queens County, N.S., is reported to have been appointed surveyor for the American Bureau of Shipping in Nova Scotia.

Capt. G. L. Mackey, who was in Canada Steamship Lines' service when he retired about two years ago, died at St. Catharines, Ont., recently of apoplexy, aged 66. He was a native of Hamilton, Ont., and was for some time in R. O. & A. B. Mackay's service there.

Hon. A. K. Maclean, M.P. for Halifax, N.S., and Minister without portfolio in the Dominion Government, is acting Minister of Marine and of Naval Service during the absence, through illness, of Hon. C. C. Ballantyne.

Sir J. R. Maclay, for some time British Shipping Controller, has been appointed Minister of Shipping in the new British Cabinet.

Lieut.-Col. W. P. Anderson, C.M.G., Chief Engineer, Marine Department, was in Victoria, B.C., about the middle of January, on his way to Califonria, where he will spend the remainder of the winter.

Hon. C. C. Ballantyne, M.P., Minister of Marine and of Naval Service, who left Ottawa Dec. 24 for his home in Montreal, was taken seriously ill that night, becoming unconscious. At first it was thought he was suffering from influenza, but on Dec. 30 he was operated on for appendicitis at the Royal Victoria Hospital, Montreal. Peritonitis and other complications ensued, and he was seriously ill until Jan. 13, when his condition began to improve. On Jan. 24 we were advised that he continued to show improvement, but would probably not be able to leave the hospital.

Vessels Added to and Deducted From the Canadian Register During November, 1918.

	Steam			Sailing		
		Tonnage			Tonnage	
	No.	Gross	Registered	No.	Gross	Registered
Added.						
Built in Canada	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Purchased from foreigners	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other vessels	1	[illegible]	[illegible]			
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Deducted.						
Wrecked or otherwise lost	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]				[illegible]	[illegible]	[illegible]
Sold to foreigners	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Transferred to Great Britain				[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Other [illegible]	[illegible]	[illegible]	[illegible]			
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

tal until early in February, when he will go to his house for a week or two and then go south for several weeks.

Jas. Carruthers, President, Canada Steamship Lines, Montreal, has been elected an honorary vice president of the Albatross Club, an organization of men associated with the Royal Air Force, in Montreal.

Capt. S. Filgate, formerly master of the s.s. Filgate, which for many years ran between Montreal and St. Helens Island, celebrated his 100th birthday at his home in Montreal, in December, and died there Jan. 26. He first entered navigation service in 1852, in the operation of a ferry between Lachine and Caughnawaga, and was later, at different times, master of several river steamboats.

World's Shipbuilding Statistics.—New York press dispatch, Jan. 18:—2,144 merchant ships were under construction at the end of the third quarter of 1918. Of these 1,966 were steam and 178 of the sailing type. Ships of less than 100 tons are not included, nor are vessels built for the British Admiralty for other than mercantile purposes. The United States stands out prominently in the returns. Steamships, motor and sailing vessels now under construction report the unusually high number of 1,020, with a gross tonnage of 2,382,709. The United Kingdom and its dominions are building 582 new ships, the total tonnage being 2,048,214. Of these, 383 are being built in the United Kingdom. Ten are sailing ships. The gross tonnage is 1,746,933, compared with a gross tonnage of 4,624,455 being built in other countries.

The Halifax Graving Dock Expropriation is listed for hearing before the Exchequer Court, on behalf of the Dominion Government, the court being asked to fix the amount which the Government is to pay for the property at $1,100,000. The property consists of 7.5 acres of land in Halifax harbor, with graving dock, machine shops, offices, etc. Considerable detail relative to this matter has been given in previous issues, covering a statement by the Minister of Public Works in the Aug., 1918, issue, and a protest by the company's chairman in the Dec., 1918, issue.

A Wooden Ship Suit.—An arbitration award of considerable interest to builders of wooden ships was announced at Halifax, N.S., recently when a Portuguese firm which had purchased the tern schooner Kathleen Crewe, was given $10,000 as damages, it having been discovered that the bottom of the vessel had been eaten out by worms. The vessel was built in 1912 and made her maiden voyage to South Africa, returning to New York and thence to Halifax, where she was sold to her present owners. The original claim was for $50,000.

Shipbuilding Work Hours in Great Britain.—Representatives of the Federation of Engineering and Shipbuilders Trades, and representatives of the employers, are reported to have met recently and decided that a 47-hour week, without any reduction in existing wages, constituted a reasonable attempt to readjust working conditions.

International Export & Import Co., Ltd., has been incorporated under the Dominion Companies Act, with $20,000 capital and office at Montreal, to carry on a general export and import business, and in connection therewith to charter and operate steam and other vessels, and to act as general transfer and transportation agents.

Canada Steamship Lines' Finance.—A Montreal press dispatch states that the five year voting trust which set aside 62,500 shares to assure control of the company to the present management for such period, expired Jan. 19, and a new voting trust was formed for a longer term, and the bulk of the old trust shares exchanged for new.

G. B. Hatfield, Port Greville, N.S., launched the tern schooner Vera H. at Halls Harbor, Jan. 15, and towed her to Port Greville, where her spars and rigging were fitted. She is about 430 register tons, and classed for 12 years with Bureau Veritas.

Yard Trackage for Victoria, B.C.—Speaking before the inner Harbor Association at Victoria, B.C., Jan. 10, J. O. Cameron, acting President, pointed out the lack of railway trackage in the new industrial area, and suggested that the difficulty could be remedied by building up the old Rock Bay bridge, and running a track across it from the Esquimalt and Nanaimo Ry. on Store St. to the mill sites, and to connect up with the Canadian Northern Ry. lines.

Quebec Bridge Contract.—At the Dominion Bridge Co.'s annual meeting in Montreal, Jan. 8, Phelps Johnson, President, in his report said:—"Notwithstanding the loss of the suspended span in 1916, satisfactory profits have resulted from the construction of the Quebec bridge. The St. Lawrence Bridge Co. has also carried out profitable orders for munitions." A press report of the meeting says a discussion brought out the statement that about $770,000 had been received from the Quebec bridge contract since the closing of the books for the year, and that a further sum would be coming to the D. B. Co. on the final settlement. Another report states that, of the profits of $2,477,009 made by the company in the last financial year, $1,100,000 came from the Quebec bridge contract.

The Lambeth Transportation Co. has been organized at Lambeth, Ont., to carry passengers and freight between that place and London. The capital, which is reported to have been fully subscribed locally, is $10,000, and the officers and directors are:—President and General Manager, W. K. Coldicott; Vice President, F. Soper; other directors: R. Piper, T. Hamblyn and Rev. J. Holmes. It is proposed to operate a 3½-ton motor truck, on a 2-hour schedule, making 7 round trips a day. The service, it is proposed, will be operated at as near cost as possible, and the officers, it is said, will not receive any remuneration for their services. This service is projected to provide for the traffic formerly carried between Lambeth and London by the London & Lake Erie Ry. and Transportation Co.'s electric railway, which is now being scrapped.

Vessels Registered in Canada During November, 1918.

In compiling the following lists of vessels registered, steamboats and motor boats, operated by engines of less than 10 n.h.p., are eliminated, as also are sailing vessels of less than 100 tons register.

STEAM

No.	Name	Port of registry	Where and When Built		Length	Breadth	Depth	Gross Tons	Reg. Tons	Engines, Etc.	Owners or Managing Owners
141127	War Atlin	Vancouver, B. C.	N. Vancouver, B. C.	1918	249 7	43 5	22 8	2338	1434	Sc 147hp	Shipping Controller, London, Eng.
141128	War Charger	Vancouver, B. C.	Vancouver, B. C.	1918	410 5	54 1	27 5	5703	4145	Sc 2650hp	" " " "
[illegible]	War Edensaw	New Westminster, B.C.	New Westminster, B. C.	1918	249 6	43 5	22 8	2336	1424	Sc 138hp	" " " "
[illegible]	War Nanoose	Victoria, B C.	Victoria, B. C.	1918	249 8	43 4	22 9	2285	1405	Sc 146hp	" " " "
141125	War Nicola	Vancouver, B. C.	N. Vancouver, B. C.	1918	249 5	43 4	22 8	2230	1429	Sc 111hp	" " " "

SAILING

No.	Name	Port of Registry	Where and When Built		Length	Breadth	Depth	Gross Tons	Reg. Tons	Owners or Managing Owners
141124	Dollar IV	Vancouver, B.C.	Dollarton, B.C.	1918	95 2	36 7	7 1	214	214	Canadian Robert Dollar Co., Vancouver, B.C.
[illegible]	[illegible]	Lunenburg, N.S	Lunenburg, N.S.	1918	118 6	27 3	10 0	203	162	R. Knickle, Lunenburg, N.S.
[illegible]	Fraser Mills No. 4	New Westminster, B.C.	Fraser Mills, B.C.	1910	80 0	30 0	7 0	143	143	Canadian Western Lumber Co., Vancouver, B.C.
141163	Governor Parr	Parrsboro, N.S.	Parrsboro, N.S.	1918	200 0	39 8	18 5	972	912	A.F. Davison and A.D. Richards, Bridgewater, N.S.
[illegible]	J. E. Backman	La Have, N.S	Meteghan, N.S.	1918	145 2	33 6	13 0	472	399	J.E. Backman, LaHave, N.S.
141081	Jean McKay	Shelburne, N.S.	Shelburne, N.S.	1918	119 3	27 1	11 0	252	194	F. Stoodley, Grand Bank, Nfld.
[illegible]	L. W. [illegible]	Vancouver, B.C	New Westminster, B.C.	1912	81 0	26 0	6 6	117	117	W.H. Hind, Vancouver, B.C.
[illegible]	[illegible]	Annapolis Royal, N.S.	Annapolis Royal, N.S.	1918	173 0	35 0	13 0	665	591	F.W. Pickels, Annapolis Royal, N.S.
[illegible]	[illegible] H	Weymouth, N.S.	Saulnierville, N.S.	1918	146 0	33 3	12 4	423	359	Acadia Shipping Co., Meteghan River, N.S.
[illegible]	P.G.E. No. 1	New Westminster, B.C			172 0	39 0	10 0	652	652	Pacific Great Eastern Ry., Vancouver, B.C.
[illegible]	[illegible] Queen	Parrsboro, N.S.	Economy, N.S.	1918	150 5	34 7	12 0	442	386	H.D. McLean and H.C. McKay, Economy, N.S.
[illegible]	R. F. No. 3	New Westminster, B.C.	New Westminster, B.C.	1912	80 0	26 0	6 2	110	110	R. Fenton, New Westminster, B.C.
138730	R.F. No. 4	" " "	" " "	1912	80 0	26 0	6 2	110	110	" " " "
138731	R. F. No. 6	" " "	" " "	1914	86 0	30 0	7 9	175	175	" " " "
141112	V.T. No. X	Vancouver, B.C.	Vancouver, B.C.	1913	85 2	30 0	7 7	167	167	Vancouver Tug and Barge Co., Vancouver B.C.

Canada's Great Advance in the Shipbuilding Industry.

The year 1918 has been a notable one for the Canadian shipbuilding industry. In the building of both steel and wooden ships great progress has been made, and the industry enters upon 1919 with the brightest of prospects. Indeed, in the building of steel ships, Canada has entered upon a new era, this being assured through the extensive shipbuilding programme announced by the Dominion Government; while the contract entered into with the Dominion Steel Corporation for ship plates assures adequate material from a home source.

It is estimated that the total tonnage of vessels launched in Canadian shipbuilding yards during 1918 was about 460,000 tons deadweight. Of this, 23 steel and 45 wooden steamships, with a tonnage of 253,463 deadweight, were ordered by the Imperial Munitions Board for the British Government. All of these ships have not, of course, been delivered. The tonnage delivered is valued at $37,156,972. Last autumn the French Government contracted in Canada for 70 wooden steamships.

It will thus be seen that the British Government contributed a great deal toward making possible the shipbuilding activity of the past year. All told, the Imperial Munitions Board has awarded contracts for 90 steamships, 46 wooden and 44 steel, with a deadweight tonnage of 356,343 tons. The total value of these contracts is given as $69,675,235, which is the best possible evidence of what the board has done for Canadian shipbuilding. Its orders for wooden ships put wooden shipbuilding on its feet, so that today there are probably under construction in Canada more than 150 ships of that character. Its orders for steel ships also imparted a strong impetus to that portion of the industry.

To the shipbuilding industry generally the most important event of the year was the announcement made by Hon. C. C. Ballantyne of the government's steel shipbuilding programme, which is designed to provide adequate Canadian tonnage for Canada's already large and rapidly-growing foreign trade. Owing to the difficulty in securing steel and the additional fact that several of the yards that had received government contracts for ships have been busy for a much longer period than had been expected in turning out tonnage for the Imperial Munitions Board, not as much progress has been made on this programme as had been hoped. However, at present 45 vessels are under construction or contracted for. These represent a deadweight tonnage of about 268,350 tons, valued at more than $52,000,000. The vessels range in tonnage from 3,400 to 10,500 tons. Two of them will be of the latter tonnage and 16 of 8,100 tons. Nor is this the whole of the programme, it being the intention to build for some time up to the full capacity of the yards.

December 3 was a notable day in Canadian shipping circles, for in the yards of the Canadian Vickers, Limited, at Montreal, was launched the Canadian Pioneer, the first vessel of the Canadian mercantile marine to be officially launched; the first also in the Government's programme. Her tonnage is 8,100 deadweight. The Canadian Voyageur, 4,300 tons, had taken the water even before that. Soon Canada will be represented on the high seas by a numerous merchant marine owned by the Canadian Government in connection with the Canadian National Railways.

It is by comparison with the tonnage turned out in pre-war years that one can best realize what has been done by the Canadian shipbuilding industry during 1918. Putting the total tonnage produced at 460,000 deadweight, this means that Canada produced during last year an amount equal to a little more than one-third of the total tonnage of merchant vessels produced in the shipyards of the United Kingdom during 1917. To state it in another way, Canada last year built more tonnage than was built in all Canadian yards between 1902 and 1914.

One of the especially gratifying features of the expansion of the shipbuilding industry is that the benefits are being distributed generally throughout the country. Today shipyards from the Atlantic coast up along the St. Lawrence to the head of the Great Lakes and on the Pacific coast are busy with government and other orders. Fully 40,000 tons of the Dominion Government's steel shipbuilding programme are being built on the Great Lakes. Important new yards, notably one at Halifax, are also being constructed. Busy as Canadian shipbuilders have been during the year that has just closed, they will be equally as busy during 1919. Only the capacity of the yards to produce tonnage is the limit of its operations.

The action of the Dominion Government Steel Corporation for 250,000 tons of ship plates, and thus making possible the erection of a mill for the production of this particular kind of material, will have an important influence on the future of steel shipbuilding in Canada, for it will render the industry independent of other countries for supplies. Hitherto this country has, in this respect, been largely dependent on the United States, but in this, as in many other respects, Canada now stands on her own feet.—Toronto Globe.

Among the Express Companies.

Harold Joseph Palmateer, who has been appointed Assistant Superintendent, Eastern Division, Dominion Ex. Co., Toronto, entered the company's service July 11, 1902, since when he has been, to Mar. 13, 1911, clerk, Superintendent's office, Montreal; Mar. 3, 1911, to Jan. 1, 1919, chief clerk to Superintendent, Toronto.

The United States Railroad Administration has ordered that its Division of Labor will near and investigate, and recommend adjustments of any disputes between the American Railway Ex. Co. and its employes, not affecting wages and working conditions, these latter matters being dealt with by the Board of Railway Wages and Working Conditions.

George Parker, who has been appointed Superintendent, Eastern Division, Dominion Ex. Co., Toronto, vice J. J. Murray, promoted, entered the company's service Oct. 10, 1892, since when he has been, to 1895, station clerk, Ottawa, Ont.; 1896 to 1897, clerk in city office, Ottawa; 1898 to 1900, station foreman, Ottawa; 1900 to 1903, chief clerk and cashier, Ottawa; 1904, route agent, Ottawa; 1905 to Dec. 31, 1918, agent, Ottawa.

Samuel Chadwick, who died at the General Hospital, Montreal, Jan. 22, aged 79, was, many years ago, agent for the American and Canadian Ex. Co.'s, at London, Ont., and in 1876 assisted in the organization of the Intercolonial Ex. Co., at St. John, N.B., which was merged subsequently in the Canadian Ex. Co. He was appointed Superintendent, Canadian Ex. Co., at Montreal, and later promoted to General Manager, resigning in Dec., 1890.

M. J. Donnelly, agent, Canadian Northern Ex. Co., was found dead in his chair at his office at Quebec, Que., Jan. 8. He was laid up with influenza about two months ago, and did not seem to have fully recovered, but insisted on attending to business. He was formerly in the Quebec & Lake St. John Ry. service, and remained when that company was absorbed by the Canadian Northern Ry. At the inquest it developed that he had shot himself during a moment of acute mental aberration.

The Express Traffic Association of Canada's application, on behalf of the express companies operating in the Dominion, for increases in rates, was before the Board of Railway Commissioners during January. The application is being opposed by the National Dairy Council and the United Farmers of Ontario, represented by D'Arcy Scott, K.C., a former railway commissioner, as well as by others. The chief contention by the opposition is that the present is not the time to make any increases in rates, and that prices in general have a downward tendency.

The Canadian Ex. Co. had exclusive operating rights for many years over the Intercolonial and Prince Edward Island Rys., and latterly over the National Transcontinental Ry. Some years ago the Dominion Ex. Co. also secured operating rights on the I.R.C. and P.E.I.R. It is said that both companies are subject to 90 days notice of the termination of their agreements, and that such notice is likely to be given shortly, in order that the Canadian Northern Ex. Co. may operate exclusively over all the Canadian National Rys., viz., Canadian Northern, Intercolonial, National Transcontinental and Prince Edward Island. In this connection, W. C. Muir, General Superintendent, Canadian Northern Ex. Co., will probably be transferred from Winnipeg to Toronto.

John Joseph Murray, who has been appointed General Superintendent, Lines east of Port Arthur, Ont., Dominion Ex. Co., Toronto, entered express service in July, 1888, in the Customs Department, Canadian Ex. Co., Toronto, and subsequently continued his collegiate course. After engaging in private business for about five years, he returned to express service with the Dominion Ex. Co., Oct. 1, 1897, since when he has been, to 1903, clerk and relieving messenger, Toronto; 1903 to May 1, 1906, chief clerk to Superintendent; May 1, 1906, to Jan. 1, 1911, secretary to President and General Manager; Jan. 1, 1911, to July 1, 1912, Superintendent, Southern Division; July 1, 1912, to Jan. 1, 1919, Superintendent of Eastern Division, on the amalgamation of the Eastern and Southern Divisions.

Telegraph, Telephone and Cable Matters.

T. W. Molson has been elected a director of the Montreal Telegraph Co., in place of Lieut.-Col. Bartlett McLennan, D.S.O., deceased.

The C.P.R. Telegraph Department will move its Winnipeg offices, in February, to the Canada Life Building, at the corner of Portage Ave. and Main St., which it is reported to have purchased recently for $500,000. The name of the building will be changed to Canadian Pacific Building.

The Marconi Wireless Telegraph Co. of Canada's report for the past year shows a profit of $114,953, against $104,929 for the previous year. The balance at credit of profit and loss is $256,059, against $185,745 for the previous year. After providing for sundry charges, $198,414 is carried forward to the current year. At the recent annual meeting, J. N. Greenshields, K.C., was elected President in place of A. A. Allan, and Thomas Robb was appointed Managing Director. The other directors are: G. Marconi, G.C.V.O., Robert Bickerdike, G. C. Isaacs, G. M. Bosworth, W. D. Birchall, E. J. Nally and A. E. Francis.

The Dominion Government has relaxed certain restrictions on the use of wireless telegraphs at sea, to Canadian vessels through Canadian stations. Messages in plain language on ships' business, or from the general public may now be sent to, or received from, Canadian vessels through any regular Canadian commercial radio telegraph station on the east coast, Great Lakes, west coast, and Newfoundland at any itme, except through the naval stations at Halifax, N.S., and Sable Island, which will only handle ships' business in plain language. Canadian ships are also permitted to exchange plain language commercial traffic on the Pacific on any part, and on the Atlantic west of 40 deg. west, which latter is subject to British restrictions, limiting the traffic to ships' business in plain language. The trans-Atlantic wireless, between Glace Bay, N.S., and Clifden, Ireland, has been reopened, but traffic is limited to press messages and government business until further notice.

Trade and Supply Notes.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers distinctly to understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

The General Railway Signal Co. has issued a booklet, 1,003A, describing and illustrating its model 2A signal.

Dominion Bridge Co.—G. H. Duggan, heretofore Vice President and Managing Director, has been elected President, succeeding Phelps Johnson, who asked to be relieved of the position, but who remains on the board.

The Canada Wire & Cable Co. is installing machinery for manufacturing a full line of steel wire ropes in its plant at Leaside, near Toronto. It expects to have this plant in operation by Mar. 15, and will then be in a position to supply all sizes and kinds of steel wire rope.

The William Kennedy & Sons, Ltd., Owen Sound, Ont., is adding to its plant a building 100 x 50 ft., and 33 ft. high, of steel and concrete construction, equipped with an electric travelling crane of 20 tons capacity. It is to be used as an erecting shop for marine machinery.

Calendars for 1919 have been received from: American Steel Foundries, Chicago; Dearborn Chemical Co., Chicago; Edison Storage Battery Co., Orange, N.J.; Flannery Bolt Co., Pittsburg, Pa.; Hiram L. Piper Co., railway and marine supplies, etc., Montreal; Taylor & Arnold, Ltd., railway and marine specialties, Montreal.

Imperial Munitions Board Offer for Sale

PLANT AND EQUIPMENT (IN PART) OF

British Cordite Co. Ltd., Nobel, Ont.

TENDERS, accompanied by marked cheque for 5% of the amount of the bid, will be received by the undersigned up to and including February 20th, 1919, for the purchase of the following, located at Nobel, Ontario:—

ITEM NO. 1. POWER HOUSE.—**Building** of steel frame construction on concrete foundations.

Boiler-room Equipment—10-400 H.-P. Wickes, vertical, water tube boilers, equipped with Murphy Automatic Stokers and 2-1 ton coal-weighing lorries.

Ash Handling System—American Steam Jet Ash Conveyor.

Power-House Equipment—3 Turbo Generators, 3 phase, 2200 volt, 60 cycle; 1-750 K. W. Allis Chalmers; 1-500 K. W. General Electric; 1-1000 K. W. Westinghouse-Parsons, complete with Westinghouse LeBlanc Jet Condenser and 80 H.-P. Sturtevant Turbine direct connected to Booster Pump; 1-25 K. W. Westinghouse-Turbo Exciter Set, 125 volt; 1-25 K. W. Canadian Fairbanks-Morse Motor Exciter Set, 550-volt motor, 125-volt generator; 1-30 K.V.A. constant current transformer.

Switchboard—11 panels fully equipped, 1-10 K.V.A., 2200-110 volts and 3-40 K.V.A., 2200-550 volts, Pittsburgh Transformers; 2-18 x 10 x 12 Worthington Fire Pumps; 2-14 x 22 x 14 x 16 Ingersoll-Rand Air Compressors; 2-No. 785 Cochrane feed water heaters; 4 Alberger heaters; 2-Frick Ammonia Compressors, 30 and 70-ton capacity; 2-4" Goulds Centrifugal Pumps, direct connected to 15 H.-P. motors; 4-1¼ x 8 and 2-5½ x 8 Deane Single Acting Triplex Pumps, belt driven; 1-42 x 10½ x 48 Hydraulic Pneumatic Accumulator.

ITEM NO. 2. PUMPING STATION.—**Equipment**—6-9 x 12 Aldrich Triplex Pumps, directly connected to 40 H.-P. Canadian Fairbanks-Morse, 550 volt, 40 amp., 60 cycle, 3 phase motor, with starting compensators and switch boxes capacity 500 gallons per minute; 3-75 K.V.A., 2,200-550 volts and 1-550-100 volts Pittsburgh Transformers.

ITEM NO. 3. MACHINE TOOLS.—18" Engine Lathe; 20" Drill Press; No. 4 Power Saw; Keyway Cutter; 16" Stroke Shaper; 10" Emery Wheel Stand; No. 34 Little Giant Screwing Machine with taps and dies.

ITEM NO. 4. TANKS.—Steel Horizontal—33—6′ to 20′ diameter. Steel vertical—41—3′ to 8′ diameter.

ITEM NO. 5. STOVES.—7 Nos. 41 and 42 Quebec Heaters, 5 Oxford Ranges and 16 Oil Stoves.

ITEM NO. 6. STEEL CANS.—12,900 Steel Cans, with lugs and lids, 11½" x 12" x 3-32".

ITEM NO. 7. COTTAGES.—15 Cottages, frame construction, 20′ x 34′.

ITEM NO. 8. PRESSES.—8 Dehydrating Presses (Hydraulic).

ITEM NO. 9. PUMPS.—8 Gardner Duplex Pumps, 7" x 3½" x 10".

ITEM NO. 10. WRINGERS.—20 Centrifugal Wringers 24".

ITEM NO. 11. STOCK DRYERS.—3 Sargent (Stock Dryers).

ITEM NO. 12. PICKER MACHINES.—3 Davis and Furber Picker Machines 36".

ITEM NO. 13. KNEADERS.—52 Kneader Machines.

ITEM NO. 14. PRESSES.—19 Darling Presses (Hydraulic). 22 Inglis Presses (Hydraulic).

ITEM NO. 15. PUMPS.—46 Hydraulic Triplex Worthington Pumps, 1 x 4 for 2,000 pounds pressure.

ITEM NO. 16. PUMPS.—10 Vertical Triplex Single Acting, belt driven Worthington Pumps, 3½" x 6" for 250 pounds pressure.

ITEM NO. 17. PUMPS.—6 Aldrich Pumps, Vertical, Triplex, Bach plunger of the solid water end type, double reduction, direct geared for 900 R.P.M. Motor, 9" x 12", Cap. 500 G.P.M., lift 150′.

ITEM NO. 18. BELTING.—A quantity of leather and rubber belting.

Tenders for these items, in whole or in part, will be considered. The owner will dismantle and load on cars; bids are to be made on this basis. Intending purchasers will be given every facility to inspect the buildings and equipment. Complete information may be obtained from the undersigned.

The highest or any tender not necessarily accepted.

Cheques from unsuccessful bidders will be promptly returned.

R. Home Smith
Agent, Imperial Munitions Board
18 King Street West, Toronto, Ont.
Phone Ad. 1590.

Canadian Railway and Marine World

March, 1919

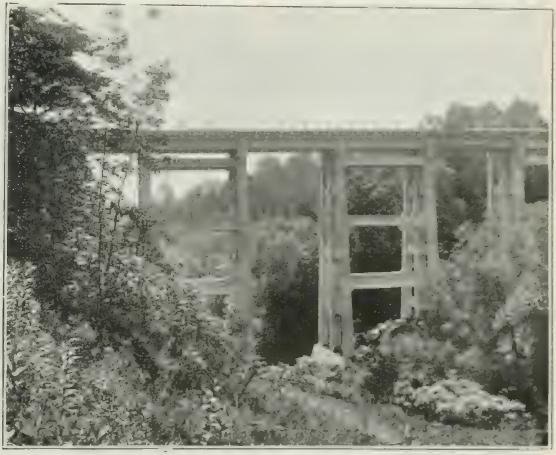
Design and Construction of Reinforced Concrete Viaducts on North Toronto Subdivision, Canadian Pacific Railway.

By B. O. Eriksen and H. S. Deubelbeiss.

General Description and Design.—The greatly increasing freight traffic and a still greater prospective increase in passenger traffic, due to the agreement between the C.P.R. and the Canadian Northern Ry., whereby the latter acquired running rights over the C.P.R. from Leaside Jct. to North Toronto station, necessitated the double tracking of the line between these two stations. While this line is only about two miles long, several reinforced concrete culverts required extensions, and two important bridges, one at mileage 0.9 from Leaside Jct. and the other at mileage 1.8 therefrom, had to be rebuilt. The existing single track steel viaducts at these two points not being adequate for the present heavy rolling stock, and still less for future requirements, had to be rebuilt, so that these bridges would not limit the use of heavier motive power on this important link. Bridge 1.8, being located at the limit of the North Toronto yard, required an extra track for switching, so as not to interfere too much with the main line traffic.

Estimates for both bridges were made for building them in either steel or reinforced concrete. The higher cost of steel viaducts, and the uncertainty of the delivery of structural steel, were the deciding factors in the choice of reinforced concrete trestles as built and here described.

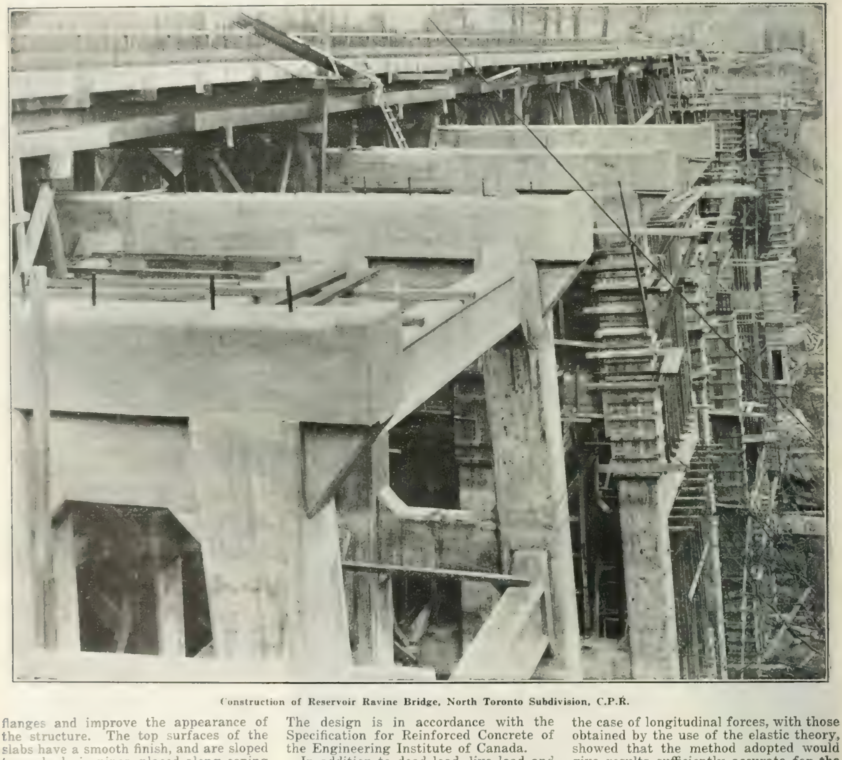
While no designs were prepared for concrete arches at these points, the possibility of building them was considered. The limited right of way at the bridge sites, however, and the necessity of building temporary trestles within these limits, made the maintenance of traffic in building arch structures a most difficult problem. The designs adopted, where all slabs were pre-moulded, and the bulk of the concrete could be cast in forms on the ground, promised a much speedier and safer construction, and permitted the carrying of traffic within our right of way without difficulty. These considerations justified the dropping of further studies of reinforced concrete arches, and the adoption of designs of which the principal dimensions are shown in fig. 1.


Bridge over Toronto Belt Line Ry. Ravine, North Toronto Subdivision, C.P.R.

Bridge over Toronto Belt Line Ry. Ravine, North Toronto Subdivision, C.P.R.

Continuous piers have been used instead of individual pedestals, as is customary for steel viaducts. These, together with the very stiff caps, made each bent as one unit. The columns are thoroughly bonded to the piers, by the recesses and the rods in tops of same, which correspond to the reinforcing rods in the columns.

In designing the columns, rectangular and octagonal sections were considered. The rectangular section was adopted, as the most suitable to resist the great bending moment that the columns would be subject to. The columns are reinforced with longitudinal rods anchored into the concrete by ¾ in. diameter bands. On account of the unusual size of these columns, these bands were made in sections, so that [illegible] bars would be thoroughly anchored into the body of the columns. These bands were not considered to act as hooping, owing to their rectangular shape. The tower bracing consists of struts reinforced to resist the bending moments due to their own weight, and the various horizontal forces acting on the tower. In order to improve the appearance, and reduce the weight, the vertical faces of the longitudinal struts were given a [illegible]. The longitudinal and transverse struts are arranged alternately. At an intermediate



Construction of Reservoir Ravine Bridge, North Toronto Subdivision, C.P.R.

points, bending moments, due to transverse forces, will then be practically zero, where the moments caused by the longitudinal forces are maximum. Sliding surfaces for the main slabs are provided by ½ in. steel bearing plates on caps of the bents; the plates are held in position by 1½ in. dowels. As these plates are continuous over the caps of the bents, they strengthen the caps against stresses produced by longitudinal forces on the bridge.

Each track is supported by two premoulded simple T beams. The end brackets on these slabs do not bear on the caps, but are kept clear by the steel bearing plates which they overhang. They are intended to strengthen the horizontal flanges and improve the appearance of the structure. The top surfaces of the slabs have a smooth finish, and are sloped towards drain pipes, placed along coping blocks and between the tracks.

The ballast is held in position by the coping blocks, which were premoulded in sections and anchored to the slabs by 1 in. dowels. After the erection of the slabs and coping blocks, the surfaces in contact with the ballast were waterproofed with a membrane type of waterproofing. This was laid continuously from abutment to abutment, the gaps between slabs being reinforced by additional layers of felt and mastic.

The sidewalks are composed of premoulded T shaped slabs, supported on brackets projecting out from the main slabs. The flanges of the sidewalk slabs fit into a horizontal groove in the coping blocks, which are heavy enough to counteract any tendency of the T beams to overturn. One-inch dowels hold these slabs in position on the brackets. The hand-railing consists of premoulded concrete posts, and three rows of 2 in. pipe.

The bridges are designed to carry Cooper's E-50 loading, with an impact allowance of .90 — 300/300 L.L., where L.L. = live load and L. = loaded distance in feet. Where stresses are produced by the loading of more than one track, L. is multiplied by the number of tracks. The design is in accordance with the Specification for Reinforced Concrete of the Engineering Institute of Canada.

In addition to dead load, live load and impact, the towers had to be designed to resist stresses due to traction and wind. A traction force equal to 9% of the wheel load was assumed to act at the rail level. This coefficient of traction was derived from diagram in Mr. Blumenthal's paper on Traction Stresses (Can. Soc.C.E. Transactions, Vol. 24, Part 2). A wind load of 30 lb. a sq. ft. on exposed surfaces of train and slabs, and a similar load on 1½ times the vertical projection of towers was assumed.

Bending moments in columns, due to dead load of struts, were included in calculations. While this is usually neglected in steel structures, it became necessary here, owing to the great weight of the struts. These latter moments, and also the moments due to traction, were calculated by the elastic theory—the equations being solved by the area moment method. Fig. 2 indicates how these equations were developed. The application of this theory, however, for the calculation of moments, due to transverse forces, became extremely involved, owing to the shape of the bents. For this reason, points of inflection were assumed as shown in fig. 1. Comparison between results obtained by similar assumptions, in the case of longitudinal forces, with those obtained by the use of the elastic theory, showed that the method adopted would give results sufficiently accurate for the purpose. Stresses in columns, including being moments when one span only was fully loaded, were calculated, but found to be below maximum shown on stress sheet.

Traffic was maintained on both bridges on temporary wooden trestles, erected on the north side of the old main line track. This was contemplated from the very first for bridge 1.8, as the spans of the existing bridge were so arranged, that to build a concrete trestle and keep clear of existing steelwork would be impracticable. At bridge 0.9, however, it was found that if the new bridge was laid out with 34 ft. tower and 36 ft. intermediate spans, there would be no interference with existing steelwork, and traffic could be maintained on the old bridge. This arrangement of spans was, therefore, adopted for both bridges. However, when excavation was started, it was found that the condition of existing masonry would not permit excavation for new piers to be carried down to the required depth, without endangering the safety of traffic. It was, therefore, considered advisable to build a temporary wooden trestle for this bridge also, rather than attempt to support masonry pedestals on these steep side hills.

Plant at Bridge 1.8.—A plant for storage and mixing was installed at each end of the bridge, and one at the slab yard, about a quarter of a mile east of the bridge. The stone and sand were piled in the open about 25 ft. from the mixer. They were stored on plank bottoms, to prevent admixture of earth. The cement was stored in three sheds, having capacities of five carloads each. They were built of dressed lumber, and dressed with ready roofing paper. The floors were kept about 8 in. clear of the ground, in order to make the sheds damp-proof. Each carload was piled separately; there being a space of at least one foot all around each pile. The various materials were wheeled in barrows to the mixers. Stone and sand were measured by barrow loads. One bag of packed cement was considered 1 cu. ft. Water barrels were filled from the city line, through 2 in. pipes, and the water was measured with pails. At each end of the bridge, a 75 ft. hoisting tower was erected, from which concrete was conveyed to the various piers and towers by spouting. At the slab yard, the concrete was wheeled in buggies along a trestle, built on a level with the tops of forms, and dumped directly into the forms.

Bridge over Reservoir Park Ravine, North Toronto Subdivision, C.P.R.

Plant at Bridge 0.9.—At this bridge only two storage and mixing plants were installed; one at the west end of the bridge and one at the slab yard, half a mile east of the bridge. At the slab yard, materials were stored and handled in the same manner as at bridge 1.8. The plant at the bridge site, however, was entirely different; the stone received here was too large and had to be crushed and screened to 1 in. size. Between the storage pile and the mixer, a gyratory crusher, belt connected to a gasoline engine, was mounted on a platform about 10 ft. high. This crusher was fed from the storage pile, by a 1-yard grab bucket and derrick. The crushed stone dropped through the floor of the platform to an inclined screen, which screened out all particles ¼ in. and less. The stone was then delivered from the crusher to an elevated stone bin, with an inclined bottom, located directly above the hopper of the mixer, which was set up on a foundation about 4 ft. above the ground. The flow of the stone, from stone bin to hopper, was regulated by a steel plate gate, and the hopper was graduated to receive the correct quantities of stone. The screenings from the crusher were used mixed with the sand. The sand was stored on plank platforms as at bridge 1.8, and delivered from there to the elevated bin adjacent to the stone bin and handled in the same way as the stone. The cement was stored in a shed of similar construction to those at bridge 1.8 and was delivered to the mixer by the derrick. No hoisting tower was used at this bridge, for conveying the concrete. It was wheeled in dump cars, running on a narrow gauge track, on a trestle constructed at the track level along the bridge. The concrete was dumped into hoppers at various points along the deck of the trestle and delivered from there to piers and towers by metal chutes connected to the hoppers.

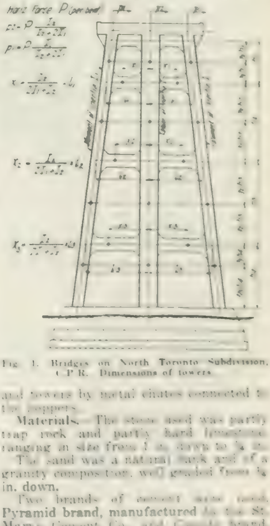


Fig. 1. Bridges on North Toronto Subdivision, C.P.R. Dimensions of towers.

Materials.—The stone used was partly trap rock and partly hard limestone ranging in size from 1 in. down to ¼ in.

The sand was a natural bank sand of a granity composition, well graded from ¼ in. down.

Two brands of cement were used, Pyramid brand, manufactured by the St. Marys Cement Co., and Canada brand, manufactured by the Canada Cement Co. They were fairly slow setting cements; averaging about [illegible] hours for initial set, and about 5½ hours for final set. While the cement was being unloaded from the cars, one bag in every 20 was opened and a small sample taken from it. These small samples were mixed into one composite sample for each car. (One car contained an average of [illegible] bags.) These samples were then forwarded to the testing laboratory, in Montreal. [illegible] which [illegible] that cement had not [illegible] in transit. Each carload of cement was stored separately in sheds, given a number corresponding to number of sample and held until the inspector was notified that the test had proved satisfactory. All cement used was in conformity with the C.P.R. Cement Specification, 1912.

The forms were treated with one application of petrolatum and neutral oil, mixed in the proportion of one of petrolatum to two of neutral oil, or until a creamy consistency existed. After the forms were fabricated, all holes and large cracks were filled with putty, all knots and putty fillings were then shellaced. The above mixture was then applied on inside of forms, with a whitewash brush; the neutral oil penetrated about ¼ in. into the wood, leaving a thin waxy film of petrolatum on the surface. The forms, thus treated, did not warp, as wind and moisture did not cause the grain of the wood to rise. A number of the forms were used as often as eight times, and all that was necessary, after each stripping, was to dust or sweep them off with an old rag or broom.

Heating.—In November, when the temperature dropped to 40° F., heating of the materials was commenced. A live steam jet was introduced into each water barrel, which kept the water nearly to the boiling point while the mixer was running. Sand and stone were heated by perforated steam pipes, placed under sand and stone piles. For the very cold weather, the steam was kept on night and day. The temperature of the concrete as it left the mixer was about 55° to 60° during the very coldest weather. For the main track slabs, concrete was poured in as low a temperature as 25° F. After pouring of concrete, the tops of slabs were covered with tar paper, kept about 6 in. clear of the surface of concrete, a layer of straw was then packed around the centre form, and the whole covered with tarpaulins. The sidewalk slabs and coping blocks were protected in a similar manner to the main slabs. The hand-rail posts were cast in a shed heated by a stove.

Bents were housed in from top to bottom with ⅞ in. tongued and grooved boards. This housing was built about 3 ft. away from the forms and steam pipes were run into this space. As an auxiliary to the steam heat, a battery of 4 coke burning salamanders were placed on the ground. With these precautions, concrete was poured at a temperature as low as 10° F., and the space around the forms could be kept at a temperature of about 50° F. Heat was maintained for at least three days after pouring was completed.

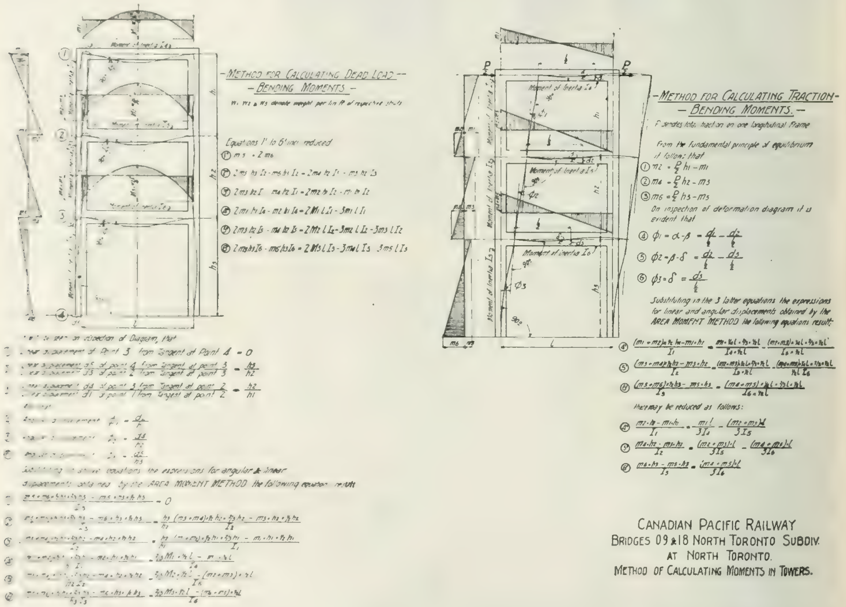
The longitudinal struts were also housed in, and a steam line run along each side near the bottom of the housing. The bottoms of the housings for struts were packed with straw; the tops were covered with tar paper clear of concrete, on this was placed a packing of straw and the whole covered with tarpaulins.

Excavation was started during the middle of Aug., 1917. The soil encountered was generally a hard blue clay; in some cases coarse sand. Before any concrete was placed, each foundation was subjected to a loading test at both ends. An ordinary table having four 3 x 3 in. legs was used for this purpose; the table was loaded with cement bags filled with sand, the total load corresponding to 4 tons a sq. ft.

Piers.—Concrete in the piers was poured in 3 consecutive runs as follows: The footing course was poured in the open excavation. Before this had a chance to set, large boulders and stones from the old pedestals, broken up to one man size, were imbedded in the top surface in 3 rows and about 3 ft. apart; thus a good bond was obtained with the next course. After the footing course had taken its final set and forms were erected for the pier proper, the surface was thoroughly scraped and slushed with water, until all signs of laitance had been removed. The concrete was now poured for the vertical portion of pier. After the top surface of same had been treated in the same way as the footing course, concrete was finally poured for the batter course of the pier.

For recesses of columns, templets in the shape of a box, with proper number of holes spaced to receive the anchor rods, were placed and fastened in position to the forms of the batter course. After the last batch of concrete was poured, the anchor rods were inserted in the holes, and driven to the right depth in the wet concrete. The forms of the piers were stripped after two days and the exposed surfaces rubbed with carborundum stones.

Details of towers are shown in fig. 3, and illustrations show clearly the details of forms. In erecting the forms, great care was taken not to have any parts braced to, nor allow any to come in contact with, the trestle carrying traffic, so as to avoid disturbance of concrete while it was setting. The concrete was poured from strut to strut, the brackets at the end of



-METHOD FOR CALCULATING DEAD LOAD-
-BENDING MOMENTS-
Equations 1' to 6' reduced
Moment of Inertia I₀
Moment of Inertia I₁
Moment of Inertia I₂
Moment of Inertia I₃
P
h₁
h₂
h₃
l
m₁
m₃
m₅
m₆
φ₁
φ₂
φ₃
d₁
d₂
d₃
90°
AREA MOMENT METHOD
-METHOD FOR CALCULATING TRACTION-
-BENDING MOMENTS.-
P denotes total traction on one longitudinal frame
From the fundamental principle of equilibrium it follows that
① m₂ = P/2 h₁ − m₁
② m₄ = P/2 h₂ − m₃
③ m₆ = P/2 h₃ − m₅
On inspection of deformation diagram it is evident that
④ φ₁ = α − β = d₁/l − d₂/l
⑤ φ₂ = β − δ = d₂/l − d₃/l
⑥ φ₃ = δ = d₃/l
Substituting in the 3 latter equations the expressions for linear and angular displacements obtained by the AREA MOMENT METHOD the following equations result:
these may be reduced as follows:
CANADIAN PACIFIC RAILWAY
BRIDGES 09 & 18 NORTH TORONTO SUBDIV.
AT NORTH TORONTO.
METHOD OF CALCULATING MOMENTS IN TOWERS.

Fig. 2. Bridges on North Toronto Subdivision, C.P.R. Method of calculating moments in towers.

each strut forming hoppers to receive concrete. At every construction joint, trap doors had been arranged in the column forms, in order to permit removal of all laitance and thoroughly to clean the surface before any new concrete was poured. The concrete in the column forms was spaded by long handled spades, and the outsides of the forms were beaten with wooden mallets, to free any air. A good smooth surface, with very few air pockets, resulted therefrom. The column forms were stripped after 4 or 5 days in warm weather, and after a week or 10 days in cold weather. The strut sides were stripped after 7 days in warm weather and after 2 weeks in cold weather. The bottoms of the struts were not stripped until absolutely necessary, and never before 3 weeks in warm weather and 4 week in freezing weather. All surfaces of towers were rubbed down with carborundum stones.

Details of slabs are shown in fig. 4 and details of forms in fig. 5. Forms were made collapsible. A new bottom, however, was made for each slab. After assembling of forms, one end was left open until all reinforcing bars were properly placed and wired together. Bars were supported on premoulded dovetailed concrete blocks 1⅞ in. thick, which made suspending wires unnecessary, thus avoiding obstructions to levelling off top surface of slabs. On slabs, only the exposed surfaces of outer slabs were rubbed down with carborundum stones.

Erection of main slabs of bridge 0.9 was started on Feb. 22 and completed on April 10, 1918. On bridge 1.8 erection started April 11 and the last slab was placed on June 1, 1918. The longest slab weighs 56 tons.

As the 100-ton wrecking crane did not have the reach required for placing these heavy slabs, a special scheme of erection had to be devised. This is shown in fig. 6 and illustrations. At the slab yard, one end of the slab was lifted on to a freight car truck, the other end suspended from the crane. The slab was thus pushed ahead by the crane on to the bridge. Two timber trusses, specially constructed for the purpose, were placed far enough apart to permit the slab to be lowered down to the bents. The end of slab resting on the track was then hitched to a trolley, which was running on rails on top chord of trusses. The derrick was then moved ahead, until the slab had reached the position for lowering down to rollers on caps. After the slab was on rollers, it was moved sideways on them to its final position. When all slabs of one span were erected, the erection trusses were moved forward by the crane to the next span and same operation repeated.

The actual cost per cubic yard of concrete in the various parts of the structure at bridge 1.8, North Toronto, was as follows, per cu. yd.:

	Per cu. yd.
Piers.	
Forms, including labor, overhead and contractor's commission	$1.35
Concrete—Materials	3.94
" Freight for sand, stone and cement	0.87
" Labor	1.61
" Incidentals, overhead and commission	0.98
Steel	1.07
	$9.82
Abutments.	
Forms, including labor, overhead and commission	$4.38
Concrete—Materials	3.70
" Freight on sand, stone and cement	0.76
" Labor	2.28
" Heating	1.28
" Drainage and waterproofing	0.16
" Incidentals, overhead and commission	1.[illegible]
Steel	2.[illegible]
	$17.[illegible]
Towers.	
Forms, material, labor, overhead and commission	$1[illegible].32
Concrete—Materials	4.[illegible]
" Freight on sand, stone and cement	1.[illegible]
" Labor	5.[illegible]
" Heating	4.19
" Incidentals, overhead expense and commission	2.65
Steel	14.[illegible]
	$45.56
Slabs.	
Forms, material, labor, preparing of slab yard, incidentals, overhead and commission	$9.15
Concrete—Materials	5.67
" Freight on sand, stone and cement	0.97
" Heating	[illegible]
" Labor	[illegible]
" Incidentals, overhead and commission	1.[illegible]
Steel	[illegible]
	$[illegible]
Cost of erection of slabs, per cu. yd.	[illegible]
	$[illegible]

The average cost of materials used, and the average rates of wages were as follows:

Materials.	
Lumber	$[illegible] per M
Stone	$[illegible] per ton
Sand	$0.[illegible] per ton
Cement (including bags)	$[illegible] per bl.

Wages.		
Carpenters	$0.[illegible]	an hour.
Carpenters' helpers	.40	an hour.
Laborers	[illegible]	an hour.
Engineers on mixers	.35	an hour.
Concrete finishers	[illegible]	an hour.

The work was carried out under the direction of J. M. R. Fairbairn, Chief Engineer; P. B. Motley being Engineer of Bridges. J. H. Barber was engineer in charge of construction, with A. H. Munson as assistant; while the necessary investigations, calculations and details were worked out by the writers. The contractors for bridge 1.8 were Wells & Grey, Ltd., and for bridge 0.9 the Dominion Construction Co., both of Toronto.

The foregoing paper was read before the Engineering Institute of Canada recently.

Regarding the item, heating of towers, the average cost of $4.19 per cu. yd. As, however, only about three-fifths of the towers required heating, the actual cost per cu. yd. was approximately $7.

Additional illustrations will be found on pages 114, 115 and 116.

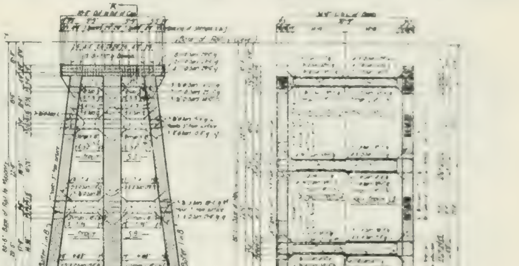


Fig. 3. Bridge 0.9, Toronto Belt Line Ry. Ravine, North Toronto Subdivision, C.P.R. Details of tower [illegible]

Montreal Central Terminal Co.—A meeting of shareholders has been called to be held in Montreal, Mar. [illegible] to elect directors, to authorize the construction of the projected tunnel and terminals in Montreal, and to authorize the issue of mortgage bonds.

Birthdays of Transportation Men in March.

Many happy returns of the day to:—

W. G. Annable, General Passenger Agent, Canadian Pacific Ocean Services, Lt., Montreal, born at Ottawa, Mar. 3, 1875.

John Archibald, Locomotive Foreman, C.P.R., Coquitlam, B.C., born at Edinburgh, Scotland, Mar. 13, 1872.

Jas. Balkwill, Division Superintendent, Canadian Division, Michigan Central Rd., St. Thomas, Ont., born in Southwold Tp., Ont., Mar. 8, 1870.

Sir George Bury, ex Vice President, C.P.R., Montreal, born there, Mar. 6, 1866.

Allan Cameron, Superintendent, Land Branch, Department of Natural Resources, C.P.R., Calgary, Alta., born near Owen Sound, Ont., Mar. 14, 1864.

H. S. Carmichael, Passenger and Freight Manager, Canadian Pacific Ocean Services, Ltd., London, Eng., born at Glasgow, Scotland, Mar. 7, 1874.

F. G. J. Comeau, District Freight Agent, C.P.R., Halifax, N.S., born at Meteghan River, N.S., Mar. 10, 1859.

W. A. Cooper, Manager, Sleeping, Dining and Parlor Cars and News Service, C.P.R., and member of Government Food Consumption Control Committee, Montreal, born there, Mar. 22, 1871.

A. E. Cox, General Storekeeper, Canadian National Rys., Winnipeg, born at Huddersfield, Eng., Mar. 12, 1863.

Senator N. Curry, Chairman, Canadian Car & Foundry Co., Montreal, born in King's County, N.S., Mar. 26, 1851.

C. C. Curtis, Manager, Cape Breton Electric Co., Sydney, N.S., born at Battle Creek, Mich., Mar. 27, 1883.

C. T. Delamere, acting Engineer of Construction, Eastern Lines, C. P. R., Montreal, born at Brainerd, Minn., Mar. 18, 1881.

H. G. Dring, General Passenger Agent, C.P.R., London, Eng., born at Easton, Northamptonshire, Eng., Mar. 8, 1881.

Patrick Dubee, Secretary-Treasurer, Montreal Tramways Co., Montreal, born there, Mar. 4, 1876.

Frederick Elliott, President Victoria Navigation Co., Ltd., Thurso, Que., born at Montreal, Mar. 8, 1858.

M. P. Fennell, Jr., Secretary-Treasurer and Comptroller, Montreal Harbor Commissioners, Montreal, born there, Mar. 13, 1885.

W. R. Fitzmaurice, Superintendent, Division 2, Maritime District, Canadian National Rys., Campbellton, N.B., born at Bedford, N.S., Mar. 19, 1870.

C. Forester, Superintendent, London Division, Ontario Lines, G.T.R., London, born at Wanstead, Ont., Mar. 5, 1876.

R. A. Gamble, General Yardmaster, Winnipeg Terminals, C.P.R., born at Dublin, Ireland, Mar. 1, 1876.

J. Halstead, Division Freight Agent, C.P.R., Calgary, Alta., born at Bracebridge, Ont., Mar. 2, 1877.

R. M. Hannaford, Assistant Chief Engineer, Montreal Tramways Co., Montreal, born there, Mar. 22, 1865.

C. A. Hayes, Vice President, Traffic, Canadian National Rys., Toronto, born at West Springfield, Mass., Mar. 10, 1865.

H. T. Hazen, Engineer, Maintenance of Way, Canadian National Rys., Toronto, born at Truro, N.S., Mar. 14, 1870.

J. I. Hobson, Treasurer, Canada Steamship Lines, Ltd., Montreal, born at Guelph, Ont., Mar. 30, 1872.

N. J. Holden, President, The Holden Co., Ltd., Montreal, born at Nobleton, Ont., Mar. 22, 1866.

A. R. Holtby, Master of Bridges and Buildings, Mountain Division, Grand Trunk Pacific Ry., Prince Rupert, B.C., born at Rawdon, Que., Mar. 23, 1859.

Frank Lee, Engineer, Maintenance of Way, Eastern Lines, C.P.R., Montreal, born at Chicago, Ill., Mar. 7, 1873.

J. M. McKay, Superintendent, Saskatoon Division, Saskatchewan District, C.P.R., Saskatoon, born at Tiverton, Ont., Mar. 13, 1868.

Brigadier-General H. H. McLean, K.C., M.P., ex-President, St. John Ry., St. John, N.B., born at Fredericton, N.B., Mar. 22, 1855.

M. Magiff, Superintendent of Car Service and Telegraphs, Central Vermont Ry., St. Albans, Vt., born at Planks Point, N.Y., Mar. 24, 1852.

Sir Donald D. Mann, ex Vice President, Canadian Northern Ry., Toronto, born at Acton, Ont., Mar. 23, 1853.

H. H. Melanson, Passenger Traffic Manager, Canadian National Rws., Toronto, born at Scadouc, N.B., Mar. 9, 1872.

J. V. Murphy, General Agent, C.P.R., Portland, Ore., born at Bowmanville, Ont., Mar. 5, 1885.

Peter Paton, ex Purchasing Agent, Canada Steamship Lines, Ltd., Montreal, now

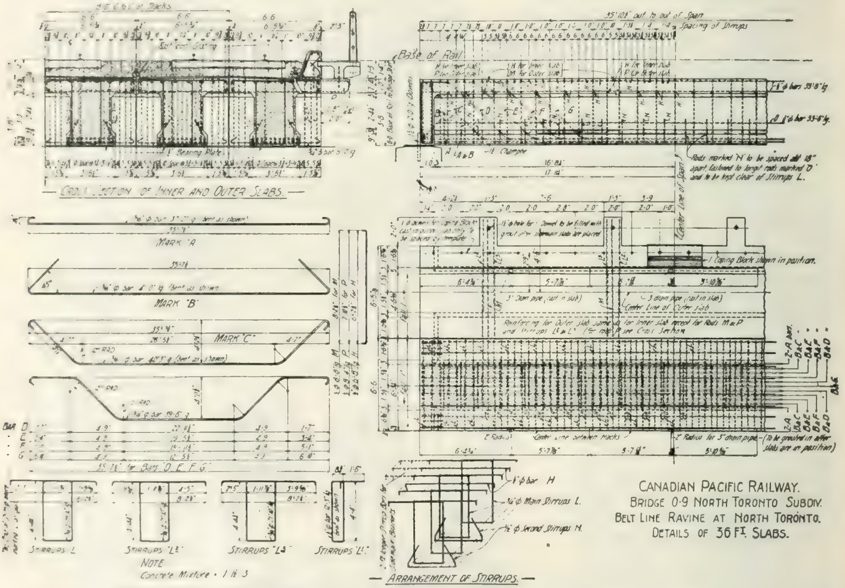

Base of Rail
Cross Section of Inner and Outer Slabs.
1" Bearing Plate
Spacing of Stirrups
Rods marked 'N' to be spaced at 18" apart. Fastened to longit. rods marked D and to be kept clear of Stirrups L.
Center Line of Span
Mark 'A'
Mark 'B'
Mark 'C'
Coping Block shown in position.
3" Drain pipe (cast in slab)
Center Line of Outer slab
Center Line between tracks
(To be grouted in after slabs are in position)
Stirrups L
Stirrups 'L2'
Stirrups 'L3'
Stirrups 'L4'
Note
Concrete Mixture 1:1½:3
Arrangement of Stirrups.
1" φ bar H
⅝" φ Main Stirrups L.
½" φ Second Stirrups H.
CANADIAN PACIFIC RAILWAY.
BRIDGE 0·9 NORTH TORONTO SUBDIV.
BELT LINE RAVINE AT NORTH TORONTO.
DETAILS OF 36 FT. SLABS.

Fig. 1. Bridge 0.9, Toronto Belt Line Ry. Ravine, North Toronto Subdivision, C.P.R. Details of 36 ft. slabs.

President, Mackenzie, Milne & Co., Ltd., Sarnia, Ont., born at New Lovell, Ont., Mar. 13, 1868.

F. W. Peters, General Superintendent, British Columbia District, C.P.R., Vancouver, born at St. John, N.B., Mar. 25. 1860.

J. W. Pugsley, Secretary, Department of Railways and Canals, Ottawa, Ont., born at Amherst, N.S., Mar. 12, 1861.

C. J. Smith, Manager and Secretary, Montreal Warehousing Co., Montreal, born at Hamilton, Ont., Mar. 10, 1862.

W. Y. Soper, Vice President, Ottawa Electric Ry. Co., Ottawa, Ont., born at Oldtown, Me., Mar. 9, 1854.

E. F. L. Sturdee, General Agent, Passenger Department, C.P.R., Boston, Mass., born at St. John, N.B., Mar. 29, 1876.

G. W. Vaux, ex-General Agent, Passenger Department, Union Pacific Rd., Chicago, now General Manager, Zeigler Coal Co., Zeigler, Ill., born at Montreal, Mar. 21, 1866.

A. D. Watt, District Master Mechanic, Grand Trunk Pacific Ry., Prince George, B.C., born at St. Louis, Que., Mar. 5, 1874.

A. T. Weldon, Assistant Freight Traffic Manager, Canadian National Rys., Moncton, N.B., born at Dorchester, N.B., Mar. 6, 1876.

D. O. Wood, Assistant Export and Import Agent, C.P.R., Toronto, born at Kleinburg, Ont., Mar. 16, 1864.

H. K. York, Car Foreman, C.P.R., Alyth, Alta., born at Victoria Corner, Carleton Co., N.B., Mar. 20, 1881.

European Railway Development and Plans.

The experiences of the war have revived interest in Great Britain, as well as in other parts of Europe, in a number of transportation projects which have been prominently before the public at different times during the last half century. The operation of a train ferry service between Richborough and Southampton, on the English side of the English Channel, and Calais, Dunkirk and Dieppe, on the French side, showed the advantage of having a means by which freight and passenger cars could be transferred between the two countries, but it also emphasized the discomforts of the cross-channel passage. The experience directed attention to the projected tunnel from Dover to Calais, so warmly advocated by the late Sir Edward Watkin, formerly chairman Southeastern Ry. of England, and also a director of the Grand Trunk Ry., the preliminary construction operations on which were stopped many years ago by the British Government. Present-day advocates of the tunnel claim that its construction would be a further link in the chain binding the British and French peoples together. This project is linked up with a plan which it is reported is being perfected in Paris, for the operation of a through passenger train service from Paris to Athens, a route which, it is stated, will ultimately be developed into one to Bagdad, on the Euphrates River. With the channel tunnel completed, the route would be from England to Bagdad.

Another continental suggestion is the boring of a tunnel underneath the Strait of Gibraltar. A railway from the African portal would link up the French and Spanish colonies there with the Cape to Cairo projection, and so give through rail connection to South Africa.

Within the borders of the British Isles there is another project revived, viz., that of a tunnel between Ireland and Scotland; others who advocate a tunnel between Rosslare, Wexford County, Ireland, and Fishguard, Wales; while there are even some bolder engineering spirits than the rest, who propose to reconstruct the traditional St. Patrick's Causeway between center Wales and Ireland.

Finally, within the borders of England itself attention is being directed to the building of light railways to open up remote areas, or connect with the regular lines small towns lying off the main routes. A number of light railways were built in England and Ireland as long ago as the middle seventies, but none of them were ever really successful and most of them were finally, after a period of bankruptcy, absorbed by the trunk lines with which they connected. Subsequently an association for the promotion of the construction of light railways was formed, which had for several years as its head the late Sir Charles Rivers Wilson, at one time President Grand Trunk Ry. The work now proposed to be done is to be under the charge of the Minister of Reconstruction, the capital cost of the railways being met partly by the British Government and partly by the county authorities. The first line being built under the new plans is in Yorkshire.

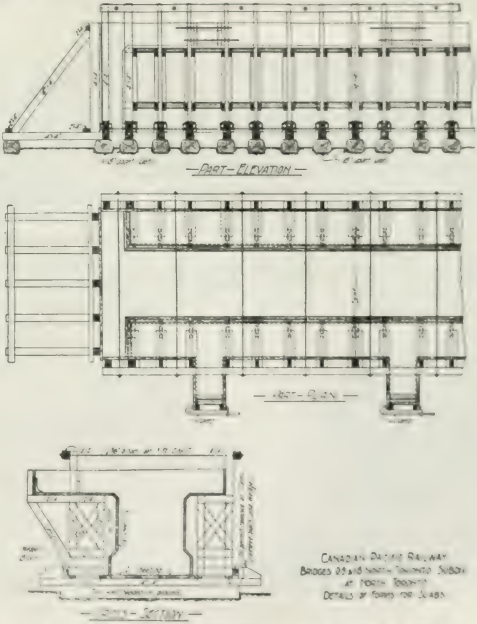


Fig. 5. Bridges 0.9 and 1.8, North Toronto Subdivision, C.P.R. Details of forms for slabs.

Employes of the various express companies operating in Canada, are organizing themselves for a better service campaign, with the object of inducing better care in checking and handling of material, and of securing greater co-operation with other shipping agencies and the public.

Government Control of Railways in Great Britain.

Lord Claude Hamilton, presiding at a meeting of the East London Ry. Co. in London, Eng., Feb. 2, is reported to have said that a deputation of the chairmen of the eleven great railway companies of England had waited upon Right. Hon. Andrew Bonar Law, the government spokesman, to elicit, if possible, the government's intention regarding railways at the close of the war. The delegation learned, according to Lord Claude, that the government considered itself absolutely pledged that government control of railways would continue for two full years after the declaration of peace. Mr. Law also informed the deputation that the question of the future management of the railways was receiving the earnest attention of the government, but that no final decision on the subject had been reached.

Sir George McLaren Brown, European General Manager, C.P.R., is reported to have said in an interview in Montreal recently that he thought there would be government regulation of railways in Great Britain comparable to the authority of the Board of Trade, but not incompatible with private ownership. The railways had done splendidly during the war. Not only had they aided France with men and rolling stock, but they had done more business in spite of that depletion during the war, than in years prior to it.

Orders by Board of Railway Commissioners for Canada.

Beginning with June, 1904, Canadian Railway and Marine World has published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have kept the paper have a continuous record of the Board's proceedings. No other paper has done this.

[illegible]. Jan. 8.—Authorizing C.P.R. to operate [illegible] at Peterborough, Ont., subject to conditions as to speed, ringing of locomotive bells, etc.

[illegible]. Jan. 7.—Authorizing Dominion Foundries & Steel, Ltd., to build private crossing over Toronto, Hamilton & Buffalo Ry. Graselli spur.

[illegible]. Jan. 7.—Relieving C.P.R. from providing further protection at crossing near milepost 81, Macleod Subdivision, Alta.

27999. Jan. 9.—Approving plan of changes in additional protection at west connection of interlocking plant at crossing of G.T.R. spur by Campbellford, Lake Ontario & Western Ry. (C.P.R.), Cobourg, Ont.

[illegible]. Jan. 8.—Approving agreement between Bell Telephone Co., Dec. 19, 1918, and Ravenscliff Telephone Co., Muskoka District, Ont.

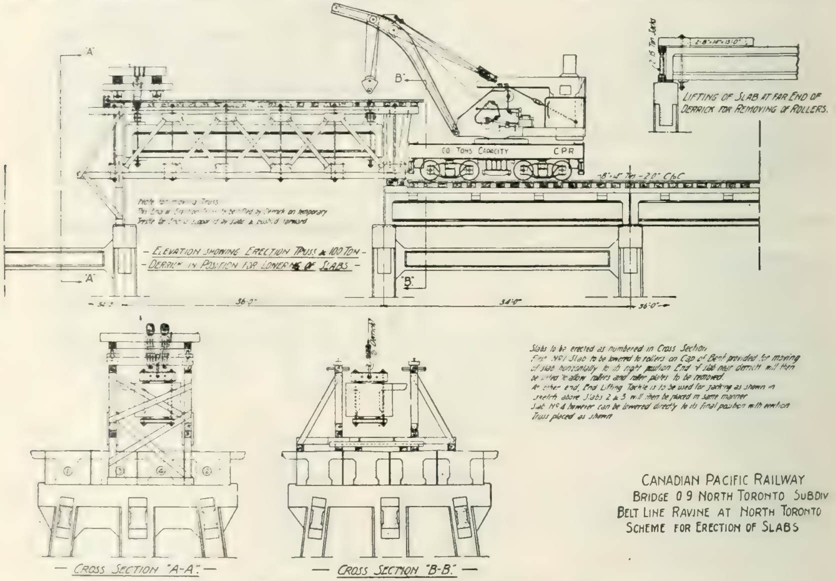

'A'
'A'
'B'
'B'
LIFTING OF SLAB AT FAR END OF DERRICK FOR REMOVING OF ROLLERS.
60 TONS CAPACITY
CPR
18'-4" Tn - 2'0" C/C
Note for moving Truss
This End of Erection Truss to be lifted by Derrick on temporary Trestle for End support by Slabs & pushed forward
- ELEVATION SHOWING ERECTION TRUSS & 100 TON -
- DERRICK IN POSITION FOR LOWERING OF SLABS -
36'-0"
34'-0"
36'-0"
Slabs to be erected as numbered in Cross Section
First Nº1 Slab to be lowered to rollers on Cap of Bent provided for moving of slab horizontally to its right position End of slab near derrick will then be lifted to allow rollers and roller plates to be removed.
At other end, End Lifting Tackle is to be used for jacking as shown in sketch above Slabs 2 & 3 will then be placed in same manner
Slab Nº4 however can be lowered directly to its final position with erection Truss placed as shown
CANADIAN PACIFIC RAILWAY
BRIDGE 0.9 NORTH TORONTO SUBDIV
BELT LINE RAVINE AT NORTH TORONTO
SCHEME FOR ERECTION OF SLABS
① ② ③ ④
— CROSS SECTION "A-A" —
— CROSS SECTION "B-B" —

Fig. 6. **Bridge 0.9, Toronto Belt Line Ry. Ravine, North Toronto Subdivision, C.P.R. Scheme for erection of slabs.**

28001. Jan. 8.—Authorizing Canadian Northern Ry. to cross highway between Secs. 9 and 10, Tp. 54, Range 23, west 4th Meridian, Alta.

[illegible]. Jan. 9.—Authorizing Canadian Northern Ontario Ry. to build spur for Bate, McMahon & Co. near Todmorden, Gloucester Tp., Ont.

[illegible]. Jan. 9.—Authorizing C.P.R. to build spur for Melchers Gin & Spirits Distilling Co., Berthier Parish, Que.

[illegible]. Jan. 7.—Approving Michigan Central Rd. [illegible] appliance at crossing by G.T.R. at Canfield, Ont., necessitated by building of [illegible] and crossover track.

[illegible]. Jan. [illegible]—Approving C.P.R. plan of re[illegible] at crossing with G.T.R., Komoka, Ont.

28006 to 28009. Jan. 14.—Approving Bell Telephone agreements with Fordwich Rural Telephone Co., Dec. 27, 1918, Huron and Perth Counties, Ont.; Oro Telephone Co., Dec. 23, 1918, Simcoe County, Ont.; Korah Base Line Telephone Co., Dec. 31, 1918, Algoma District, Ont.; Springbank Telephone Co., Dec. 27, 1918, Huron and Wellington Counties, Ont.

28010. Jan. 13.—Approving location and plans of Esquimalt & Nanaimo Ry. station at Cassidys, Vancouver Island, B.C.

28011. Jan. 14.—Authorizing Canadian Northern Saskatchewan Ry. to cross highway between n.w. ¼ Sec. 35, Tp. 25, and s.w. ¼ Sec. 2, Tp. 26, west 3rd meridian.

28012. Jan. 9.—Ordering G.T.R. forthwith to appoint night and day watchmen at crossing of Kipling Ave., New Toronto, Ont., to attend exclusively to that crossing.

28013. Jan. 14.—Authorizing C.P.R. to build spur for Kaslo Concentrating Co., Kaslo Subdivision, B.C.

28014. Jan. 14.—Authorizing Canadian Northern Ontario Ry. to build spur for Nepean Sandstone Quarries, Ltd., at Rock Farm, Nepean Tp., Ont.

28015. Jan. 14.—Authorizing C.P.R. to build spur for C. Cunningham, Kaslo Subdivision, B.C.

28016. Jan. 14.—Approving revised location of Grand Trunk Pacific Branch Lines Co.'s station at Lydden, Sask.

28017. Jan. 10.—Authorizing Canadian Northern Ry. to remove siding serving the Sandstone Brick Co. at Prince Albert, Sask.

28018. Jan. 15.—Authorizing Saskatchewan Highways Department to build highway crossing over C.P.R. and surveyed road in south half of Sec. 35, Tp. 31, Range 22, west 2nd meridian.

28019, 28020. Jan. 15.—Authorizing Canadian Northern Saskatchewan Ry. to cross highways between Secs. 26 and 23, and Secs. 14 and 15, Tp. 24, Range 8, west 3rd meridian.

28021. Jan. 15.—Authorizing Saskatchewan Highways Department to carry highway across C.P.R. on surveyed road north of Sec. 2, Tp. 33, Range 22, west 2nd meridian.

28022, 28023. Jan. 16.—Authorizing G.T.R. to rebuild bridges carrying its tracks across small stream at two points, Markham Tp., Ont.

28024. Jan. 17.—Authorizing City of Edmonton, Alta., to build highway across the Edmonton, Yukon & Pacific Ry., carrying Connors Road across track to connect with Strathcona Road.

28025. Jan. 17.—Authorizing Crowsnest Southern Ry. to remove spur serving Adolph Lumber Co., near Mott, B.C.

28026 to 28036. Jan. 15.—Authorizing Canadian Northern Saskatchewan Ry. to cross 11 highways at points in Saskatchewan.

28037. Jan. 15.—Authorizing Saskatchewan Highways Department to build highway crossing over C.P.R. north of Sec. 17, Tp. 9, Range 11, west 3rd meridian.

28038. Jan. 15.—Authorizing Canadian Northern Ry. to cross highway between n.w. ¼ of Sec. 2 and s.w. ¼ of Sec. 11, Tp. 28, Range 29, near Alsask, Sask.

28039. Jan. 16.—Authorizing C.P.R. to build second track to connect station tracks with locomotive house tracks across Laliberte and Bridge Sts., Quebec, Que.

28040. Jan. 15.—Authorizing Canadian Northern Ry. to build spur for Jack Pine Fuel Co. in n.e. ¼ of Sec. 30, Tp. 28, Range 19, west 4th meridian, Alta.

28041. Jan. 13.—Ordering G.T.R. to build new station at St. Agapit, Que.

28042. Jan. 17.—Relieving C.P.R. from providing further protection at crossing near Welsh, Ont.

28043. Jan. 16.—Ordering that maintenance of transfer track between the Canadian Northern Ry. and C.P.R. at Baintree, Sask., be paid, half by each company.

28044. Jan. 22.—Approving British Columbia Electric Ry. standard freight mileage tariff C.R.C. 132, effective Feb. 1.

28045. Jan. 21.—Dismissing complaint of Universal Importing Co., Montreal, against refusal of C.P.R. to divert carload of beans ex s.s. Chicago Maru from Victoria Wharf, to New York.

28046. Jan. 21.—Dismissing complaint of John Barrett, Montreal, that C.P.R. refuses to sell monthly commutation books containing less than 55 tickets between Montreal and Hudson Heights, Que.

28047. Jan. 22.—Authorizing Toronto, Hamilton & Buffalo Ry. to build spur for Monarch Metal Co., Hamilton, Ont.

28048. Jan. 17.—Ordering Canadian Northern Ry. to establish mixed train service with baggage and express to run daily, except Sunday, between Yarker and Napanee, Ont.

28049. Jan. 21.—Ordering C.P.R. to improve facilities for loading grain at elevators at Readlyn, Sask.

28050. Jan. 22.—Authorizing Canadian Northern Ry. to remove its station agent at Nutana, Sask., and to close agency there.

28051. Jan. 22.—Authorizing G.T.R. to remove spur serving A. H. Waite, Oro Tp., Ont.

The Canadian Railway Troops' Work on the Western Front.

By Corporal Herbert Forder.

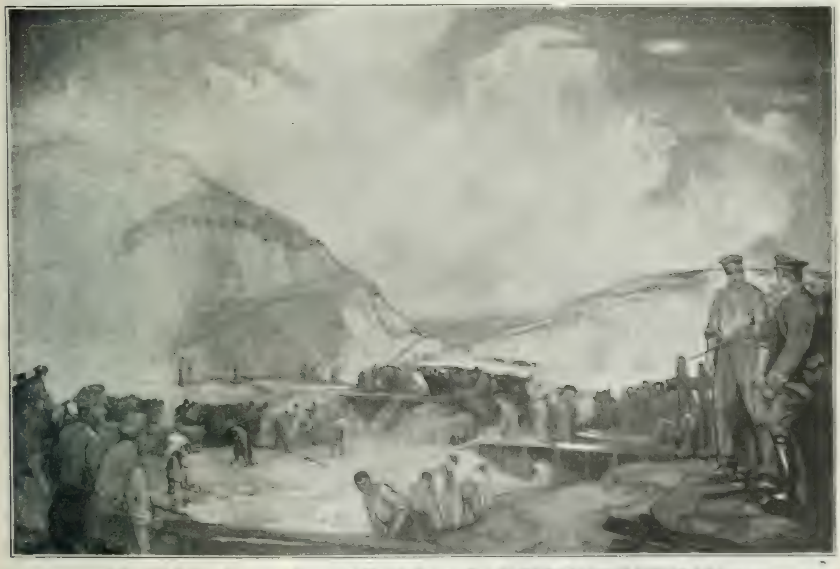
One of the most remarkable features of this war is the record of the Canadian Railway Troops. You can imagine the Frankenstein of war not unlike a monstrous human being. The brain is General Head Quarters, the heart is G.H.Q. Railway Troops; the arteries and veins are the endless lines of track supplemented by the roads department and the mechanical transport which take the place of capillaries, or smaller veins on the surface of the war god; the stomach, liver and kidneys are the Army Service Corps producing and distributing nourishment; the battlers are the blood corpuscles fighting along the veins and arteries; the lungs are the Red Cross, the Army Medical Corps, the hospitals, convalescent homes and rest camps, cleansing and renewing the blood; the nerves are the engineers with their wires, telephones and wireless, overhead, along the tracks and underground. The morale of the army is its soul or spirit, dependent upon its general condition of health. Keep that in mind and you will see the importance of the work of the Railway Troops. When the body is attacking or being attacked the outcome hangs in no small degree upon the unbroken transportation of nourishment to every part and more particularly to the part in danger.

The Imperial War Office gave the building and maintenance of these arteries and veins to the Canadian Railway Troops, now numbering 14 battalions, under the headquarters command of Brigadier-General J. W. Stewart, C.M.G. The first battalion to carry on this work was the Canadian Overseas Railway Company, all skilled railway men with high rates of pay, recruited from Canadian railways. This company put in some splendid work at Dickebusch in April and May, 1916. The units and details were recruited in Canada and shipped to the Canadian Railway Depot in England, where they were drilled and trained till a battalion was formed, or they were sent as drafts to augment the strength of battalions already in France.

These troops were armed and equipped in the same manner as their military cousins, the Engineers. They carry the Webb equipment, rifle, bayonet, ammunition and gas mask. Their own mechanical and mule transport are responsible for their tools. A square red patch with a square box painted square between the shoulders of the tunic is their distinctive badge; the same being the cause of many a witty remark and much profane comment on the part of these strenuous troops. At the beginning they were composed of specially recruited officers and men with railway experience. Later the ranks were filled up with Canadian casualties. Quite a number of these recruits wore the blue shoulder straps indicating that they were men of the first contingent. Sometimes they wore two, three and even four gold stripes, speaking worlds of praise for our modern surgery and hospital system, while bearing mute [illegible] to the stamina and spirit of these peerless soldiers.

As far as possible the officers were selected from men with railroading careers behind them. Advancement by merit was often rapid. In the 4th, for instance, was a young officer, Lieutenant L——, a Canadian, whose home is in Puyallup, on Puget Sound. He came from Canada with the rank of corporal and reverted to the ranks according to the rule on arrival in France. He was made full corporal two weeks later, a sergeant in six weeks, and in three months was sent up for his commission. Another lieutenant, an experienced railway man, was found digging a latrine in the honorable capacity of a sapper. A general, walking over the job, recognized him, called him out, shook hands, and sent him up for his commission on the spot. There were more promotions from the ranks of the Canadian Railway Troops than in any other branch of the service. That was one of the secrets of their wonderful efficiency, for they fulfilled the Napoleonic maxim and "make them out of mud."

At time of writing (shortly before the armistice was signed) they had laid something over 2,000 miles of track, almost equally divided between standard and narrow gauge. The standard gauge branched everywhere from the main French lines, alleviating congestion which had become chronic, releasing the central arteries of traffic for the business which



A Canadian Railway Construction Company at Work in France. From the Painting by Leonard Richmond, R.B.A.
This decorative painting, done for the Canadian War Memorials and which is now being exhibited at the Canadian War Memorials Exhibition at the Royal Academy, London, Eng., deals with railway construction in France under [illegible]. [illegible] are shown at work in the deepest railway cut in France, with a [illegible] in the distance.

is keeping France the least injured of the allies outside her frightful battle grounds, maintaining the farms, the mines, the credit and the industry of La Belle France. From these tracks, immediately behind the lines, stretched out a veritable cobweb of narrow gauge, feeding the guns, the troops, the trenches, and carrying the wherewithal to every sector of this complicated war machine. The power on the narrow gauge was mostly petrol motor, aided by a number of dinky locomotives of about 15 tons. The cars on the light track were nearly all open, while the ammunition trucks were of special build with a sunken hold in the center.

Canadian engineers working a quarry for road making material, on the Western Front. Canadian Official War Photograph. Copyright reserved.

When the Canadian Railway Troops were at work on standard gauge lines they were similar to any civilian gang at work. But when laying narrow gauge, sometimes right across No Man's Land, and often under fire, they were armed and ready with a machine gun squad for each company, stretcher bearers and a Red Cross sergeant. This was the most dangerous kind of work, for the enemy guns were generally trained on any spot where rail-laying activities were noted. It was particularly dangerous when an advance had been made and our lines of steel had to be extended over the conquered territory; for, then, the enemy strove furiously to hamper "consolidation" and rained shells on us.

To illustrate what happened when it was necessary to build in the wake of an advancing army, I shall tell of the events under the German guns at the first battle of Cambrai. The astonishing victory of General Byng on Nov. 20, 1917, gave the army under his command a vast amount of shattered terrain, from Bullecourt to Villars, 26 miles across. Over this ground the cobweb of steel was immediately spun. The night we started work was bitterly cold and frosty. The hoar frost hung like a mantle of crisp wool over every living and inanimate object. The Fifth C.R.T. had the job and D. Co., in advance on 20 little cars, dropped off at midnight about a mile from the slag heap at Hermes. The chug-chugging of the petrol motors ceased, only the bellow of the big guns near at hand made the night hideous.

A momentary chaos was reduced to a semblance of order as the C.R.T. moved from the steep embankment under a multitude of burdens—stores, canteen and quartermaster's tools, tents, grub, a blacksmith's shop, an orderly room, officers' tents, field kitchens, and blankets. Tent floors wriggled in grotesque contortions through the black drop curtain of the night. Dawn broke upon a camp in the being, the tents standing above circular holes, making a 3 ft. shelter with a surrounding bank to afford some protection from shrapnel.

The men secured a breakfast of hot tea, bacon, bread and butter, jam and hard tack, and, as they ate, they took a keen first survey of their new location. Just above them on the ridge was a cemetery buried in foliage. A large brown cross and the eternal figure of "The Man of Sorrows" dominated the view. Behind them were rolling ridges of red soil, ploughed, harrowed and hacked by shell fire. On the far horizon to the right was Bourlon Wood, a sepia blanket laid over the loins of a white horse. To the centre was Fontaine Noyelles, with its red roofs and one tapering grey spire, then L'Escaut straggling between its rows of poplars. Their speculations were broken by the ascending scream of a high velocity shell.

"Krrupp" came the report—a geyser of earth rose and fell 200 yards away. Fritz was seeking that big gun battery beyond the last ridge. Again, and once more came the scream and the thud of shells. The Hun was distributing his punches like a drunken man in a bar-room.

"Brraap!" and up went a section of the mule transport.

"Brraap!" A hut held by an Imperial Labor Battalion was demolished and scattered like chaff on the storm wind. "Stretcher bearers on the double!" came the cry.

So D. Co. gobbled its last morsel of bacon, tipped up the final drain of tea, and silently and sadly proceeded to move camp. Once more the circus act was repeated. A thousand pieces of material were hauled across the ridges and along the hollows on the stalwart shoulders of grunting and cussing sappers. Three times that day they moved to escape destruction. By nightfall they had made a fairly safe pitch near a disused trench line and several old German dugouts. In the meantime, of course, nothing had been done in the matter of tracklaying. But the following morning reveille sounded at 6.30, and at 7, with dawn breaking clear, they were off to lay the first mile of the narrow gauge.

D. Co. was split up into its component platoons, nos. 13, 14, 15 and 16. Sixteen was put at grading, Fifteen at laying out ties, rails, bolts and spikes, Fourteen at bolting and spiking. Thirteen, "the mechanical gang," were put at cutting rails, laying frogs, points and switches. The ground was good just here, despite the enemy bombardment. The surveyors had done their work well. We decided that D. Co. could lay a mile of track a day. A. Co., coming along behind, would unload ballast and attend to the lifting and lining of the track. B. and C. Cos. were working on another three miles across the Demicourt Road.

The morning was clear and sparkling blue and the enemy's observation balloons seemed quite near. The sappers bent to their tasks, however, and paid no attention. Snatches of song drifted by on the morning breeze and spike mauls rang lustily against the steel. The songs they sang were not the songs you have heard at home. They were all comic with a queer and tantalizing twist—railway songs that helped along the work and that had something of the swing of the deep-sea "chanties."

Here is a verse and chorus for sample, led by Corporal D——, the comedian and football center of D. Co.:—

"One day our Uncle Sammy, he had a war with Spain,
Not all the boys in blue were in the battle slain,
They were not killed by bullets. Oh! not by any means,
For most of them that died, were killed by pork and beans."

Chorus -
Stung right! Stung right! S-T-U-N-G.
Stung right! Stung right! Easy mark was me.

Oh! when the war is over and once again I'm free,
There'll be no more "Trips around the world" for me.

That was the metal of their morale. After four years of war they were laughing at the worst Fritz could do—and many of them were twice and thrice wounded veterans.

In the meantime the enemy observation balloons above L'Escaut had given the tip to the batteries in Bourlon Wood. "Brraap," "Brraap," "Brraap!" big stuff came reaching out for the track. A pelting shower of earth, stones, and shrapnel fell among the men at work. Platoon by platoon they "downed tools," and ducked for the Imperial advanced trenches. No one was caught that time. The cooks made tea in the trenches, and the men ate their lunch of bully beef, cheese, bread and butter and jam. After half an hour of this Fritz turned his attention to the howitzer batteries in the sunken road, so D. Co. sallied out and to work again. By five o'clock the first mile was down. All the guns had gone to supper. The little cars were humming down the track and the tired troops sprang aboard and off they went for "home."

But the day was not over yet. Half a mile towards Hermes they met a "blowout." A high velocity shell from the northern sector of the German lines had tossed the track into a junk pile. The tired troops looked at the mess with disgust. "Well, guess we're in for it," said a sergeant. "One platoon can attend to this job though." The choice fell on No. Thirteen. "Might have known it!" growled the men as they unloaded their tools again. "Always unlucky! Let's have our number changed."

The other three platoons went on. The men of Thirteen started to work with a will. Broken rails were unbolted, the spikes drawn, and the twisted mess flung over the embankment. The shell hole was next blocked and filled with dirt from outside the ditch. Spare ballast was scraped up and new ties were inserted. Mauls and wrenches were then applied to the task of tightening up. Rails had been carried from up the track, and in a jiffy the track was repaired. Three rails in 23 minutes, gauged, lined and ballasted! Thirteen followed their comrades with the knowledge of a job well done.

It was a happy crowd that swarmed round the hot mulligan dixies that night—a gang of big school boys, ages running from 19 to 57, tired but happy and hungry as wolves in view of a solid meal. To make things complete, the orderly corporal arrived with arms full of mail. The great big event in every Tommy's life was the mail—parcels with toothsome candies, fruit cakes, cigarettes, books, tobacco, socks, handkerchiefs, letters from mother, father, sweetheart, wife and dear, sweet bairns.

Shells, wounds, cold, hunger, hardship, the grisly paw of death ever near, the fretful sergeant and the haughty officer, and a month's pay lost on the Crown and Anchor board—all were forgotten. The man who received a letter or a parcel hurried away, a glad light in his eyes, a warm glow in his heart, for he has come to "the end of a perfect day."

But this was not the end, not on this particular night. The "Last Post" had just blown and the boys were all beneath the blankets and a rosy glow worm in the dark was the cigarette of each tired and contented sapper. Suddenly overhead sounded the unmistakable organ hum of a big Fritzy plane. "All lights out" was given by three blasts on the sergeant-major's whistle. The droning of the motors came very near and the troops held themselves still in breathless suspense, for this was not the first time they had met hell from German aircraft. The sound died away. Then out of the vast and silent sky came "brraap" and bellow upon bellow of aerial torpedo.

The men rushed from their tents in their night clothes. Half a mile away, the station at Villers was ablaze. Petrol tanks were flaming into the dark in vast flashes of flame and smoke. The warehouse was on fire. "Fall in" sounded. The C.R.T. sprang into their clothes. Tools were snatched up and off they went. When they reached the gate, or the station, they saw thousands of French civilians leaving their little homes and flying to the open fields or the nearest dugout. Old women, old men, young women and children in every article of night attire were scurrying away from the dreaded air raid. Wherever possible the sappers helped them along and told them "Fritzy part tout de suite" and, as though supporting their strenuous western optimism, the anti aircraft opened a terrific barrage. The big "blopping" of the Archies was broken by the racket of the machine guns.

The station was like a scene from Dante's "Inferno"—only more so. Grotesque mushrooms of black smoke blotted out the moon and stars. Red, purple and yellow flames played in fantastic wreaths along the avenues of hell. Little figures rushed hither and yon like manikins in torment. And every minute a hot shell exploded with a dull, far-off roar amid the conflagration. Two petrol tanks had been destroyed and an ammunition train blown up. A Red Cross clearing station had been struck, and the huge warehouse levelled with the tracks. Everywhere writhing blue and gold snakes of petrol marked the path of danger. As they died out and flickered into blackness, the sappers rushed in, regardless of the hot shells, ready to blow up at every point any second, and began to clear away the mounds of smoking debris. This was part of their work.

A hospital siding, with two rails blown clear away, was repaired. The crater was filled in, new steel laid on new ties and the whole line spiked and bolted up in half an hour. The men toiled like ruddy fiends in the afterglow of hades. A Red Cross train from the main track was shunted into the new siding. It contained the bodies of two Red Cross nurses with their delicate white hands folded meekly over their courageous hearts in death.

The men of the C.R.T. by this time had reached the wreckage of the ammunition train. It looked as though some monstrous upheaval of nature had tossed it into a forest of twisted girders, hurling shreds of timbers and the burnt skeletons of wagons, tipped in weird gestures of destruction. The sappers tackled it with a cheer. From the south side a wrecking crew of French engineers were removing the large pieces with a powerful wrecking crane and windlass. The worst of the junk was located about a vast crater made in the center of the main line by an aerial torpedo.

Dawn broke with the work still being carried on. Carloads of ballast were shot into the cavity. As the grade was made level the new steel was laid, and the wrecking train moved up and hauled away the awful junk pile. In the meantime a company of C.R.T.'s had rolled all the hot shells off the track. And as they toiled at this dangerous task, protecting their hands with wet cloths and gunny sacks, they kidded one another a little:

"Look out there, Bill. That blinking one is going up!"

"Aw! Quit yer kidding. I don't want a Blighty one. I'm due for a Paris leave." And the lad would go on rolling the hot shell down the track.

"I wonder some guy wouldn't come round with a drink of rum. Gee! I'm all in," says one.

"All you need is something to warm your cold feet," replies his pal, in spite of the obvious fact that both their boots were burning on the hot track.

"Hell! I wonder them French Fillies don't come through with a bottle of Vin Blank?" queries another.

"Close it, you dud!" says the next one

Rapid Railway Construction in France. Building an Embankment for a Broad Gauge Railway. British Official Photograph taken on the British Western Front. Copyright reserved.

"You make a noise like a lamb."

By 9 a.m. the great northern road was clear. The new rails were fast and straight. The immense traffic of the Chemin de Fer du Nord rolled on towards the battle lines and tired Canadian Railway Troops sought their blankets for a game of "shut eye" till 2 p.m., when the work up under the guns would begin again.

And so the days and months went by. First it was a case of laying narrow gauge right up under the guns, with every kind of shell plopping around. Then, if they were lucky, it was standard gauge away back; which meant Y.M.C.A. concerts and lectures, sports, baseball and football, maybe some boxing, and all "the mental and moral pabulum" which has built our splendid morale.

No one has heard the history of the C.R.T. when the German advance last spring swept through the Lys salient. The Portuguese Division retreated, after four days and nights of gas shelling, when human flesh and blood could stand no more. Merville and its three all-important bridges over the canal were left undefended. Into this breach the general in command plunged three companies of the 11th C.R.T., the only available troops during those momentous hours. This was a strategic point of the utmost importance, for, if it fell, Lillers would be in danger and the whole British line from Arras to the sea threatened by a flanking and rear attack. These troops held the bridges with machine guns, bombers and riflemen till the Jocks and the Australians came up on either flank of the retreating Portuguese.

A little later, when the line was bending at La Bassee, Bethune, Locon, three battalions of the C.R.T., the third, the fifth and the seventh, were held in reserve, thus releasing Imperial battalions for the front lines. The fourth and the sixth fought hand to hand battles with the Hun in the Cambrai salient in Nov., 1917. The first day the sixth lost their field kitchens, their equipment and their tools. The second day they went after Fritz and took some of his field kitchens before Bourlon Wood. The scrap the sixth put up was largely instrumental in checking the German waves before Marcoing and Gouzeaucourt. And again the sixth was caught in Velu wood during the spring advance in 1917, and again they fought their way clear of the surrounding Huns.

The C.R.T. are the "handy men" of the British front. They have tackled everything from railroading to strafing the Boche, from taking up ammunition to bringing out the wounded—from laying and running the narrow gauge to shooting down enemy aircraft with their Lewis guns. (The 11th shot down a German plane in the apple orchard at Merville.)

The Railway Troops have played an important, and a most strenuous, part in the campaign now waging which, we are convinced, is going to end the war. I am writing this at a point 40 miles in advance of the positions we held two months ago—and the C.R.T. have laid steel all along that broad slice of reconquered territory! It has been perhaps the most rapid bit of railroading the world has ever seen.

To show how great the hazard has been, I want to tell of the last advance of our victorious armies before Arras and along the valley of the Scarpe, when two platoons were sent up to repair a narrow gauge line under fire. They relaid 123 shell breaks in six days. They had to live in dugouts. Each night the enemy put over every kind of shell, "Rubber heels," "Coal boxes," "Whizzbangs" and bombs from his aircraft. The Hun was doing all in his power to delay the advance by shelling and bombing our arteries of traffic.

The first morning out the C.R.T. lined up in the square before the station, near the quivering bodies of four disemboweled horses, while members of the Veterinary Corps were busy shooting these poor "Long Faced Pals" to save their pitiful sufferings. The Red Cross were busy taking away dead and wounded Tommies. A 12-inch shell from a long-range naval gun had dropped on a ration-train of the Army Service Corps with frightful consequences. The second morning the Boche blew up a motor lorry in a Mechanical Transport park near by. The third morning he smashed a corner of a cemetery; and bricks, gravestones, shrapnel, rubble and dead bones fell among them. The sixth morning the Hun got four of their transport mules, wounded the transport cook, and killed two Imperials in horse lines quite close to the C.R.T.

Nights were made hideous by every kind of explosion common to these duels of the big guns. When these two platoons finished their job they were congratulated on parade by the general commanding the division. The morale of these troops at such a time of intense nervous strain is shown by the fact that "the clink," or guard tent, standing directly under the range of the German guns, was never dug in or sand-bagged. On the fifth morning one of the defaulters, waiting a court-martial for a few hours A.W.L., was struck by a flying brick on the ankle while busy shaving. He calmly picked up the brick, while shell pieces were rattling down all around him, walked over to the nearest dugout and said:—"Look at that! Jerry tried to give me a free hair cut." Then he proceeded to finish his shave while the earth went reeling and vibrating to the ceaseless impact of exploding shells, any of which may have meant the end of all things for him.

During this last great advance the 5th —in which I am a humble unit—have leap-frogged their companies along the narrow gauge and at this time of writing are actually connecting up our lines with German steel beyond Lille. You see a dozen little cars behind a petrol motor, or a Baldwin dinky locomotive rolling along chock and block with troops going up; ammunition, kits, tents, grub, then more railway material, then ballast from the slag heaps of mines. The farther the line stretches the busier it gets. Truly the veins of the War God are Canadian in structure, Canadian in skill and Canadian in spirit.

The names of some of our commanding officers are household words in France—General "Jacky" Stewart, Colonel Griffin, D.S.O., Major Purdee with his Artemus T. Ward brand of humor and his Champion Baseball Team, Major Adjutant "Bimbo" Sweeny, Major Grant, Major Harrison in charge of the 11th at Merville—these are only a few. There are hundreds unknown to fame, but deserving of the highest honors, kind-hearted, modest gentlemen from every province, doing their duty as they see it from day to day.

The keynote of the Railway Troops is efficiency. It is only by maintaining a high grade of efficiency that the work can be done, and the success this branch of the service has achieved is something that Canada may well prize.—Maclean's Magazine.

Railway Rolling Stock Orders and Deliveries.

The Canadian Copper Co. has received a steel snow plough from Canadian Car & Foundry Co.

The Timiskaming & Northern Ontario Ry. has received a steel snow plough from Canadian Car & Foundry Co.

The C.P.R. is going to build 30 all steel tourist cars and 20 all steel baggage cars, both 73½ ft. long, at its Angus Shops, Montreal.

Canadian National Rys., as announced in our last issue, have ordered 750 steel frame box cars from National Steel Car Co. Following are the chief details:—

Length inside	36 ft.
Width inside	8½ ft.
Height inside	8 ft.
Door openings	5 ft.
Trucks	Simplex
Journal boxes	McCord
Bolsters	Simplex
Side bearings	Balanced type
Draft gear	Twin type
Roof	Inside metal roofing
Brakes	Westinghouse 812, automatic, with K-1 triple valves.

Canadian National Rys. have ordered 550 composite service coal cars and 500 steel underframe flat cars from Eastern Car Co., as mentioned in our last issue. Following are the chief details:—

Coal Cars.

Length inside	36 ft. 4½ in.
Width inside	9 ft. 3 in.
Height inside	5 ft. 2½ in.
Trucks	Simplex
Axles	5½ x 10 in.
Journal boxes	McCord
Brake beams	M.C.B. 2
Draft gear	Cardwell friction, latest type
Brake	Westinghouse 1210, with K2 triple valves
Capacity	50 tons

Flat Cars.

Length	41 ft.
Width over side sills	8 ft. 10 in.
Width over floor	9 ft.
Width over stake pockets	9 ft. 7⅝ in.
Trucks	Simplex
Journal boxes	McCord, 5 x 9 in.
Brake beams	Simplex 2
Draft gear	Twin type
Brakes	Westinghouse 812, with K-1 triple valves
Capacity	40 tons

Canadian National Rys. have ordered 250 Hart-Otis ballast cars, 500 stock cars, 150 refrigerator cars from Canadian Car & Foundry Co., as mentioned in our last issue. Following are the chief details:—

Ballast Cars.

Length over end sills	36 ft. 8 in.
Width over side sills	8 ft. 9 in.
Length inside as hoppers	20 ft. 10 in.
Length inside as gondolas	34 ft. 8 in.
Width inside	8 ft. 8 in.
Draft arms	Metal built up type
Draft gear	Friction type
Journal boxes	McCord, 5½ x 10 in.
Capacity	50 tons

Stock Cars.

Length inside	36 ft.
Width inside	8½ ft.
Height inside	8 ft.
Draft gear	Tandem
Journal boxes	4¼ x 8 in.
Trucks	Simplex
Brake beams	M.C.B. 2
Springs	M.C.B. class G
Capacity	30 tons

Refrigerator Cars.

Length inside	36 ft.
Width inside	8 ft. 2 in.
Door fixtures	Cam arrangement
Insulation	La Fleur
Trucks	Simplex
Journal boxes	McCord
Brake beams	M.C.B. 2
Brakes	Westinghouse, with K2 triple valves
Capacity	40 tons

These refrigerator cars are similar to the last supplied, and will be equipped with brine tanks and the latest device for retaining brine, to meet the American Railway Association's specifications. The underframe will be of wood with steel draft arms.

Mainly About Railway People Throughout Canada.

Albert G. Albertsen, who has been appointed General Agent, Passenger Department, C.P.R., Minneapolis, Minn., was born at Copenhagen, Denmark, Dec. 31, 1887, and came to Canada in 1904. He entered transportation service in Apr., 1908, since when he has been, to Nov., 1909, passenger clerk, Thomas Cook & Sons; Nov., 1909, to July, 1910, Travelling Agent, International Mercantile Marine; July, 1910, to Mar., 1911, passenger and ticket clerk, Pacific Mail Steamship Co.; Mar., 1911, to May, 1912, City Passenger Agent, C.P.R.; May, 1911, to Jan., 1916, Travelling Passenger Agent, C.P.R.; Jan. 1916, to Feb. 15, 1919, City Ticket Agent, C.P.R., all at San Francisco, Cal.

William E. Allison, who has been appointed Assistant General Agent, Mail, Baggage and Milk Traffic, C.P.R., Montreal, was born at St. Eugene, Ont., Aug. 1, 1886, and entered C.P.R. service in Feb., 1905, since when he has been, to Jan., 1909, clerk in General Baggage Department, Montreal; Jan., 1909, to Mar., 1910, chief clerk, same department, Montreal; Mar., 1910, to Nov., 1911, Travelling Baggage Agent, Montreal; Nov., 1911, to May, 1912, General Travelling Baggage Agent, Winnipeg; May, 1912, to Jan., 1916, District Baggage Agent, Calgary, Alta.; Jan., 1916, to Feb., 1919, Assistant General Baggage Agent, Montreal.

Mrs. W. H. Ardley, wife of the Comptroller, G.T.R., died at Montreal, Feb. 6, following a short illness and subsequent operation for appendicitis, after which peritonitis developed.

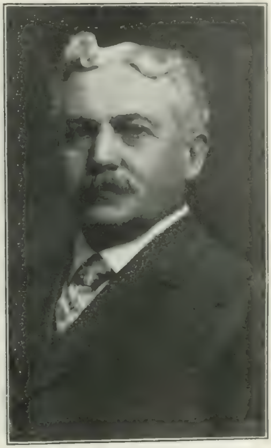
Frederick Barker Atkinson, Claims Agent, Canadian Government Rys., who died at Levis, Que., recently, was born there Aug. 26, 1852, and after several years in private business, entered C.G.R. service Oct. 1, 1901, and up to his death acted as Claims Agent for the I.C.R. in the Province of Quebec.

O. E. Barker, who has been appointed Chief Dispatcher, Canadian National Rys., Saskatoon, Sask., was born at Montreal, Sept. 20, 1873, and entered railway service Dec. 4, 1890, since when he has been, to Jan., 1898, agent and operator, C.P.R., at various points; Jan. to June, 1898, agent and operator, Minneapolis, St. Paul & Saulte Ste. Marie Ry.; June, 1898, to Mar., 1903, agent and operator, C.P.R., at Regina, Sask., Calgary, and Medicine Hat; Alta.; Mar., 1903, to Jan., 1911, dispatcher, C.P.R.; Jan., 1911, to Sept. 10, 1915, in private business; Sept. 10, 1915, to Nov., 1916, dispatcher, Canadian Northern Ry., Fort Rouge, Man., and Rainy River, Ont.; Nov., 1916, to June, 1917, General Yard Agent, C.N.R., Fort Rouge, Man.; June, to Nov. 27, 1918, dispatcher, C.N.R., Fort Rouge, Man., and Saskatoon, Sask.; Nov. 27, to Dec., 1918, acting Chief Dispatcher, C.N.R., Saskatoon.

M. B. Beasley, who died in Toronto, Feb. 22, was father of H. E. Beasley, General Superintendent, Esquimalt & Nanaimo Ry., Victoria, B.C., and H. H. Beasley, Purchasing Agent, Toronto Ry.

E. W. Beatty, K.C., President, C.P.R., has been elected Chancellor of Queen's University, Kingston, Ont. To mark his recent appointment as President of the C.P.R., he was the chief guest at a dinner given in his honor by the Board of Trade at Thorold, Ont., Feb. 3, where he was born.

William C. Blake, whose appointment as Divisional Accountant, Canadian National Rys., Winnipeg, was announced in our last issue, was born at Liverpool, Eng., Nov. 28, 1865, and entered transportation service in 1878, with E. H. Wood, cartage agent for the London & North Western Ry. and the North Staffordshire Ry., and afterwards European Agent, Grand Trunk Ry., in England. He came to Canada in 1889, and was, to Jan. 1, 1903, in Traffic Auditor's office, serving in the freight, statistical and freight claims departments, G.T.R., Montreal; Jan. 1, 1903, to Dec. 1, 1910, statistical clerk, Audit Department, Canadian Northern Ry., Winnipeg; Dec. 1, 1910, to Dec. 1, 1918, chief clerk to General Auditor, same road, Winnipeg.



W. H. Grant,
General Tie Agent, Canadian National Railways.

Walter Pratt,
Manager, Sleeping, Dining and Parlor Car, Hotel and News Services, Canadian National Railways.

C. B. Brown, Chief Engineer, Eastern Lines, Canadian Government Rys., Moncton, N.B., is convalescent after several weeks illness, and has returned to duty.

Sir George McL. Brown, European General Manager, C.P.R., left for England, via New York, Feb. 11, after a short visit to Canada.

Fred J. Buller, whose appointment as Local Treasurer, Eastern Lines, Canadian National Rys., Toronto, was announced in our last issue, was born at [illegible], Ont., Jan. 30, 1875, and entered transportation service in Sept., 18[illegible], since when he has been, to Oct., 1896, messenger, Canadian Express Co.; Nov., 1896, to June, 1899, clerk, same company, Toronto; June, 1899, to July, 1901, clerk and relieving cashier, Dominion Express Co., Winnipeg; July, 1901, to Dec., 1902, clerk and bookkeeper, General Superintendent's office, Canadian Northern Ry., Winnipeg; Dec., 1902, to Nov., 1906, Cashier, same road, Toronto; Nov., 1906, to Jan., 1919, Cashier and Paymaster, same road, Toronto.

Sir Guy Calthrop, who died in London, Eng., Feb. 23, of influenza, was, since 1917, Controller of Coal Mines for Great Britain, and prior to that was General Manager, London & North Western Ry. of England. In 1908 he was General Manager of the Caledonian Ry. of Scotland, and in 1910, General Manager of the Buenos Aires & Pacific Ry. of South America. He was created a baronet in 1918.

E. J. Chamberlin, formerly President, G.T.R. and Grand Trunk Pacific Ry., who is spending the winter in California, is resigning from the various directorates with which he has been associated for several years, owing to his prolonged absence from Canada.

Frederick H. Clendenning, Division Freight Agent, Steamship Lines, C.P.R., Vancouver, B.C., who was transferred for service with the British Ministry of Shipping (Canada) recently, was born at Montreal, Nov. 9, 1881, and entered transportation service Aug. 1, 1898, since when he has been, to June 30, 1902, junior clerk, Fourth Vice President's office, register clerk, and stenographer, successively, C.P.R., Montreal; July 1, 1902, to Mar. 31, 1903, stenographer and freight clerk, Commercial Agent's office, New York Central and Hudson River Rd., Montreal; Apr. 1, 1903, to Jan. 31, 1904, stenographer, rate and tracing clerk, General Freight Department, C.P.R., Vancouver, B.C.; Feb. 1, 1904, to June 30, 1906, chief clerk, City Freight Office, C.P.R., Victoria, B.C.; July 1, 1906, to Aug. 31, 1908, chief clerk, District Freight Office, C.P.R. and Esquimalt & Nanaimo Ry., Victoria, B.C.; Sept. 1, 1908, to Aug. 16, 1909, City Freight Agent, C.P.R., and District Freight Agent, Esquimalt & Nanaimo Ry., Victoria, B.C.; Aug. 17, 1909, to Mar. 31, 1911, Assistant General Freight Agent, C.P.R., Vancouver, B.C.; Apr. 1, 1911, to Jan. 31, 1914, District Freight Agent, C.P.R., Vancouver, B.C.; Feb. 1, 1914, to Nov. 1, 1918, Division Freight Agent, Steamship Lines, C.P.R., Vancouver, B.C.

N. P. Dalziel, formerly Assistant Comptroller, Canadian Northern Ry., Toronto, and latterly Assistant Chief Inspector, Shell Branch, Imperial Munitions

Board, Ottawa, left for Great Britain Feb. 8, excepting to return to Canada in April, when he will assume his duties as Managing Director of Offer, Dalziel & Co., Ltd., which was incorporated under the Dominion Companies Act Feb., 1918, with wide powers to act as engineers, financial agents, etc.

Elzear Louis Desjardins, whose appointment as Superintendent, Division 1, Quebec District, Canadian National Rys., Levis, Que., was announced in a recent issue, was born at St. Jean Port Joli, Que., Aug. 17, 1859, and entered Government railway service, Aug. 1, 1876, since when he has been, to Nov. 1, 1876, ballast pit operator, Intercolonial Ry., Amqui, Que.; Nov. 1, 1876, to Apr. 1, 1878, agent, I.R.C., Sayabec, Que.; Apr. 1, 1878, to June 1, 1879, night operator, I.R.C., St. Flavie, Que.; June 1, 1879, to May 30, 1880, train baggage master, I.R.C., Levis, Que., and Halifax, N.S.; May 30, 1880, to Feb. 20, 1898, dispatcher, I.R.C., Riviere du Loup, Que.; Feb. 20, 1898, to May 1, 1912, Chief Dispatcher, I.R.C., Levis, Que.; May 1, 1912, to Feb. 1, 1918, Assistant Superintendent, District 1, Montreal and Mont Joli, Canadian Government Rys.; Feb. 1 to Dec. 1, 1918, Superintendent, District 5, Transcontinental Division, C.G.R., Edmundston, N.B.

G. E. Drummond, President, Drummond, McCall & Co., Ltd., Montreal, died in England, Feb. 18, while on a business trip. He was formerly a director of the Canadian Car & Foundry Co.

James Edward, who has been appointed Division Freight Agent, G.T.R., Montreal, first entered G.T.R. service as operator and agent on the Ontario Lines, and later entered the traffic department, being appointed agent, Great Eastern Fast Freight Line (Central Vermont Ry.), in 1892. He was afterwards Contracting Freight Agent and Travelling Freight Agent, G.T.R., Montreal, and in 1904 was appointed Travelling Freight Agent, at Moncton, N.B.; Commercial Agent there in 1911, and from 1913, Division Freight Agent, Ottawa.

Cecil Edward Friend, whose appointment as Comptroller, Canadian National Rys., Toronto, was announced in a recent issue, was born at Brighton, Eng., Oct. 12, 1871, and entered railway service in Dec., 1893, since when he has been, to 1896, secretary to Traffic Manager, C.P.R., Winnipeg; 1896 to 1897, stenographer to Superintendent, Canadian Northern Ry., Winnipeg; 1897 to 1901, chief clerk and accountant, same road, Winnipeg; 1901 to 1910, Auditor, same road, Winnipeg; 1910 to 1918, General Auditor, same road, Winnipeg.

H. J. Fuller, President, Canadian Fairbanks-Morse Co., has been elected a director of the Shawinigan Water & Power Co., vice Sir M. Mitchell Thomson, deceased.

Mrs. John Galbraith, widow of the late Dean of the Applied Science Faculty, Toronto University, died in Toronto, Feb. 7, after a long illness.

R. Falconer Gauld, Auditor of Pay Rolls, C.P.R., Montreal, died there Feb. 18, and was buried at Halifax, N.S., Feb. 20.

G. B. Gordon, who died at Nanaimo, B.C., Feb. 3, as the result of a shock due to an accident at a railway crossing, was born in Whitby, Ont., in 1840, and went to Winnipeg in 1875, where he was engaged as assistant engineer on C.P.R. construction under the Dominion Government, afterwards farming in Southern Manitoba for some years, removing to British Columbia in 1917.

A. L. Graburn, who has been appointed General Fuel Agent, Canadian National Rys., Toronto, was born in Quebec Province, May 18, 1870, and entered railway service Feb. 27, 1885, since when he has been, to Apr., 1888, clerk, C.P.R., Winnipeg; May, 1888, to June, 1890, clerk, Chicago Great Western Ry., St. Paul, Minn.; July to Sept., 1890, assistant foreman, Chicago, St. Paul, Minneapolis & Omaha Ry., St. Paul, Minn.; Oct., 1890, to Sept., 1891, clerk, C.P.R., Winnipeg; Oct., 1891, to May, 1899, accountant, Northern Pacific Ry., St. Paul, Minn.; June, 1899, to May, 1900, Shop Superintendent, Great Northern Ry., Great Falls, Mont.; June, 1900, to Aug., 1906, Shop Superintendent, Great Northern Ry., St. Cloud, Minn.; Sept., 1906, to Dec., 1907, in railway supply business, St. Paul, Minn.; Jan. to Nov., 1908, special accountant, Chicago Great Western Ry., St. Paul, Minn.; Nov., 1908, to Sept., 1915, Mechanical Engineer, Canadian Northern Ry., Toronto; Sept., 1915, to Jan., 1919, Assistant Superintendent of Rolling Stock, Canadian Northern Ry., Toronto.

R. P. Ormsby,
Secretary, Canadian National Railways.

H. G. Foreman,
Assistant Treasurer, Canadian Northern Railway System.

W. H. Grant, whose appointment as General Tie Agent, Canadian National Rys., Toronto, was announced in our last issue, was born at Acton, Ont., Dec. 8, 1858. He commenced railway construction work under Donald D. Mann in 1882, and with the exception of eight years spent in Winnipeg, Calgary and British Columbia, in organizing the accounting department of P. Burns & Co., has since been continuously engaged in railway construction work with D. D. Mann and later with Mackenzie, Mann & Co., Ltd. He was serving under D. D. Mann on the latter's contracts on the construction of the C.P.R. main line through the prairies and British Columbia mountains, and on the construction of 75 miles of the Manitoba & Northwestern Ry. main line, and its Russell and Rapid City branches. He had charge of track laying on 40 miles of the old Winnipeg & Hudson Bay Ry., and of the construction of a section of the C.P.R. short line through the State of Maine, under Mackenzie, Mann & Co. From 1889 to 1902 he was Superintendent of Grading and Bridging, Rainy River Rd.; 1902 to 1907, Manager of Construction, Halifax & Southwestern Ry.; 1907 to 1915, Manager of Construction, Canadian Northern Ry. lines east of Port Arthur, Ont.; 1915 to the date of his present appointment, Tie and Timber Agent, Eastern Lines, and during the war acting General Storekeeper, Canadian Northern Ry., Toronto.

Grant Hall, Vice President, C.P.R., was the principal speaker at the Canadian Railway Club dinner in Montreal recently.

Fay Edward Hartshorn, whose appointment as Assistant Superintendent, Montreal Division, Quebec District, Canadian National Rys., Joliette, Que., was announced in a recent issue, was born at West Stewartstown, N.H., July 21, 1877, and entered railway service in Dec., 1898, since when he has been, to Feb. 1, 1902, operator and assistant agent, Maine Central Rd., at various points; Feb. 15, 1902, to July 6, 1905, operator, same road, Bangor, Me.; July 6, 1905, to Nov. 20, 1911, dispatcher, same road, Bangor, Me.; July 19 to Nov. 1, 1912, operator, various points, Montreal Division, Canadian Northern Ry.; Nov. 1, 1912, to July 1, 1913, operator, same road, Joliette, Que.; July 1, 1913, to June 1, 1914, relieving dispatcher, same road, Joliette, Que.; June 1, 1914, to Oct. 23, 1916, dispatcher, same road, Joliette, Que.; Oct. 23, 1916, to Dec. 23, 1918, Trainmaster, same road, Joliette, Que.

John J. Harty, President, Canadian Locomotive Co., Kingston, Ont., died at the Savoy Hotel, London, Eng., Feb. 23, from pneumonia, following influenza. He left Canada Jan. 29, to secure foreign orders for locomotives, and developed bronchitis en route, influenza following. He was born in 1875 and graduated in medicine from Queen's University, Kingston, in 1897, but did not practise. When his father, Wm. Harty, bought out the old locomotive works at Kingston in 1900, J. J. Harty became Secretary, and on the reorganization of the company was elected Vice President, and in 1918 was elected President. "Jock," as he was familiarly known, took a very active part in sports during his college career, was a good rugby player and excellent in hockey. Afterwards he became interested in lake racing and was a motor boat enthusiast. Three years ago he had the fastest craft on Lake Ontario. He sat in Kingston City Council for several years.

Walter Hately, whose appointment as Assistant General Freight Agent, Canadian National Rys., Winnipeg, was announced in our last issue, was born at Brantford, Ont., Mar. 5, 1887, and entered railway service in March, 1904, since when he has been, to Aug., 1908, clerk, local freight office, G.T.R., Hamilton, Ont.; Aug., 1908, to Sept., 1909, accountant, Superintendent's office, G.T.R., Toronto; Sept., 1909, to Oct., 1913, clerk, Freight Tariff Bureau, G.T.R., Montreal; Oct., 1913, to Oct., 1915, clerk, Freight Tariff Bureau, Canadian Northern Ry., Winnipeg; Oct., 1915, to Jan., 1919, Chief of Tariff Bureau, Canadian Northern Ry., Winnipeg.

Chas. R. Hosmer, a C.P.R. director, was reported on Feb. 20 to be making satisfactory progress at the Royal Victoria Hospital, Montreal, where he underwent an operation.

George Gladstone Hall Hutton, whose appointment as Superintendent of Agriculture and Animal Industry, Department of Natural Resources, C.P.R., Calgary, Alta., was announced in our last issue, was born in Ontario, Feb. 18, 1878, and from 1906 to the date of his present appointment, was Superintendent of the Dominion Experimental Station at Lacombe, Alta.

Howard G. Kelley, President, G.T.R. and G.T.P.R., who left Montreal for England, towards the end of January, will probably return before the end of March. Before leaving, he stated that the Chairman, A. W. Smithers, M.P., will not make his usual annual visit to Canada this year, owing to his parliamentary duties.

J. Edgar LePage, whose appointment as Division Freight Agent, Canadian National Rys., Quebec, Que., was announced in our last issue, was born in Canada, Mar. 7, 1882, and educated at Rimouski College and at Laval, Que., and was awarded the Prince of Wales prize. He entered railway service in May, 1902, since when he has been, to Feb., 1912, successively telegrapher, freight clerk, station agent, and freight agent, Montreal-Levis Division, Intercolonial Ry.; Feb., 1912, to June, 1915, Travelling Freight Agent, I.R.C., and National Transcontinental Ry., Montreal; June, 1915, to Jan. 27, 1919, Division Freight Agent, and District Passenger Agent, Canadian Government Rys., Quebec, Que.

Hon. W. M. Martin, Prime Minister of Saskatchewan, has also been appointed Minister of Railways, in the re-arrangement of portfolios made recenitly.

Allan Stanley McLean, who has been appointed Superintendent of Hotels, Canadian National Rys., Winnipeg, was born at Walkerton, Ont., Dec. 5, 1871, and entered Canadian Northern Ry. service in Sept., 1910, since when he has been, to Mar., 1911, clerk, Hotel Department, Winnipeg; Mar., 1911, to Dec., 1917, Manager, Prince Arthur Hotel, Port Arthur, Ont.; Dec., 1917, to Dec., 1918, Assistant General Superintendent of Hotels, Winnipeg. Prior to entering Canadian Northern Ry. service, he was, between 1899 and 1910, clerk, Dufferin Hotel, St. John, N.B.; and Queens Hotel, Montreal; and Manager, Corona Hotel, Montreal, and Kings Hotel, Regina, Sask.

S. J. McLean, one of the Railway Commissioners for Canada, addressed the Canadian Club at Toronto, Feb. 10, on the Board of Railway Commissioners' work.

G. E. McCoy, who has been appointed Master Car Builder, Eastern Lines, Canadian National Rys., Moncton, N.B., was born there, Jan. 8, 1886, entered government railway service Oct. 16, 1900, and served an apprenticeship in the shops and drafting office. He was appointed assistant chief draftsman in charge of car work in 1915, and in 1916 Assistant Master Car Builder at Moncton, N.B., which position he held to the date of his present appointment.

G. E. McCoy,
Master Car Builder, Eastern Lines, Canadian National Railways.

A. McCowan,
Master Car Builder, Western Lines, Canadian National Railways.

Henry Hilaire Melanson, whose appointment as Passenger Traffic Manager, Canadian National Rys., Toronto, was announced in a recent issue, was born at Scadouc, N.B., Mar. 9, 1872, and entered Government railway service Nov. 18, 1889, since when he has been, to Aug., 1892, clerk in Mechanical Department, Intercolonial Ry.; Aug., 1892, to Dec., 1899, clerk in Passenger Department; Dec., 1899, to Mar., 1901, chief clerk, Passenger Department; Mar., 1901, to May, 1905, General Baggage Agent; May, 1905, to Nov., 1909, chief clerk, Passenger Department; Nov., 1909, to May, 1913, Assistant General Passenger Agent; June, 1913, to June, 1917, General Passenger Agent; June, 1917, to Jan. 1, 1919, Passenger Traffic Manager, Canadian Government Rys., all at Moncton, N.B.

Richard W. Moore, who has been appointed District Car Foreman, Prairie District, Canadian National Rys., Saskatoon, Sask., was born at [illegible], Ont., Oct. 20, 1882, and entered railway service in July, 1906, since when he has been, to Feb., 1908, car repairer, Grand Trunk Pacific Ry.; Feb., 1908, to Oct., 1913, Car Foreman, G.T.P.R., Melville, Sask.; Oct., 1913, to Feb., 1914, Car Foreman, G.T.P.R. Rivers, Man.; Feb., 1914, to Nov., 1917, Car Foreman, G.T.P.R., Fort William, Ont., and continued with Canadian Government Rys., when that section of the road was taken over; Nov., 1917, to Jan. 15, 1919, General Car Foreman, Western Lines, C.G.R., Cochrane, Ont.

Sir Augustus Nanton, director, C.P.R., Winnipeg, has been elected President, Winnipeg Electric Ry., and President of the Western Bond Dealers Association of Canada.

R. E. Newcomer, whose transfer from the position of Trainmaster, G.T.R., London, Ont., to that of Trainmaster, G.T.R., Brantford, Ont., was announced in our last issue, has resigned and returned to Wabash Ry. service at St. Louis, Mo. Before leaving the district, he was presented by his associates with a travelling bag and equipment.

T. P. Phelan, President Canada Railway News Co., Toronto, who was operated on for gall stones, at Johns Hopkins Hospital, Baltimore, towards the end of January, and who suffered subsequently from influenza, was reported Feb. 27 as convalescing satisfactorily.

F. H. Phippen, K.C., formerly General Counsel, Canadian Northern Ry., left Toronto for Vancouver at the middle of February, expecting to be away 1 month.

B. A. Pottle, Car Inspector, Portland Terminal Co., who was accidentally killed at Portland, Me., Feb. 21, through being struck by a shunting locomotive, was formerly a C.P.R. yard [illegible] at Toronto.

Walter Pratt, who has been appointed Manager, Sleeping, Dining and Parlor Cars, Hotels and News Service, Canadian National Rys., Toronto, was born at Sibbertoft, Northamptonshire, Eng., Jan. 18, 1870, and entered railway service Oct. 1, 1884, since when he has been, to June, 1887, clerk, Audit Department, C.P.R., Winnipeg; June, 1887, to May, 1889, in Purchasing Department, and cashier, Treasury Department, C.P.R., Winnipeg; June, 1889, to Oct., 1891, in Engineering Department, C.P.R., Winnipeg; Nov., 1891, to Feb., 1892, chief clerk, Purchasing Department, C.P.R., Winnipeg; Mar., 1892, to Dec., 1894, accountant, Dining Car Department, C.P.R., Winnipeg; Jan., 1895, to Dec., 1896, Sleeping and Dining Car Agent, C.P.R., Winnipeg; Jan., 1897, to May, 1902, Superintendent, Sleeping and Dining Cars and Hotels, C.P.R., Winnipeg; June, 1902, to Feb., 1910, Superintendent, Sleeping, Dining and Parlor Cars and News Department, Canadian Northern Ry., Winnipeg; Mar., 1910, to Jan., 1911, Superintendent, Sleeping, Dining and Parlor Cars, Hotels and News Department, same road, Winnipeg; Feb., 1911, to Dec., 1918, General Superintendent, same department, C.N.R. System, Winnipeg.

Augustine V. Redmond, whose appointment as District Engineer, Central District, Canadian National Rys., Winnipeg, was announced in our last issue, was born at Kingston, Ont., May 16, 1879, and graduated from Queen's University, Kingston, in April, 1903, with the degree of B.Sc. He entered railway service in May, 1903, and was to Dec., 1903, engaged on concrete construction on the C.P.R.; Jan., 1904, to July, 1905, leveller on location surveys, Grand Trunk Pacific Ry.; Aug., 1905, to Oct., 1907, transit man and acting engineer in charge of location surveys, District E., National Transcontinental Ry.; Jan. to Oct., 1908, Resident Engineer on location and construction, Canon City pipe line, Canon City, Col.; Oct., 1908, to Oct., 1909, Resident Engineer, District E, National Transcontinental Ry.; Oct., 1909, to May, 1915, District Engineer, District E, N.T.R.; June to Sept., 1916, Resident Engineer, District 2, Transcontinental Division, Canadian Government Railways, Cochrane, Ont.; Oct., 1916, to Mar., 1917, acting Division Engineer, Transcontinental Division, C.G.R., Cochrane, Ont.; April to May, 1917, Resident Engineer, District 2, Transcontinental Division, C.G.R., Cochrane, Ont.; June 1, 1917, to Jan., 1919, Division Engineer, Transcontinental Division, C.G.R., Cochrane, Ont.

Miss Lois Reid, only daughter of Sir William D. Reid, formerly President, Reid Newfoundland Co., was married recently at St. John's, Nfld., to Lieut.-Col. H. N. Niven of the 25th Cavalry, Indian Army.

W. J. Robider, who was appointed General Master Car Builder, C.P.R., recently has taken up his residence at 367 Elm Ave., Montreal, where he has been joined by his wife and daughters, from Savannah, Georgia.

Leslie Greeley Roblin, who has been appointed Master Mechanic, Prairie District, Canadian National Rys., Saskatoon, Sask., was born in Prince Edward Island, Mar. 24, 1864, and entered railway service July 14, 1885, since when he hs been, to Nov., 1886, wiper and helper, C.P.R., West Toronto, Ont.; Nov., 1886, to Apr., 1892, locomotive fireman, C.P.R., West Toronto and Havelock Ont.; Apr., 1892, to May, 1893, locomotive man, C.P.R., London, Ont.; May, 1893, to Jan., 1894, locomotive fireman, C.P.R., London, Ont.; Jan., 1894, to Aug., 1905, locomotive man, C.P.R., Toronto and London, Ont.; Oct., 1905, to Dec., 1907, acting Locomotive Foreman and Road Foreman of Locomotives, C.P.R., London. Ont.; Jan., 1908, to Feb., 1911, District Master Mechanic, C.P.R., London, Ont.; Feb., 1911, to May, 1915, District Master Mechanic, C.P.R., North Bay, Ont.; June, 1915, to Dec. 31, 1918, General Master Mechanic, Western Lines, Canadian Government Rys., Cochrane, Ont.

Frederick A. Rutherford, whose appointment as Trainmaster, G.T.R., London, Ont., was announced in our last issue, was born at Parkhill, Ont., Sept. 16, 1877, and entered G.T.R. service Jan. 18, 1894, since when he has been, to July, 1894, assistant to agent, Aylmer, Ont.; July, 1894, to July, 1900, telegraph operator, at various points; July, 1900, to Jan., 1908, dispatcher, London, Ont.; Jan., 1908, to Mar., 1914, Chief Dispatcher, London and Stratford, Ont.; Mar., 1914, to June, 1917, Trainmaster, Battle Creek, Mich.; June, 1917, to Feb. 1, 1918, Trainmaster, Durand, Mich.; Feb. 1, 1918, to Jan., 1919, Inspector of Transportation, Montreal.

J. G. Rutherford, C.M.G., appointed recently as a member of the Board of Railway Commissioners, was entertained to dinner by a number of friends at Calgary, Alta., towards the end of January, and presented with an oak table. Special mention was made of his work in the west, where he was Superintendent of Agriculture and Animal Industry, Department of Natural Resources, C.P.R., for some time.

Edward Fitzgerald,
Deputy Chairman, Canadian Advisory Board, Hudson's Bay Company, and latterly Assistant General Purchasing Agent, C.P.R.

Harvey Walter Sharpe, whose appointment as Master Mechanic, Quebec District, Canadian National Rys., Quebec, Que., was announced in a recent issue, was born at Campbellton, N.B., Dec. 6, 1869, and entered railway service, Sept. 1, 1883, since when he has been, to Aug., 1884, messenger, Intercolonial Ry., Campbellton, N.B.; Aug., 1884, to June, 1886, apprentice helper, I.R.C., Campbellton, N.B.; Nov., 1886, to Feb., 1890, fireman, I.R.C., Campbellton, N.B.; Feb., 1890, to Nov., 1912, locomotive man, Canadian Government Rys., Montreal; Nov., 1912, to Dec., 1918, District Master Mechanic, C.G.R., Levis, Que.

Vivian G. Snell, who has been appointed Division Freight Agent, G.T.R., Stratford, Ont., entered G.T.R. service in 1895, in the Transportation Department, and later entered the Traffic Department, becoming agent, National Despatch-Great Eastern Fast Freight Line at Montreal; 1905 to 1910, Contracting Freight Agent, G.T.R., Montreal; 1910 to 1913. Soliciting Freight Agent, Montreal; 1913 to 1914, City Freight Agent, Montreal; 1914 to Jan. 31, 1919, Commercial Agent, Moncton, N.B.

Cerdic Steeves, whose appointment as General Boiler Inspector, Eastern Lines, Canadian National Rys., Moncton, N.B., was announced in our last issue, was born at Hopewell Cape, N.B., July 6, 1874, and entered Government railway service Oct. 18, 1890, since when he has been, to Jan. 1894, apprentice, Intercolonial Ry.; Jan., 1894, to Aug., 1902, boilermaker, I.R.C.; Aug., 1902, to Apr., 1907, flanger and tryer out, I.R.C.; Apr., 1907, to Sept., 1913, Boiler Inspector, I.C.R.; and Sept., 1913, to Jan., 1919, General Boiler Inspector, Eastern Lines, Canadian Government Rys., all at Moncton, N.B.

Joseph A. Sutton, who has been appointed District Fuel Agent, Canadian National Rys., Cochrane, Ont., was born at Moncton, N.B., Apr. 12, 1894, and entered railway service Dec. 14, 1911, since when he has been, to Aug., 1913, stenographer, Mechanical Department, Canadian Government Rys., Moncton, N.B.; Aug., 1913, to June, 1915, secretary to Engineer of Bridges, C.G.R., Moncton, N.B.; June, 1916, to Sept., 1917, chief clerk to Division Engineer, C.G.R., Cochrane, Ont.; Sept., 1917, to Jan., 1919, Fuel and Tie Accountant, Western Lines, C.G.R., Cochrane, Ont.

George Mitchell Thomas, whose appointment as District Freight Agent, Canadian National Rys., Hamilton, Ont., was announced in our last issue, was born at Dundas, Ont., Apr. 21, 1876, and entered transportation service in Aug., 1898, since when he has been, to 1903, in office, chief clerk, on the road, and Soliciting Agent, for Beaver Line Steamships, afterwards owned by Elder, Dempster & Co., and in 1903, taken over by the C.P.R. as the nucleus of its Atlantic steamship service; Apr., 1903, to Feb. 1, 1919, travelling Freight Agent, Canadian Government Rys., all at Toronto.

S. G. Tiffin, whose appointment as Assistant General Freight Agent, Canadian National Rys., Montreal, was announced in our last issue, was born at Hamilton, Ont., and entered railway service Apr. 1, 1886, since when he has been, to May, 1888, clerk, Local Freight Office, G.T.R., Stratford, Ont.; May, 1888, to July, 1890, secretary to Superintendent, G.T.R., Stratford, Ont.; July, 1890, to May, 1891, secretary to General Manager, Chicago and Grand Trunk Rd., and Detroit, Grand Haven & Milwaukee Ry., Detroit, Mich.; May, 1891, to Oct., 1892, chief clerk to General Agent, same roads, Saginaw, Mich.; Oct., 1892, to Nov., 1893, Travelling Freight Agent, Commercial Express Fast Freight Line, Rockford, Ill.; Nov., 1893, to Feb., 1898, Travelling Freight Agent, Wisconsin Central Ry., Milwaukee, Wis.; Feb. to Nov., 1898, Wisconsin Agent, North Shore Despatch Fast Freight Line, Milwaukee, Wis.; Jan. 1899, to Nov., 1900, Wisconsin Agent, Reading Despatch Fast Freight Line, Milwaukee, Wis.; Nov., 1900, to May, 1910, Travelling Freight Agent, Intercolonial Ry., Toronto; May, 1910, to Aug., 1913, General Agent, Intercolonial Ry., Toronto; Aug., 1913, to Feb., 1914, Division Freight Agent, Canadian Government Rys., St. John, N.B.; Feb., 1914, to June, 1915, Division Freight Agent, C.G.R., Montreal; June, 1915, to Jan., 1919, Assistant General Freight Agent, C.G.R., Montreal.

R. C. Vaughan, Assistant to President, Canadian National Rys., Toronto, and Mrs. Vaughan, spent a short time at Atlantic City, at the end of February.

William Dryden Waddell, whose appointment as chief accountant, Canadian Northern Ry. System, Toronto, was announced in our last issue, was born at Waterford, Ireland, Aug. 7, 1887, and entered Canadian Northern Ry. service Nov. 30, 1908, since when he has been, to Nov., 1916, clerk in Accounting Department, and Nov., 1916, to Jan. 1, 1919, chief clerk, same road, Toronto.

Robert James Scott Weatherston, whose appointment as Division Freight Agent, G.T.R., Ottawa, Ont., was announced in our last issue, was born at St. Thomas, Ont., Jan. 27, 1878, and entered G.T.R. service July 4, 1893, since when he has been, to Dec. 31, 1901, clerk in Transportation Department, Hamilton, Ont.; Jan. 1 to July 22, 1902, clerk in Traffic Department, Hamilton, Ont.; July 23, 1902, to May 10, 1903, Soliciting Freight Agent, Hamilton, Ont.; May 11, 1903, to June 17, 1906, Soliciting Freight Agent, Toronto; June 18, 1906, to May 31, 1907, Travelling Freight Agent, Ottawa, Ont.; June 1, 1907, to Oct. 31, 1911, chief clerk to Division Freight Agent, Hamilton, Ont.; Nov. 1, 1911, to Jan. 31, 1919, Division Freight Agent, Stratford, Ont.

Thomas Wilford White, who has been appointed District Engineer, Western District, Canadian National Rys., Edmonton, Alta., was born at Clinton, Ont., Nov. 29, 1880, and entered railway service in June, 1889, since when he has been, to Oct., 1899, junior clerk, Manager's office, C.P.R., Winnipeg; Oct., 1899, to Apr., 1900, junior clerk, engineer's office, C.P.R., Winnipeg; Apr., 1900, to June 1901, chairmanand rodman, Western Lines, C.P.R.; Sept., 1901, to Apr. 1905, rodman, etc., Western Lines, Canadian Northern Ry.; Apr., 1905, to Apr., 1906, instrument man and inspector on bridge construction, Western Lines, C.N.R.; Apr., 1906, to Dec. 31, 1918, Assistant Engineer, chiefly engaged on bridge construction, Western Lines, C.N.R.

Machine Tool Equipment for Leaside Shops, Canadian National Railways.

The Canadian National Rys. invited tenders recently for the following machine tools, etc., for its Leaside shops, Toronto:—

1	34 x 10 x 20 in. Universal milling machine	belt driven
1	16 in. x 6 ft. Tool-room lathe	belt driven
1	Heavy duty double end axle lathe	motor driven
1	48 in. x 48 in. x 15 ft. 4-head planer	motor driven
2	Turret lathes, 2¼ x 24 in.	belt driven
2	26 in. x 8 ft. engine lathes	belt driven
4	18 in. x 6 ft. engine lathes	belt driven
2	36 in. vertical drills	belt driven
2	25 in. vertical drills	belt driven
1	6 in. radial drill	motor driven
1	Beaudry or Fairbanks hammer	motor driven
1	18 in. wood worker	belt driven
1	72 in. horizontal boring machine	motor driven
1	84 in. vertical boring turning drill	motor driven
1	72 in. planer type surface grinder	belt driven
1	24 in. Morton draw cut shaper	belt driven
1	set 54 in. throat punch and shear, heavy duty	motor driven
1	22 ft. tube rumbler	belt driven
1	Lincoln welding set, suitable for 550 volts, 3 phase, 25 cycles.	
1	Mephisto welder, suitable for 550 volts, 25 cycle, to be mounted on castors.	

Toronto University, Applied Science Building.—The Engineering Building used for many years by the Applied Science Faculty, Toronto University, and which has always been an eyesore on account of its ugliness, will, it is said, be pulled down, the Ontario Government having decided to provide $350,000 for the erection of an electrical engineering building to take its place.

Traffic Orders by Board of Railway Commissioners.

Interswitching at Brandon.

28063, June 27. Re application of Canadian Northern Ry. for an order amending order 14606, Aug. 21, 1911, providing for interswitching at Brandon. Upon hearing what is alleged in support of the application, the C.P.R. consenting; and upon the recommendation of the board's Chief Traffic Officer; and upon its appearing that clause 2 of order 14606 conflicts with clause 7 of the General Interswitching Order 252, Oct. 28, 1918. it is ordered that order 14606 be amended by striking out the words and figures "eight dollars ($8)" in the eighth line of clause 2 and substituting therefore the words and figures "twelve dollars ($12)."

Rates on Agricultural Lime or Stone Dust.

28073. Feb. 5. Re application of Henderson Farmers' Lime, Ltd., Woodstock, Ont., for suspension of proposed increase in rates on agricultural lime or stone dust from Kirkfield, Ont. Upon reading what has been filed in support of the application, and upon its also appearing that a similar advance in rates on the same commodities is proposed from Beachville, Ont., it is ordered that G.T.R. supplement 16 to Tariff C.R.C. no. E-4024, and the cancellation of item 195 in C.P.R. supplement 14 to Tariff C.R.C. no. E-3551 be suspended pending hearing at a date to be fixed by the board.

Commodity Rates on Cheese.

28088. Feb. 13. Re application of Montreal Board of Trade for suspension of proposed cancellation of commodity rates on cheese to Montreal by C.P.R., G.T.R. and Canadian National Rys.. Upon reading what is filed in support of the application, it is ordered that Supplement 3 to C.P.R. Tariff C.R.C. no. E-3383, Supplement 5 to G.T.R. Tariff C.R.C. no. E-3411, and Supplement 1 to Canadian Northern Ry. Tariff C.R.C. no. E-1121 be suspended pending a hearing of the matter on a date to be fixed by the board.

Canadian National Railways Tariffs.

28089. Feb. 10. Re application of the Canadians National Rys., under the amending Act 7-8 Edward VII, sec. 11, chap. 51, for approval of a bylaw enacted by the Canadian Northern Ry. directors, Jan. 10, 1919, authorizing B. E. Perry, Assistant General Freight Agent, Montreal, and W. Hately, Assistant General Freight Agent, Winnipeg, to prepare and issue freight tariffs, and H. H. Melanson, Passenger Traffic Manager, Toronto, R. F. MacLeod, Assistant to Passenger Traffic Manager, Montreal, R. L. Fairbairn, General Passenger Agent, Toronto, and R. Creelman, Assistant Passenger Traffic Manager, Winnipeg, to prepare and issue passenger tariffs, in the districts specified in the bylaw, in respect of tolls upon freight and passenger traffic of every description, to be charged by Canadian National Rys. upon its railways or any part thereof. Upon recommendation of the board's Chief Traffic Officer, it is ordered that the bylaw be approved.

Rates on Live Poultry.

28090. Feb. 11. Re application of J. H. Warrington, of Cornwall, Ont., and others for a reduction in class rating on carload [illegible] on shipments of live poultry. Upon reading the application and what is alleged in support thereof, and on behalf of the Canadian Freight Association, and upon the recommendation of the board's Chief Traffic Officer, it is ordered that the application be dismissed.

Rate on Second Hand Rails.

28111. Feb. 18. Re complaint of the St. Lawrence Pulp & Lumber Corporation against rate of $23.07 a gross ton on second hand rails from Matapedia, Que., to Vancouver, B.C., published in Canadian Freight Association Tariff C.R.C. 12, effective April 22, 1918, as excessive and unjust, and requesting reparation on shipments made subsequent to April 9, 1918, to the basis of rate of $14.79 a gross ton from Montreal to Vancouver, published in Canadian Freight Association Tariff C.R.C. 6, effective Mar. 9, 1918, expiring April 9, 1918, with the addition of the customary arbitrary of $1.12 a gross ton from Matapedia to Montreal. Upon hearing the complaint at Ottawa, Dec. 17, 1918, in the presence of counsel for the Canadian Pacific and the Grand Trunk Railways, the complainant being represented, and what was alleged, and upon reading the further written submission filed on behalf of the C.P.R., it is ordered that thec omplaint be dismissed.

Changes in Passenger Fares.

The following changes went into effect Feb. 1, between stations in Eastern Canadian Passenger Association territory, Quebec, Levis, Megantic and west, including Canadian National Rys. via Canadian Northern lines, Intercolonial Division, Quebec, Levis, and west, and Transcontinental Division, Quebec and west.

The ordinary one month round trip fares were increased to the basis of 10% less than double the one way fare. Any fraction of 5c less than 2½c is waived by the carrier, and every 2½c and up [illegible] considered as 5c by the carrier. The basis in effect previous to Feb. 1 was 16 2/3% less than double the one way fare.

Also effective Feb. 1, the charge for 1,000-mile tickets was made [illegible], instead of $25 as theretofore. The former price for a mileage book was the same as the mileage basis of the return fare, and since the new return fare is [illegible] a mile, the price of mileage books was raised to correspond.

Tariffs covering the foregoing were filed with the Board of Railway Commissioners, and are also open for the public's inspection, during office hours, at all ticket offices. As these are special tariffs lower than the standard, they do not require the board's affirmative approval. They were filed on three days' notice and remain in effect until they are superseded or are disallowed by the board.

The basis for one month round trip fares mentioned above also became effective on all other Canadian railways on Feb. 1, that is, on the western lines as well as those in E.C.P.A. territory. Mileage books are not issued on lines west of Port Arthur or Armstrong, Ont.

The Canada Steamship Lines' Traffic Department advises Canadian Railway and Marine World, Feb. 24, that it has not decided whether it would join with the railways in advancing fares between Quebec and Montreal and between Montreal and Toronto.

Canadian Locomotive Co., Kingston, Ont.—Consequent on the death of J. J. Harty, in England, F. G. Wallace, of Pittsburg, Pa., heretofore Vice President, has been elected President, and [illegible] K.C., of Kingston, has been elected Vice President.

Payment of Transportation Charges on a Cash Basis.

The Canadian Railway War Board issued circular 97 Feb. 3, superseding circular 86 and supplements thereof.

Effective Mar. 1, 1919, the collection of transportation charges (including demurrage and storage charges) by railways operating in Canada, for services rendered, shall be on a cash basis, and, effective as of that date, credit accommodations then in existence which may be in conflict with the following regulations shall be cancelled:

1. Tickets shall be sold only for cash in advance of service. Baggage charges are subject to the same rule as tickets, except c. o. d. baggage and storage charges, which must be paid in cash before delivery.

2. In cases where the enforcement of this rule with respect to freight will retard prompt movement or delivery of the freight or the prompt release of equipment or station facilities, carriers will be permitted to extend credit for not exceeding seven days after receipt for shipment of a consignment, if it be prepaid, or after delivery at destination if it be a collect consignment (see clause 6) provided the consignor, if it be a prepaid consignment, or the consignee, if it be collect, file a surety bond; either individual (not connected with the business for which credit is requested) or corporate surety company or bank guarantee, in an amount satisfactory to the treasurer or other properly designated officer of the carried. The form of such bond shall be as per form attached, conditioned upon and providing for payment of all charges within seven days after forwarding or delivery of the freight. Upon receipt and acceptance of such bond a carrier may accept and forward prepaid consignments or may deliver collect consignments in advance of payment of all charges thereon, to the amount covered by the bond. Failure to pay such charges within the time prescribed will automatically cancel such credit.

3. Treasurers or other properly designated officers of individual carriers are required to arrange and conduct all matters relating to such credits. They shall designate the amount and accept or reject the surety offered. Bonds may be required and accepted for individual consignments, or blanket bonds may be accepted from individual shippers or consignees, to cover all of their consignments for a given period. The period of credit in such cases shall, however, be limited to seven days on each shipment as herein prescribed. Where shipper or consignee so desires, one bond may be taken out to cover two or more points. The name of each point and proportion of amount of bond applicable to each point, however, must appear in bond.

4. Premiums on all bonds and all expenses incident thereto shall be borne by the applicant for credit to whom the accommodation is granted.

5. Cheques within the instructions issued by the individual railways to their agents will be considered as payment in cash. At points where there are no banking facilities or where firms have no accounting office, arrangements may be made, subject to the carrier's treasurer or other duly authorized officer, whereby representative of shipper or consignee may settle by giving the carrier's agent a sight draft on shipper or consignee. Remittance of draft, in these circumstances, attached to expense bills, to treasurer, or other designated officer of carrier, will be accepted as cash. Where acceptance of draft as cash as herein provided is arranged, shipper or consignee, as the case may be, shall absorb the amount of exchange on such draft.

6. In computing the credit period the following will govern—

(a) Prepaid shipment. Credit period shall be computed from time shipper is notified of amount due the carrier covering transportation of the shipment or shipments concerned.

(b) Collect consignment. Credit period shall be computed from time consignee is advised of charges due or time goods are made available for delivery, whichever may be the later.

(c) In either instance where notice of charge due is mailed shipper or consignee, as the case may be, shall be held to have been notified at 7 a.m. following date of mailing.

7. Transportation charges on freight placed in storage, either on property of carrier or in private warehouses, on order of shipper or consignee, after arrival at ultimate destination, are due and payable when such freight is placed in storage. If charges are not collected from the warehouse company, they should be collected from the consignee, under the terms of this circular, or immediately succeeding the time of the placement in storage and not after final delivery to consignee.

8. In the handling of cars in connection with "industrial" railways, delivery shall be considered to have been accomplished and transportation charges due—

(a) When cars are placed upon sidings or team tracks of so-called plant facility industrial railroads, either those connecting directly with the road haul carrier or those located on terminal switching lines.

(b) When placed on interchange tracks with industrial railroads.

(c) Under the provisions of paragraphs (a) and (b), cars will also be considered as delivered when constructively placed as provided by demurrage rules.

(d) The provisions of paragraph (a), (b), and (c) do not apply to "common carrier" industrial railways so long as in good faith deliveries are promptly made by them to consignees and the trunk line carrier's agent is furnished with adequate information with respect to such deliveries so as to permit the prompt rendition of the freight bills.

9. In case of any question as to accuracy of charges, bills must be paid as rendered and claims presented for alleged errors. This will not prevent adjustments by agents of obvious error. An obvious error is one on which both railway agent and shipper or consignee are agreed and which may be corrected without further investigation. In circumstances where the carrier's representative is unable to recognize the inaccuracy claimed by shipper or consignee prior to settlement, the ruling embodied in the first sentence of this paragraph shall govern.

Agents are required to revise their bills properly before presenting for payment, but there is no objection to the consignor or consignee checking the bills and paying charges on the corrected basis, providing the practice is not abused and they proceed in good faith with a revision of the bill, both for undercharges and overcharges. Consignor or consignee should make the change in red ink and the tariff authority for the change should be indicated upon the bill.

In the event of settlement being made on corrected bill and the correctness of the consignors or consignee's action is not apparent to the railway representative, due bill for the deducted amount shall be rendered promptly and credit period of seven days allowed on the supplementary bill, computed from time of service or mailing, as prescribed in clause 6, paragraph (c) hereof.

10. Freight consigned "to order" or "to, order notify" shall be delivered only upon surrender to the agent of the carrier of the original bills of lading for such freight and the payment of the freight charges thereon as hereunder provided. Provided, however, if such bill of lading be lost or delayed, the freight may be delivered in advance of surrender of the bill of lading upon receipt by the agents of a certified cheque for an amount equal to 110% of the invoice, or upon receipt of surety bond, either individual or corporate, acceptable to the Treasurer or other properly designated officer of the carrier in an amount for twice the amount of the invoice.

11. In the event of cancellation of credit by one carrier for failure to pay transportation charges within the prescribed credit period, the carrier cancelling credit shall immediately notify other railways concerned, who shall make similar cancellation. Similar notice shall be given as between carriers in the event of the cancelled credit being re-established.

12. The foregoing regulations shall apply to shipments delivered to and received from consignors and consignees by cartage companies, as well as to shipments handled direct between consignor and consignee and carrier.

13. Until otherwise ordered, these regulations shall not apply to transportation service rendered departments of the Dominion Government; nations allied with Canada in war; the various Provincial Governments of Canada; the counties and municipal governments; transportation and authorized cartage companies.

14. Advice of the foregoing regulations shall be given promptly to all to whom credit accommodations are now given to the end that the regulations may be put into effect at the time specified with as little inconvenience as possible.

Postponement of Regulations.

The board issued the following circular Feb. 28:—This will confirm telegraphic notices issued to member lines Feb. 27, reading as follows:—

1. "Referring article 2, circular 97. Where literal application of terms of circular with respect to cash collection of transportation charges would involve undue delay to traffic, or congestion of facilities, account holding shipments, either collect or prepaid, until cash actually in hands of railways, carrier's agent should apply to treasurer or other duly authorized officer of railway for authority to grant 48 hours credit without bond."

2. "Although majority of the larger railway patrons have arranged to comply with terms of board's circular 97, board is informed that in certain localities, notice of cancellation existing credits and establishment credits pursuant to circular was late in reaching public from railways, sufficient time not having been allowed for shippers to provide bonds. It is suggested that in such circumstances, with a view to minimizing inconvenience to public, account change of methods, arrangements should be made

for continuation of present credits for reasonable length of time, but not later than June 1, 1917, to permit shippers and consignees to procure and file bonds. Acknowledge."

While the period during which present credit arrangements may continue in effect has been extended to June 1, 1919, it is on the understanding that railway representatives, shippers and consignees, will proceed in good faith with the completion of arrangements under the terms of circular 97, so that the entire system will be in condition for inauguration at all points throughout the country not later than the date mentioned.

Canadian Transportation Men, Engineers, Etc. in the War.

C.P.R. Employes in the War.—Since the outbreak of war, 9,629 C.P.R. employes joined the army. Of these 842 are dead, 1,844 were wounded and 1,108 have been re-employed. The company is employing 1,557 soldiers who were not previously in its service, so that it has given work to 2,665 returned soldiers.

The Timiskaming & Northern Ontario Railwaymen's Patriotic Association, up to Nov. 30, 1918, contributed $96,872.37 to the Canadian Red Cross and the Canadian Patriotic Funds, exclusive of personal subscriptions made direct by members of the commission and employes.

PERSONAL NOTES.

Lieut.-Col. H. L. Bodwell, C.M.G., D.S.O., who died of pneumonia at St John, N.B., when returning from the front, recently, was born at Ingersoll, Ont., Oct. 13, 1881, and educated at the Royal Military College, Kingston, Ont. He was one of the engineers on the construction of the Grand Trunk Pacific Ry., and later was an instructor in civil engineering at the Royal Military College. In 1907 he was appointed Resident Engineer of the Canton-Hankow Ry., at Kwong Tung, China, and later returned to Canada, where he was for some time on railway construction with Foley, Welch & Stewart. On the outbreak of war he enlisted, was wounded at St. Eloi in Apr., 1916, awarded the D.S.O. in Sept., 1916, appointed Assistant Director of Light Railways in Dec., 1916, and was subsequently made a Companion of the Order of St. Michael and St. George, and also awarded the Croix de Guerre by the French Government. The official notice in the London Gazette stated that he directed, with great competence and sustained energy, and carried to a successful completion, in the minimum of time, in spite of conditions of working which were often difficult, the construction and putting into operation of a new system of 60 kilometers of railway, which greatly facilitated the supply of the French troops.

Col. J. S. Dennis, C.M.G., Chief Commissioner of Colonization and Development, C.P.R., and Canadian Commissioner with the Siberian Expedition, has, it is said, been placed in charge of the united Canadian and British Red Cross organizations for this expedition.

Major A. deCourcy Meade, M.C., who was killed in a motor accident near Drogheda, Ireland, recently, was formerly engaged on railway construction in Western Canada. He enlisted in 1914, and went to France early in 1915, and was there continuously until after the signing of the armistice.

Brigadier General J. W. Stewart, formerly of Foley Bros., Welch & Stewart, railway controctors, Vancouver, B.C., and who was appointed Director of Transportation in France and Flanders towards the end of the war, has been made a Companion of the Order of the Bath, in recognition of his work in connection with railways during the war.

Major W. G. Swan, who received the Distinguished Service Order recently, also holds the French Croix de Guerre, and has been mentioned in dispatches twice. Prior to entering the army, he was on the Canadian Northern Ry. engineering staff at Vancouver, B.C., as Division Engineer in charge of construction from Steveston to Hope. He enlisted in the 131st Battalion, and on arrival overseas he was transferred to the Railway Troops, being for 20 months with the Imperial Army, and later being transferred to the Canadians.

Capt. J. A. Tuzo, who was killed in action in German East Africa in the early part of 1918, was born in England in 1874, and came to Canada in 1897, and was engaged in mining in Yale District, B.C., for about 8 years, and later took up railway work in the U.S. and in British Columbia. In 1907 he was Resident Engineer, Spokane, Portland & Seattle Ry., and 1910 was Resident Engineer, Kettle Valley Ry., Midway, B.C. On the outbreak of war he returned to England and received a commission in the Imperial Army.

Railway Finance, Meetings, Etc.

Canadian Northern Rolling Stock Co.—There has been deposited with the Secretary of State at Ottawa duplicate original of a lease dated Jan. 2, made between the company and the Canadian Northern Ry., covering certain rolling stock, there being attached to the lease an assignment to the Pennsylvania Co. for Insurance on Lives and Granting Annuities.

Elgin & Havelock Ry.—A meeting of the shareholders of the company was called to be held at Halifax, N.S., Feb. 17, to ratify an agreement for the sale of the company's railway in New Brunswick to the Dominion Government, and for the transaction of other business in connection with the winding up of the company's affairs.

Grand Trunk Pacific Ry.—An issue of G.T. Pacific Ry. bonds, guaranteed by the Dominion of Canada, was placed on the Canadian market Jan. 29. The issue, which amounts to $5,2[illegible], was authorized in 1914, bearing interest at [illegible], and is redeemable in 1962. The issue price was 75.37, yielding [illegible]. The issue is reported to have been entirely taken up on the day of issue, 80% being taken by Canadian institutions. This is the first time the G.T.R. or the G.T. Pacific Ry. has made an offering of securities on the Canadian market.

Michigan Central Rd.—There has been deposited with the Secretary of State at Ottawa an agreement dated Dec. 31, 1918, made between [illegible] Carstensen and others, the Guarantee Trust Co. of New York, and the Michigan Central Rd., relating to the Michigan Central Rd. Equipment Trust of 191[illegible].

North Shore Ry.—The New Brunswick courts have ordered the sale of seven parcels of land owned by the North Shore Ry., as successor to the old Beersville Coal & Ry. Co., in connection with the action brought by G. W. Fowler against the company. The sale is fixed for Mar. [illegible], at Kent Jct. station, N.B. The lands seized under the order are those sold to the Beersville Coal & Ry. Co. for a right of way by P. Beers and wife; W. Stevens and wife; E. Ogden; T. Burgess; G. Reed; R. N. Reed, and J. F. Irvine.

Quebec & Saguenay Ry.—The Quebec Savings & Trust Co., acting as trustee for the holders of two issues of the company's bonds, is offering for sale by tender, to Mar. 4, the company's railway from the junction with the Quebec, Montmorency & Charlevoix Ry. to Nairn Falls. The first is of $3,[illegible] 1st mortgage bonds, dated Jan. [illegible], 1911, and the second is of $2,[illegible] 1st mortgage bonds dated Mar. 20, 1912, the whole of both issues being held by the Quebec Ry., Light, Heat & Power Co. The minimum price is $[illegible], and the railway will be delivered to the purchaser free and clear of all charges, encumbrances or claims. The purchase price is to be paid 20% at the time of making the offer and the balance on the execution of the deeds.

Timiskaming & Northern Ontario Ry.

	Dec. 1918	Dec. 1917
Passenger revenue	$[illegible]	$[illegible]
Freight revenue	[illegible]	[illegible]
Total revenue	$[illegible]	$[illegible]

Tobique Valley Ry. Extension Co.—A meeting of shareholders has been called to be held at Andover, N.B., Mar. 4, to receive the annual statement of accounts, to elect directors, to make a call of 10% on the capital stock, and to transact other business. J. W. Niles is Secretary. The company was formed some years ago under a New Brunswick charter to build a line from Plaster Rock, the terminus of the Tobique Valley Ry., extending from Andover to Plaster Rock, and operated by the C.P.R., to Riley Brook, and other points in the interior of the country. Plaster Rock is also a station on the National Transcontinental Ry., at mileage 165 from Moncton.

Canadian National Railways Earnings, Expenses, Etc.

Approximate earnings for January, $[illegible], against $[illegible] for Jan., 1918, and for two weeks ended Feb. 14, $[illegible], against $[illegible] for same period 1918.

Canadian Pacific Railway Earnings, Expenses, Etc.

[illegible]

	Gross earnings	Expenses	Net earnings	Increase
Jan.	$[illegible]	$[illegible]	$[illegible]	$[illegible]
[illegible]	$[illegible]	$[illegible]	$[illegible]	

Approximate earnings for [illegible] ended Feb. [illegible], $[illegible], against $[illegible] for same period 1918.

Grand Trunk Railway Earnings, Expenses, Etc.

Approximate earnings for January, $[illegible], against $[illegible] for Jan., 1918, and for two weeks ended Feb. 14, $[illegible], against $[illegible] for same period 1918.

Grand Trunk Pacific Ry. Earnings.

Approximate earnings for January, $[illegible], against $[illegible] for Jan., 1918.

Canadian National Railways Construction, Betterments, Etc.

General Betterments, Extensions, etc.—As stated in Canadian Railway and Marine World for February, it is said that the Dominion Government has consented, subject to parliamentary approval, of an expenditure of at least $50,000,000, and possibly $60,000.000, this year, of which $20,000,000 will be required for rolling stock already and about to be ordered, and possibly the expenditure under this head will be increased to $30,000,000. Betterments, extensions, etc., will probably require at least $20,000.000, and possibly $30,000,000.

While no definite figures are yet available, ministers gave some general particulars in the House of Commons recently in the debate on the speech from the throne. The Finance Minister said on Feb. 25:—"To give an idea of the amount of money which will be involved in the programme which I have outlined, it will be sufficient to say that it is estimated that there will be required $35,000,000 for rolling stock and material such as steel rails. In addition to that, a sum exceeding $20,000,000 will be needed for railway extensions and more than $10,000,000 for betterments and improvements. The government lost no time in taking up these important plans, which are useful and advantageous from the national standpoint in adding to our national railway plant and equipment, and which will, at the same time, provide employment for thousands of men."

The Minister of Public Works said on Feb. 26:—"I am speaking from memory, and did not expect to be asked about this railway question particularly. There is provision, as I recollect it, of about $10,000,000 for the construction of branch lines in the west. I think that this expenditure for the west will be pretty well confined to lines already partially constructed. Many of these lines have been graded and are only waiting for the rails. In general terms, the idea is to extend those lines already under construction, but, in addition, very large sums are to be expended on betterments over the whole government system. This will distribute the money all over the country and will provide employment."

President D. B. Hanna is reported to have said at Ottawa, Feb. 4:—"The Canadian National Rys. management has in contemplation a programme of construction, betterments and augmentation of motive power and rolling stock, which will give employment to some fifteen thousand men, and will involve an expenditure of many millions of dollars."

Since the above was put in type, Canadian Railway and Marine World has been advised that the total appropriations required for the Canadian National Rys. this year, for rolling stock, betterments, extensions, etc., will be about $60,000,000. The rolling stock will be added to, so as to provide for a daily train service both ways between Montreal, Toronto and Vancouver, and for the demands caused by increased freight and passenger traffic over the whole system. There will also be an extensive programme of betterments from coast to coast, and a number of extensions will be built in the west.

On the Eastern Lines, the Halifax ocean terminals construction will be proceeded with, as fast as circumstances will permit. Some second track will be built from division points in both directions. A number of passing tracks will be extended, and new ones built, and yards will be enlarged. There will be a large expenditure for renewal of bridges, to accommodate the heavier locomotives which will be operated. A number of passenger and freight stations will be enlarged, a number of section houses will be built, also a number of workmen's houses at divisional points, to better employes' living conditions. Some locomotive houses will be enlarged to accommodate larger locomotives, water supply stations will be improved and a number of coal handling plants and ice houses will be built. The National Transcontinental Ry. shops at St. Malo, Que., will be equipped and opened.

On the Western Lines, very similar general work of betterments to that on the Eastern Lines will be done. A considerable number of section houses and workmen's houses will be built. Terminal facilities generally will be improved as business necessitates. There will be an extensive construction programme on the Western Lines, track will be be laid on over 200 miles of lines already graded, and some extensions will be graded and laid with track, making about 350 miles of new track to be laid. The rails for these branches will be taken from the main line, where they will be replaced by heavier rails, making a total of about 700 miles of track to be laid altogether.

A large amount of ballasting and bridge filling will be done over the entire system, both Eastern and Western Lines.

In addition to the large orders already placed, and to be placed, for rolling stock, orders will have to be given for a very large amount of material, including some 50,000 tons of steel rails, some millions of ties, and considerable quantities of track bolts, plates and spikes, piling and bridge timber. It is expected that the works outlined above will give employment to some 15,000 men.

Intercolonial Ry.—The Sydney, N.S., Board of Trade, on Feb. 4, heard a deputation from the Farmers' Association, asking co-operation in endeavoring to secure the building of a railway into Sydney via East Bay. The matter will, it is said, be brought before the House of Commons by members, and the Farmers' Association and the Board of Trade will forward resolutions of approval.

The Halifax Board of Trade at its recent annual meeting passed a resolution favoring the building of a second track from Moncton, N.B., to Halifax, N.S.

A Fredericton, N.B., press report states that among the appropriations to be asked from Parliament at the current session will be one for $800,000 for improvements on the old Canada Eastern Ry., between Fredericton and McGivney Jct., in order to make it suitable for the operation of trains into St. John, over the St. John & Quebec Ry. The work to be done on the section of the line referred to will include a reduction of gradients and curvature, and the laying of heavier rails. Surveys were reported to be in progress Feb. 11.

It is also reported that it is contemplated to erect in a near future a new bridge over the St. John River at Fredericton, at an estimated cost of $1,000,000. Boring operations for testing for foundations were reported to have been started Feb. 17.

National Transcontinental Ry.—Mayor Lavigeur, on returning to Quebec, Feb. 11, from Toronto, was reported to have said D. B. Hanna President Canadian National Rys., informed him that the N.T.R. shops at St. Malo, Quebec, will be opened within six months.

A press report states that it is contemplated to build a line from Montreal via Cartierville to La Tuque, Que., which is on the St. Maurice River, and on the National Transcontinental Ry.'s main line, mileage 583 from Moncton, and is the terminus of a Canadian Northern Ry. branch

Canadian Northern Ry.—The temporary bridge to carry the company's traffic, etc., over the St. Charles River, at Quebec, was opened for traffic Feb. 7. It is expected that the new steel bridge will be opened for traffic in May. The Dominion Bridge Co. is the contractor.

An Ottawa press report of Feb. 18 stated that the company's shops at Rideau Jct., Ottawa, will be closed before long, and that new shops will be erected on the north bank of the Rideau Canal, within the city limits. A site of over four acres is reported to have been secured for this purpose.

President D. B. Hanna is reported to have said in an interview at Ottawa, Feb. 4, that this year's work on the C.N.R. will include the laying of 85 lb. steel rails on many portions of the main lines, where traffic is heavy, notably between Port Arthur and Winnipeg. The Goose Lake line, for 40 miles between Hanna and Wayne, in the Drumheller coal-bearing region, would be double tracked as soon as possible, and later the whole line to Calgary will be double tracked.

We are officially advised in regard to the Hanna-Medicine Hat line, that the starting point is at Bonar, the first siding east of Hanna, and its terminus at Medicine Hat, 144 miles. Grading has been completed from Bonar to the Red Deer River, approximately 59 miles, and 3 miles of track have been laid from Bonar. It is proposed to lay rails on the completed grading to the Red Deer River. Grading will be continued from the Red Deer River toward Medicine Hat, and possibly some track will be laid this year. The line has an easy gradient and curvature. The track will be of 80 lb. steel. The W. J. Cowan Co., Winnipeg, had the contract for the grading of the first seven miles, and the W. J. Dutton Contracting Co., Winnipeg, had the contract for grading from mileage 7 to to 59. It is expected to start construction on the bridge across the Red Deer River at an early date.

The British Columbia Premier is reported to have stated recently that President D. B. Hanna had advised him of the early starting of construction on the Kamloops-Vernon branch line. This will mean taking the present line from the north side of the South Thompson River across the river into the City of Kamloops and southwards through the Grand Prairie locality. At present the line parallels the North Thompson to the Y across the South Thompson from Kamloops, proceeding for that point westward across the North River bridge to the coast. We were advised in January that the bridge across the Thompson River at Kamloops had been completed, and that the grading of the line into Kamloops would be gone on with this year.

Tenders have been asked up to Mar. 15 for the excavation and lining of the Rosebud Valley tunnel, on the proposed revision of the line in the vicinity of mileage 334.00, Calgary Subdivision. The proposed tunnel is on the line from Saskatoon to Calgary, and is situated between Benyon, mileage 330.4, and Rosebud, mileage 339.00.

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Railway Tribute to Ex-Premier.—On Feb. 22, when the late Sir Wilfrid Laurier was buried, all work was suspended on the railways throughout Canada for one minute. Representative officials of the various railways attended the funeral at Ottawa.

Government Control of British Railways.

London press dispatch, Feb. 28, by British wireless service:—Publication of the government's transport bill, which has been introduced in Parliament, shows that it will give the Minister of Transport complete control over every conceivable form of land transport. The bill provides that complete management of the railways of the United Kingdom is to be conducted by the state for two years, partly to enable the government to make the railways pay dividends, and partly to facilitate the movement of men and material during the period of reconstruction. Complete power is given to the Minister, during the two years, to settle all railway rates and charges, salaries and wages and conditions of employment, and to make any alterations in the policy of the roads and accounts that he may deem advisable. The Minister is authorized to purchase various kinds of railway companies by agreement or by compulsion. Under these provisions he could purchase, in whole or in part, any railway, light railway, street car company, canal, inland waterways or harbor and dock undertakings during the first two years of the ministry.

The Hamilton Railway Location and Terminals Question.

The following report was approved at Ottawa by the Privy Council Jan. 30:—"The committee of the Privy Council, after having duly considered the appeal of the City of Hamilton, dated Dec. 18, 1918, against orders 27843 and 27857 of the Board of Railway Commissioners, and having heard the appellant in support thereof, on Jan. 22, have come to the conclusion that as the circumstances under which said orders were issued have been altered by the signing of the armistice, the matter should be referred to the Board of Railway Commissioners for the reconsideration of the said orders, and for any further action in the premises which, under present conditions, it may now deem advisable."

One of the orders in question authorizes the Toronto, Hamilton & Buffalo Ry. to expropriate some city property for the extension of its Kinnear yards, and the other authorizes the company to lay four additional tracks across Selby Ave. In connection with these matters, certain city property was to be leased to the T. H. & B. Ry. temporarily.

G. A. Mountain, Chief Engineer, Board of Railway Commissioners, was in Hamilton, Jan. 29, and following days in consultations with R. L. Latham, Chief Engineer, T. H. & B. Ry., and N. Gray, City Engineer, upon the various matters involved. In the course of an interview, he is reported to have said that the proposition to be dealt with was one of the most difficult he had ever had. The carrying out of the recommendations of the Fye-Cauchon report would mean the complete tearing up of the eastern section of the city. It calls, for instance, for the abolition of the Ferguson Ave. cross town line, the elimination of the T., H. & B. Ry. through line in the south end of the city and the wrecking of two stations. A number of manufactories, with big investments, would have to be transferred to new locations. This means the expenditure of millions of dollars. Upon the completion of Mr. Mountain's report on the situation the board will fix a date for the rehearing of the matters covered by the two orders.

In the meantime the city council has made application to the Ontario Legislature for authority to build a line from the T. H. & B. Ry. in lot 29, con. 4, of Saltfleet Tp., northerly to the Grand Trunk Ry., Northern and Northwestern Division in lot 29 or 30 broken front concession of Saltfleet Tp., and to authorize the council to pass bylaws, with the assent of the ratepayers, to provide the funds necessary for the construction and operation of the line; and further to authorize the passing of a bylaw for the expenditure of $15,000 to complete the filling in of Sherman inlet, between the T. H. & B. Ry. belt line and the G.T.R. Northern and Northwestern Division.

A special meeting of the civic railway committee was called for Feb. 21 to consider a proposed application to the Board of Railway Commissioners to approve plans for the extension of streets extending up the side of the Mountain, east of Sherman Ave.

Reported Sale of National Steel Car Company.

It was reported on the Toornto Stock Exchange, Feb. 25, that negotiations had been completed for the purchase of the National Steel Car Co.'s plant at Hamilton, Ont., by the American Car & Foundry Co., and that it would be operated for the handling

A New York press despatch of Feb. 25 said: "Information circulated in the financial district today to the effect that negotiations are being carried on between the American Car & Foundry Co. and the National Steel Car Co. of Hamilton, Ont., for the acquisition of the latter by the former attracted considerable attention. When an officer of the company was asked to deny or affirm the report he refused to comment upon it, saying that he might have a statement to make on the matter in the course of a few days. This was interpreted in some quarters to mean that a deal is on, but has not been completed as yet."

The Hamilton Spectator said on Feb. 26: "Sir John Gibson, the President, has stated day after day that no deal had been closed whereby the control of the local company had changed hands. Today he stated that there was 'no change in the situation.'"

A Hamilton press despatch of Feb. 27 said: "Sir John Gibson today confirmed the report that negotiations for the purchase of the National Steel Car Co., by the American Car & Foundry Co., were in progress, but he declined to say anything further."

A New York press despatch of Feb. 27, said that the purchase had been concluded.

Moose Jaw, Sask., wants the C.P.R. to build an hotel there.

Consolidated Railway Act.—The first bill introduced in the Senate at Ottawa this session is "An act to consolidate and amend the Railway Act," which has been under consideration by parliament for several sessions.

The Canadian Engineering Standards Association has been incorporated under Dominion law by Sir John Kennedy, Prof. R. F. Ruttan, R. J. Durley and H. H. Vaughan of Montreal. The objects are to coordinate the various producers and users for the improvement and standardization of engineering materials and the general adoption of standards in connection with engineering structures, materials, etc.

Canadian Pacific Railway Construction, Betterments, Etc.

Betterment Work for 1919.—We are officially advised that the betterments to be made on the system during this year include the following:—Tie renewals, bridge work, locomotive turntables, ballasting, ditching, tile drains, etc., tie plates and rail anchors, station and building work and erecting section dwelling houses, laying sidings and yard tracks, terminal and other improvements, water supply, pipe lines, tanks, etc.; automatic signals and interlocking plants; fencing, repairs and renewals; telegraph work, renewals and improvements; additional plant for British Columbia lake and river steamboats, and other miscellaneous work.

Repairs and renewals of bridges covers, in addition to ordinary maintenance, the putting in of heavier spans between Guy St. and Green Ave., Montreal, as well as a large amount of new culverts and culvert extensions. New turntables will be constructed at various points. The ballasting, ditching, tile draining, tie plates and rail anchors will be largely improvements of present tracks. The station building work will include a number of minor stations, and additions and improvements of old stations, as well as new platform and other work; also some new freight sheds and freight shed facilities. About 38 dwellings are to be built as section and dwelling houses for the accommodation of employes, in order to attract a good type of labor. The siding and yard tracks to be laid will be additions to present yard accommodation at various congested points. The water supply and pipe lines will include a number of steel tanks, new pipe lines and some pumping machines, as well as dam and other work. Automatic signals will be installed between Guelph Jct. and Galt, Ont., and interlocking plants at Walkerton, Ont., Saskatoon, Sask., will be renewed. In addition to the ordinary fencing repair work, there will be some new fences put up, and some additional tree planting for snow protection. The miscellaneous work will cover a large amount of small work in renewing floors, roofs, skylights, piping, boiler and other work at a large number of locations all over the system. The telegraph work will include a new copper wire line from Halifax to Winnipeg, and from Toronto to Windsor, Ont., as well as dispatcher telephones, together with the usual renewals and improvements.

The British Columbia lake and river steamship work will include maintenance and general repairs, as well as the purchase of a new tug for the coast service, and a transfer barge for lake service.

Grant Hall, Vice President, made a trip of inspection of the company's lines east of Montreal recently, during which he looked into various matters connected with the construction programme for 1919. A. D. MacTier, Vice President, Eastern Lines, was in London, Feb. 18, and Hamilton, Feb. 20, looking into similar matters.

Employes Houses at Fredericton.—A press report states that the company proposes to build 30 new houses at Fredericton, N.B., for its employes.

Ontario District.—We are officially advised that there is no foundation for recent press reports that the C.P.R. has under consideration plans for electrifying its line between Toronto and Windsor, Ont.

Manitoba District.—A press report states that among the betterments which will be carried out during this year at Fort William, Ont., will be the paving of the large stock yards with concrete for permanency and the placing of new ties and steel in different parts of the yards. At Raith, a few miles west of Fort William, the company will build a large coal handling plant, and it is said that new ties will be laid on a considerable portion of the right of way from Fort William west.

Tenders were received to Feb. 28 for the construction of reinforced concrete culverts, arches, slabs and piles at various points on the division.

British Columbia District.—In reference to the proposal to build a new pier at the Vancouver ocean terminals, we are officially advised that the special committee appointed to consider the company's needs at the port recommended the construction, when traffic might demand it, of two more ocean piers. The one now recommended to be built is the first of these. No decision has yet been announced as to its size, design or exact location. (Feb., pg. 75.)

Freight and Passenger Traffic Notes.

The New York Central Rd. has been ordered to stop all its trains both incoming and outgoing, on flag at Westmount station, Que.

Grand Trunk Pacific Ry. freight and passenger officials, also those connected with its steamship lines on the Pacific, had a conference at Edmonton, Alta., Feb. 9 to 12.

The C.P.R. informed the Montreal Board of Trade's Transportation Bureau Feb. 14, that all embargoes against the shipping of freight in transit for orders had been removed.

The Great Northern Ry.'s time table, showing service proposed between Guichon and Sumas, via Coldbrook, and to Vancouver, B.C., was approved by the Board of Railway Commissioners, Jan. 25.

As showing the development of passenger traffic on the Edmonton, Dunvegan & British Columbia Ry., and its subsidiary lines, on the arrival of the train at Edmonton, Alta., Feb. 12, there were over 300 passengers on board.

The Canadian Northern Ry. has been ordered, by the Board of Railway Commissioners, to establish a mixed train service, carrying both baggage and express, daily except Sunday, between Yarker and Napanee, Ont.

The relaxation of the war time limitations of the Food Board, enables the railway companies to restore to former fullness the dining car menu. It is reported that the a la carte dining car service is to be restored on the United States railways Mar. 1.

The Delaware & Hudson Rd. has commenced running a sleeping car containing 7 compatrments and 2 drawing rooms on its Montreal-New York trains, which leave the C.P.R. Windsor St. station, Montreal, at 8.10 p.m., and the Grand Central Terminal in New York at 7.45 p.m. daily.

Two C.P.R. sleeping car conductors were sentenced to 10 days in jail, and a further term of six months in default of paying $500 fines at the Fort William Assizes, Feb. 13, on three charges of wrongfully dealing with sleeping car fares. The accused pleaded not guilty to theft, but guilty to the lesser charge of accepting secret commissions.

The Canadian Pacific Ry. announces that stop-over privileges for not exceeding 10 days are permitted, on application to conductor and deposit of tickets with agent at stopover station on through limited tickets between U.S. points, reading over C.P.R., at the following points: Banff and Lake Louise, Alta; Field, Glacier, Revelstoke, Sicamous and Penticton, B.C.

An embargo on the shipment of all grain consigned to the terminal elevators at Port Arthur, Ont., was reported to have been put into effect Feb. 16. All the Canadian Northern Ry. elevators at Port Arthur are full, and it was estimated that there were 700 cars of grain on the Canadian National Railways east of Winnipeg. The embargo, which does not affect C.P.R. lines, is not expected to be lifted until the spring.

Mrs. E. Slade, Quebec, brought an action in a Quebec court against the Pullman Co. for $2,000 damages for injuries to the health of her minor daughter alleged to have been caused by the negligence of the company's servants, while the girl was on a journey. The judge found that satisfactory proof was not furnished that the injury to the girl's health was caused by an open ventilator which the conductor refused to close, and the action was dismissed with costs.

The C.P.R. is reported to have purchased the site of Evangeline's house at Grand Pre, N.S., on the Dominion Atlantic Ry., which it operates, and will maintain it as a public park. The site is the scene of Longfellow's poem, Evangeline, and is the second of the scenes of Longfellow's poems to be utilized by the C.P.R. for tourist attractions. This other is at Desbarats, Ont., on the Sault Ste. Marie line, where a representation of Hiawatha is occasionally given by Indians during the tourist season.

The Canadian National Rys. has adopted, ratified, and made its own, in every respect as if the same had been originally filed and posted by it, all passenger tariffs, rules, notices, concurrences, traffic agreements, divisions, authorities, powers of attorney, or other instruments whatsoever, filed with the Interstate Commerce Commission and Board of Railway Commissioners for Canada, by the Canadian Northern Ry. (all lines), Canadian Government Rys. (all lines), Halifax & South Western Ry., or filed by their agents, prior to Mar. 1, the beginning of its possession. It has also adopted all supplements or amendments to any of the above tariffs, etc., which have been heretofore filed with said commissions by the above-mentioned lines or their agents.

Passenger Meetings.—Owing to present conditions affecting railways in the United States, it is not likely that it will be practicable for the Niagara Frontier Summer Rate Committee to meet in the near future, as in former years. The question of holding meetings of the Great Lakes and St. Lawrence River Rate Committee, and the International Waterlines Passenger Association, is under consideration.

St. John & Quebec Ry. Financing.—The action brought by the New Brunswick Government for the recovery of certain funds belonging to the St. John & Quebec Ry., which a royal commission found to have been improperly applied, came before the New Brunswick Court of Appeal Feb. 14, on a motion to dismiss. Judgment was reserved.

Transportation Appointments Throughout Canada.

The information under this head, which is gathered almost entirely from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Canada Steamship Lines, Ltd.—For changes in directorate and officials, see Marine Department, farther on in this issue.

Canadian National Rys.—E. P. MALLORY, heretofore chief clerk to Assistant Vice President, Canadian National Rys., has been appointed Statistician in the Assistant to President's office.

EWART B. WALKER, formerly of Chapman & Walker, Ltd., Toronto, and who has been employed by the Canadian Northern for some time in electrical work, has been appointed Electrical Engineer, Canadian National Rys. Office, Toronto.

J. B. SMITH has been appointed Chief Dispatcher, Canadian National Rys., Ottawa, Ont.

R. FYFE, heretofore Scale Inspector, Western Lines, Canadian Northern Ry., Winnipeg, has been appointed Scale Inspector, Western Lines, Canadian National Rys. Office, Winnipeg.

J. SCHOFIELD, heretofore Architect, Western Lines, Canadian Northern Ry., Winnipeg, has been appointed Architect, Western Lines, Canadian National Rys. Office, Winnipeg.

O. E. BARKER has been appointed Chief Dispatcher, Saskatoon, Sask., vice A. MacRae, transferred.

H. R. ARTHUR has been appointed Trainmaster, Saskatoon, Sask., vice D. W. Mahoney, transferred.

W. F. MILLER has been appointed Car Foreman, Trenton, Ont., vice — Walsh, who has been absent for some time on sick leave, during which time W. Dadswell was acting Car Foreman there.

R. W. MOORE, heretofore General Car Foreman, Western Lines, Canadian Government Rys., Cochrane, Ont., has been appointed District Car Foreman, Prairie District, Canadian National Rys. Office, Saskatoon, Sask.

T. W. WHITE, heretofore Inspecting Bridge Engineer, Canadian Northern Ry., Winnipeg, has been appointed District Engineer, Canadian National Rys., Edmonton, Alta.

J. BIRSE, heretofore Master Mechanic, District 3, Transcontinental Division, Canadian Government Rys., Fort William, Ont., has been appointed Assistant Master Mechanic, Central District, Canadian National Rys. Office, Sioux Lookout, Ont.

G. H. HEDGE, heretofore General Master Mechanic, Western Lines, Canadian Northern Ry., Winnipeg, has been appointed Works Manager in charge of Fort Rouge and Transcona Shops, Canadian National Rys. Office, Winnipeg.

The Sleeping, Dining and Parlor Car, Hotel and News Department is under the management of WALTER PRATT, Manager, Toronto, and A. S. McLEAN is Superintendent of Hotels, with office at Winnipeg. The train service is divided into three districts, with Superintendents, as follows: Lines east of Montreal, Superintendent, E. CAMERON, Halifax, N.S.; lines west of Quebec and Montreal to Port Arthur and Cochrane, Ont., Superintendent, EUSTACE SMITH, Toronto; lines west of Port Arthur and Cochrane, Ont., to Vancouver, B.C., Superintendent, J. M. GRIEVE, Winnipeg.

E. CAMERON has been appointed Superintendent of Sleeping, Dining and Parlor Cars, vice F. W. ROBERTSON, transferred. Office, Halifax, N.S.

JAMES F. COLEMAN has been appointed Assistant Superintendent, Sleeping, Dining and Parlor Cars. Office, Halifax, N.S.

J. O. Apps.
General Agent, Mail, Baggage and Milk Traffic, Canadian Pacific Railway.

J. E. LePage.
[illegible] Canadian Northern Ry., Quebec, Que.

S. D. [illegible] has been appointed Supervisor, Sleeping, Dining and Parlor Cars, Halifax, N.S.

JOHN A. McISAAC has been appointed Assistant Supervisor, Sleeping, Dining and Parlor Cars, Halifax, N.S.

S. R. CAIRNS has been appointed Inspector, Sleeping, Dining and Parlor Car, Hotel and News Department on all eastern lines. Office, Ottawa, Ont.

H. B. NEVIN has been appointed Inspector, Sleeping and Dining Car Department, Eastern Lines, Canadian National Rys., Toronto.

W. C. POTTS has been appointed Inspector, Sleeping and Dining Car Department, Eastern Lines, Canadian National Rys., Toronto.

J. W. KIMBALL has been appointed Superintendent, Boarding Car Department, Western Lines. Office, Winnipeg.

A. S. McLEAN, heretofore Assistant Superintendent of Hotels, Canadian Northern Ry., Port Arthur, Ont., has been appointed Superintendent of Hotels, Canadian National Rys. Office, Winnipeg.

F. H. KINNEAR, heretofore Assistant Purchasing Agent, Department of Railways and Canals, Ottawa, Ont., has been appointed chief clerk to General Purchasing Agent, Canadian National Rys., Toronto.

H. T. RAWLINGS, heretofore Chief Clerk to R. C. Vaughan, Assistant to President, Canadian National Rys., Toronto, has been appointed Lake Forwarding Agent and Fuel Inspector, with office at Rockefeller Building, Cleveland, Ohio, effective April 1.

L. E. PRATTE, of the Legal and Claims Department, Canadian Government Rys., has been appointed Claims Agent, Levis, Que., vice F. B. Atkinson, deceased.

ORANGE H. CLARKE, heretofore Western Counsel, Canadian Northern Ry., Winnipeg, has left the service. W. W. EVANS, heretofore Solicitor, Canadian Northern Ry., Winnipeg, has taken over, for the present, the duties performed heretofore by Mr. Clarke, and is acting for the Canadian National Rys.

The General Claims Department, Winnipeg, has been merged with the Legal Department there under W. W. EVANS, Solicitor; and A. E. MACDONALD, heretofore General Claims Agent, Winnipeg, having been appointed acting Superintendent, Dauphin, Man., as announced previously.

H. A. STUART, heretofore City Freight Agent, Winnipeg, has been appointed Division Freight Agent, Brandon, Man., vice R. M. MILLIKEN, transferred.

R. M. MILLIKEN, heretofore District Freight Agent, Canadian Northern Ry., Brandon, Man., has been appointed Division Freight Agent, Canadian National Rys., Regina, Sask., vice W. A. Whyte, transferred.

B. E. MARSALES, heretofore District Freight Agent, Canadian Northern Ry., Calgary, Alta., has been appointed Division Freight Agent, Canadian National Rys., Saskatoon, Sask., vice J. M. [illegible], whose appointment as Assistant General Freight Agent, Winnipeg, has been announced previously.

W. A. WHYTE, heretofore District Freight Agent, Canadian Northern Ry., Regina, Sask., has been appointed Division Freight Agent, Canadian National Rys., Calgary, Alta., vice B. E. Marsales, transferred.

C. H. HICKIE, heretofore Cashier and Paymaster, Western Lines, Winnipeg, has been appointed Local Treasurer, lines west of Port Arthur, Ont., Canadian

Northern Ry. System. Office, Winnipeg.

P. J. FARLEY, heretofore Assistant Paymaster, Western Lines, Winnipeg, has been appointed Paymaster, lines west of Port Arthur, Ont., Canadian Northern Ry. System. Office, Winnipeg.

L. C. GROOM has been appointed Auditor, Canadian Northern Ry. Land Department. Office, Toronto.

A. E. FIELD has been appointed Land Commissioner, Canadian Northern Ry., Western Lines. Office, Winnipeg.

Canadian Pacific Ocean Services, Ltd. R.S. ELSWORTHY, heretofore General Agent, Passenger Department, C.P.R., Minneapolis, Minn., has been appointed General Agent, C.P.O.S., Ltd., Chicago, Ill.

H. M. MacCALLUM, heretofore General Agent, Passenger Department, Chicago, Ill., has been appointed General Agent, Passenger Department, Toronto, vice I. E. Suckling, resigned.

R. E. ELSWORTHY, heretofore General Agent, Passenger Department, C.P. R., Minneapolis, Minn., has been appointed General Agent, Passenger Department, C.P.O.S., Ltd., Chicago, Ill., vice H. M. MacCallum, transferred.

Canadian Pacific Ry.—J. O. APPS, heretofore General Baggage Agent, has been appointed General Agent, Mail, Baggage and Milk Traffic, and his former position has been abolished. Office, Montreal.

W. E. ALLISON, heretofore Assistant General Baggage Agent, has been appointed Assistant General Agent, Mail, Baggage and Milk Traffic, Eastern Lines, and his former position has been abolished. Office, Montreal.

H. H. BOYD, heretofore Superintendent, Vancouver Division, British Columbia District, Vancouver, has been appointed Assistant Chief Mechanical Engineer. Office, Montreal. This position has been vacant since Mar., 1918, when W. H. Winterrowd was promoted to Chief Mechanical Engineer.

J. J. HORN has been appointed Superintendent, Kenora Division, Manitoba District, vice J. L. Jamieson, transferred. Office, Kenora, Ont.

J. L. JAMIESON, heretofore Superintendent, Kenora Division, Manitoba District, Kenora, Ont., has been appointed Superintendent, Vancouver Division, British Columbia District. Office, Vancouver.

C. H. FOX, returned recently from active service, has been appointed Division Engineer, Regina, Sask., vice M. Mackenzie, transferred.

H. R. MILES, heretofore Assistant Engineer, Montreal, has been appointed Division Engineer, Lethbridge, Alta., vice J. K. Yorston, transferred.

J. K. YORSTON, heretofore Division Engineer, Lethbridge, Alta., C. H. LARSON and J. R. PAGET, have been appointed locating engineers, Western Lines.

R. SINCLAIR, heretofore Trainmaster, Field, B.C., has been appointed Bridge and Building Master, Moose Jaw, Sask., vice J. McFadyen, decesead.

J. S. BRANSTON has been appointed agent, Moose Jaw, Sask., vice J. Cavanagh, transferred.

J. CAVANAGH, heretofore Agent, Moose Jaw, Sask., has been appointed acting agent, Outlook, Sask.

W. E. PIMLOTT has been appointed acting District Storekeeper, Saskatchewan District, Moose Jaw, vice I. G. Trudel, transferred.

F. G. BANNISTER, heretofore District Storekeeper, British Columbia District, Vancouver, has been appointed District Storekeeper, Alberta District. Office, Ogden, Alta.

I. G. TRUDEL, heretofore District Storekeeper, Saskatchewan District, Moose Jaw, has been appointed District Storekeeper, British Columbia District, vice F. G. Bannister, transferred, as reported in our last issue. Office, Vancouver.

D. O. WOOD, Assistant Export and Import Agent, Toronto, who was loaned to the British Ministry of Shipping (Canada), and occupied the position of Superintendent of Inland Transportation, at Montreal, for a considerable portion of the war, has returned to Toronto and resumed his duties with the company.

J. G. McNAB, heretofore District Freight Agent, Vancouver, B.C., has been appointed acting Division Freight Agent, Steamship Lines, Vancouver, B.C., vice F. H. Clendenning, transferred for service with the British Ministry of Shipping (Canada). Office, Vancouver, B.C.

G. S. BEER has been appointed City Passenger Agent, Toronto.

W. H. POLLEY has been appointed City Ticket Agent, Toronto.

H. W. Sharpe,
Master Mechanic, Quebec District, Eastern Lines, Canadian National Railways.

E. OFFICER has been appointed Travelling Passenger Agent, Calgary, Alta.

L. R. HART, heretofore General Agent, Passenger Department, Buffalo, N.Y., has been appointed General Agent, Passenger Department, Boston, Mass., vice E. F. L. Sturdee, transferred.

G. O. WALTON, heretofore City Passenger Agent, New York, has been appointed General Agent, Passenger Department, Buffalo, N.Y., vice L. R. Hart, transferred.

A. G. ALBERTSEN, heretofore City Ticket Agent, San Francisco, Cal., has been appointed General Agent, Passenger Department, Minneapolis, Minn., vice R. S. Elsworthy, transferred to Canadian Pacific Ocean Services' service.

E. F. L. STURDEE, heretofore General Agent, Passenger Department, Boston, Mass., has been appointed General Agent, has been appointed General Agent, Passenger Department, Seattle, Wash., vice E. E. Penn.

E. E. PENN, heretofore General Agent, Passenger Department, Seattle, Wash., has been appointed General Agent, Passenger Department, Portland, Ore.

A. P. VILLAIN has been appointed City Ticket Agent, San Francisco, Cal.

H. GATJE has been appointed Travelling Passenger Agent, San Francisco, Cal.

G. H. HUTTON, heretofore Superintendent, Dominion Experimental Farm, Lacombe, Alta., has been appointed Superintendent of Agriculture and Animal Industry, Department of Natural Resources, vice J. G. Rutherford, C.M.G., who resigned on his appointment to the Board of Railway Commissioners, as announced previously. Office, Calgary, Alta.

Grand Trunk Ry.—J. L. KENNY, formerly Division Signal Foreman, Belleville, Ont., and during the war, in active service with the 4th Canadian Railway Troops, has been appointed Supervisor of Signals, vice E. L. Dyson, assigned to other duties. Office, Montreal.

H. R. McLENNAN, heretofore Chief Dispatcher, Brantford, Ont., has been appointed Trainmaster, Districts 20 and 21, London Division, Ontario Lines, vice R. E. Newcomer, resigned. Office, Brantford, Ont.

W. K. ROGERS has been appointed Chief Dispatcher, Districts 20 and 21, London Division, Ontario Lines, Brantford, Ont., vice H. R. McLennan, promoted.

JAS. EDWARD, heretofore Division Freight Agent, Ottawa, Ont., has been appointed Division Freight Agent, Montreal, vice G. T. Pettigrew, resigned.

R. J. S. WEATHERSTON, heretofore Division Freight Agent, Stratford, Ont., has been appointed Division Freight Agent, Ottawa, Ont., vice Jas. Edward, transferred.

V. G. SNELL, heretofore Commercial Agent, Moncton, N.B., has been appointed Division Freight Agent, Stratford, Ont., vice R. J. S. Weatherston, transferred.

R. H. WEBSTER, heretofore Travelling Freight Agent, Moncton, N.B., has been appointed Commercial Agent there, vice V. G. Snell, promoted.

H. B. GIBSON, heretofore chief clerk, Commercial Agent's office, Moncton, N.B., is reported to have been appointed Travelling Freight Agent there, vice R. H. Webster, promoted.

R. CAPSON, heretofore in Assistant General Freight Agent's office, Canadian Government Rys., Moncton, N.B., is reported to have been appointed chief clerk, Commercial Agent's office, G.T.R., Moncton, N.B., vice H. B. Gibson, promoted.

Grand Trunk Pacific Ry.—J. H. GROAT, heretofore Chief Dispatcher, Biggar, Sask., has been appointed Assistant Superintendent there, vice C. B. Thompson, transferred.

C. B. THOMPSON, heretofore Assistant Superintendent, Biggar, Sask., has been appointed Assistant Superintendent, Edmonton, Alta., vice S. A. Milner, who has returned to train service at Rivers, Man.

J. T. B. FOOTE, heretofore chief clerk, Fort Garry Hotel, Winnipeg, is reported to have been appointed Assistant Manager there.

Kettle Valley Ry.—ANDREW McCULLOCH, heretofore Chief Engineer and acting General Superintendent, has been appointed Chief Engineer and General Superintendent. Office, Penticton, B.C.

Michigan Central Rd.—C. L. SINGER is reported to have been appointed District Passenger Agent, St. Thomas, Ont., vice S. H. Palmer, retired.

The Canadian Railway War Board's Work.

Advancing Demurrage Charges.—While the practice of advancing demurrage charges, which have accrued on loaded cars in transit, against the freight for collection from consignee at destination, has objectionable features, it is considered the only practical method of securing payment of such charges, and should therefore be recognized by all railways as a proper lien against the traffic. In order to bring about uniform method of handling advanced demurrage charges, on Canadian railways, it is suggested that the following regulations be made effective by Canadian lines, immediately:—

"Cars containing freight, the billing for which calls for the collection or car demurrage charges which have accrued on connecting lines will not be accepted from connections unless the charges are guaranteed by such connections and notation to that effect made on billing or transfer, in which case the charges may be shown as 'advances.'

"Car demurrage charges accruing at loading stations must be collected or guaranteed by shipper (in writing) before shipping instructions are accepted, or car forwarded. If charges are guaranteed by shipper notation to that effect must be made on billing.

"Car demurrage charges accruing en route, or at frontier points, due to reconsignment, awaiting necessary customs papers, or other reasons for which the shipper or consignee is responsible, may be billed forward as 'advances,' and if connecting line demands it, be guaranteed and notation to that effect made on billing."

Carload Traffic Arriving Ahead of Billing.—Considerable inconvenience is experienced, by both consignees and the railways, due to less than carload traffic arriving at destination ahead of billing, due, on many occasions, to billing and shipments becoming separated at transfer or other stations enroute and held awaiting location of shipments. In order to overcome this difficulty as nearly as possible it is suggested that railways issue the following instructions in the matter: "When way bills covering less than carload shipments become separated from the freight, they shall be promptly mailed to billed destination by the agent at junction, transfer, or other station."

Continuation of Organization. — The Canadian Railway War Board, made necessary by the war, in order to centralize the control and co-ordinate the effort of Canada's railways, is among the new things likely to remain to give service in time of peace. It has been decided to extend the term of its activities indefinitely. It retains for the time being the name under which it has become known. It continues as a voluntary, rather than compulsory, association of railway managements, thus preserving what has had to be sacrificed in some countries in order to obtain even a semblance of co-ordination, to wit, the useful features of competition between the various great groups of railway workers; competition protecting the esprit de corps of employes, the alertness of executive officers and the enterprise of the directorates; placing no road directly or indirectly under the power of its competitor; promoting rivalry as to the quality of service and the welfare of the respective territories served, but without permitting, amid such rivalries, old time anxieties for tonnage to overtax the facilities of any one carrier, or to lead to indirect or uneconomic routings of goods. The Canadian Railway War Board looks forward to receiving the continued generous support of the shipping and travelling public, without which its efforts heretofore or in the future could come to nothing.

Diversion of Private Tank Cars.—On occasions it is necessary to divert tank cars of private ownership, for the purpose of transferring contents of cars, which have developed defects enroute, preventing loaded movement to destination. It is objectionable to owners to have their cars diverted by the railways in any circumstances, but particularly so when this is done without advice from the railways of action taken. In order that owners or lessees may be informed as to such diversions, and to guard against improper handling of diverted cars, after arrival at destination, it is suggested that the following regulations be put into effect at once by Canadian railways:—

"1. The diverting road must promptly notify both consignor and consignee, as shown by the slip or other way bill covering the empty car, or if this information is not shown, notify car owners as shown by Boyd's Tank Car Circular 6M, giving new destination and terminating railway in each case. Furnish to the agent of the terminating line, at the destination of the transferred load, a copy of the original slip bill or way bill, on which the empty tank was moving, showing clearly that the car has been moved out of route in an emergency.

"2. The agent of the terminating line at such destination must, upon release of the car, promptly rebill and forward same to its original destiuation, unless otherwise instructed by the owner or owner's authorized represetnative."

Goods for War Relief Societies. — Referring to circular 67, May 1, 1918, providing for free carriage of goods for account of certain war relief societies and supplement 2, Jan. 10, 1919, extending the authority for such free carriage to April 1, 1919. The board is now advised that the free carriage of such goods will not be required after April 1 next and member lines are directed to cancel any regulations they have in force calling for handling of goods free of charge for account of war relief societies, including those named in circular 67, effective as from that date.

Handling of Freight Between Canadian and U.S. Lines.—Pending issuance of further instructions, the following regulations will govern the handling of freight cars between railways operating in Canada and between Canadian and United States roads, in so far as the several points covered are concerned:—

1. Regulations issued by this board restricting use of Canadian owned cars to movement between points in Canada have been cancelled and such cars may be used in international as well as domestic service.

2. The arrangements made with the U. S. Railroad Administration provide for prompt return to Canada, either loaded or empty, of all Canadian freight cars received in the U.S. As all U.S. railways are working under joint regulations and conditions, it would obviously cause delay and confusion in the return of Canadian equipment from the U.S. were we to insist upon cars being sent back on home route, or direct to owning road; therefore, Canadian cars will be accepted from U.S. roads regardless of class or railway ownership, at any junction point between the U.S. and Canadian lines, such cars, after receipt by the latter, to be forwarded promptly, either loaded or empty, to the owning line, by the most direct available route. In the event of excessive movement of empty cars via a particular junction point or points, under the foregoing arrangement, the line concerned will promptly notify this board, giving full report of the circumstances so that remedial measures may be adopted.

3. Freight cars owned or controlled by U.S. lines must be promptly loaded to any point in the U.S. or to a junction point with a U.S. line, or sent empty to any U.S. railway via the nearest junction point.

4. Car ownership regulations and methods will continue to govern the handling of Canadian cars on Canadian railways and the following adaptation of the American Railroad Association Car Service rules 1 to 4 inclusive will apply:—

(Note— Where the term "foreign car" is used hereunder it is understood that reference is made to such cars of Canadian ownership only, article 3 covering generally the handling of U.S. owned cars in Canada.)

(a) A foreign car received under load may be forwarded to destination.

A foreign car may be loaded in local service in the direction of the home road, or may be moved once, loaded or empty, locally, in an opposite direction from the home road if to be loaded in accordance with the following: A railway receiving a loaded car from an industrial railway or a shipper must require that such car be routed in accordance with these regulations.

(b) A foreign car belonging to a direct connection may be loaded via any route so that the home road shall participate in the freight rate, or must be returned to the home road.

(Definition of direct connection.—All lines interchanging cars at a common point, or within switching limits, either over their own rails or through intermediate line or lines, or via car ferry, or float, within such switching limits shall be considered direct connections under these rules.)

Unless otherwise arranged between the interested carriers, empty cars belonging to direct connection, for which loading in accordance with these rules is not available, must be returned to owner at point at which received.

(c) A foreign car belonging to other than direct connection must be

(1) loaded via any route so that the home road shall participate in the freight rate.

(2) In absence of loading as per clause (1), it must be loaded to a point on direct route to home road.

(3) In absence of suitable loading it must be sent empty to the owning road via the most direct available route, or via route arranged for the movement by the interested carriers.

(d) It is desirable in the interests of efficient maintenance of equipment and for other equally important reasons, owners' cars should be kept in service on home rails to the greatest possible extent; therefore, such cars should be used in preference in the handling of local traffic, and foreign cars supplied, where it is possible to do so, for the carriage of shipments to off line points.

The foregoing regulations outline a general policy for railways operating in this country, and are subject to modification by the issuance of special instructions as may be necessary from time to time, applicable to specific classes of equipment, traffic or districts.

Notations on Way Bills.—Notations on way bills made with lead pencil soon become indecipherable, therefore, it is suggested that railways in issuing instructions covering the making of alterations in way bills should stipulate that lead pencil must not be used for this purpose.

Reduced Passenger Fares for Soldiers. Complaint having been made to the Minister of Railways in connection with the cancellation of reduced passenger fares for soldiers, the matter has received further consideration by the board's passenger traffic section, and it has been arranged that the privilege whereby members of the Canadian Expeditionary Force were granted round trip tickets, at rate of single fare, for the round trip, when visiting their homes, etc., upon production of certificate showing they were actually on the strength of the Canadian Expeditionary Force, which was cancelled at the end of 1918, is to be restored until September 30, 1919. Arrangements have been made with the Militia Department covering the details of the methods under which reductions are to be granted.

Seats on Locomotives for Brakemen.—Representations have been received from members of the Train Service Employees' Organization, with respect to the provision of suitable seating accommodation in locomotive cabs, for front end brakemen on freight trains, who are required to ride on the locomotive. It is realized that in the case of some types of locomotives, particularly the larger power, it is impossible, on account of cab width limitations, and the narrow space between the fire box and the side of the cab, to install seats of the dimensions suggested by the employes. It is the opinion of the board, however, and member lines are hereby requested to arrange accordingly, that convenient and comfortable seats should be provided, commensurate with the possibilities of complying with such a request, according to the locomotive cab conditions above mentioned.

Use of U.S. Open Topped Cars.—The provisions of the board's circular 64 and supplement 1 thereof, prohibiting the use of certain classes of United States owned open top cars, for return loading to the owners, or in direction thereof, are cancelled.

Railway Development, Projected Lines, Surveys, Construction, Betterments, Etc.

Alaskan Railway.—The United States Congress was asked Feb. 8 for an appropriation of $13,800,000 to complete the construction of the government railway in Alaska, which the Alaskan Railroad Commissions estimate will take three years to accomplish. This appropriation includes $4,000,000 of the original estimate of $35,000,000 for the construction of the road and a deficiency appropriation of $9,800,000 representing the increase in the cost of practically everything that is necessary for the work. It is estimated that the road can be finished for $44,800,000. While work was never stopped, it was slowed down materially by the war, which drew thousands of men out of the territory and cut off the supply of steel.

Alberta & Great Waterways Ry.—Five miles of track was reported to have been laid to the edge of the Clearwater Valley, at the end of January. The erection of the bridge across Hanging Stone Creek was then reported to be in progress. About 12 miles more track has to be laid before the line will reach its terminus at McMurray. (Feb., pg. 79.)

Athabasca & Grande Prairie Ry.—The Edmonton, Alta., Bulletin, referring to the application to the Dominion Parliament for the incorporation of a company with this title, states the route of the projected railway is from Solomon station on the Canadian Northern and Grand Trunk Pacific Railways, in the Jasper Pass, about 8 miles east of the Brule mines, to the junction of the Muskeg with the Smoky River, and thence to Dunvegan on the Peace. Whatever purpose there is in the proposal relates to rail connection between the C.N.R. and the high grade coal deposits at the Grande Cache at the exit of the Smoky River from the mountains. The distance from the railway at the mouth of the Solomon River with the Grand Cache is about 80 miles. The direction is northwesterly along the base of the mountains. Construction is quite feasible, but what the grade may be, in default of actual survey, is unknown. As the Hay and Baptiste Rivers are to be crossed on the way to the Muskeg River, which is to be followed down its course to the coal area, there may be some stiff grades. The continuation of the line from the Grande Cache to Dunvegan is said to be only camouflage. There would be no sound purpose in its construction, but the section from near Brule to the Grande Cache will come sometime. (Feb., 79.)

Dolly Varden Mines Ry.—The British Columbia Legislature is being asked to extend the time within which this projected railway from the company's wharf, at Arctic Arm, to the Dolly Varden and Wolfe mining claims in the Kitgault Valley of northern British Columbia may be built.

When the bill was before the legislature Feb. 10, it was resolved, after discussion, that the petition of the Taylor Engineering Co., by A. J. Taylor, and the company's petition be referred to a select committee to enquire into all the allegations contained in the petitions and to report its findings and recommendations to the house. The character of the allegations were not disclosed. (Dec., 1917, pg. 470.)

English Valley & Hudson Bay Ry.—The Dominion Parliament is being asked to extend the period within which the company may build its projected railway from Brereton station, Man., on the National Transcontinental Ry., mileage 1,735 from Moncton, to the English River, Ont., between the eastern boundary of Manitoba and the 94th meridian of longitude. H. A. Stewart, Toronto, is solicitor for the company. (Oct., 1917, pg. 393.)

Essex Terminal Ry.—The Dominion Parliament is being asked to extend the time within which the company may build its authorized branch line from Ojibway to Pelton, Ont., 7 miles, and connect the same with the Michigan Central Rd., the Pere Marquette Ry., and the Windsor, Essex & Lake Shore Rapid Ry., or any of them. (Jan., pg. 26.)

Grand Trunk Pacific Ry.—W. P. Hinton, Vice President and General Manager, returned to Winnipeg, Man., Feb. 14, after a trip of inspection over the company's lines. He is reported to have said at Edmonton, Feb. 8, that there was not much chance of the company undertaking any branch line construction this year. Labor and material were too high to warrant the large expenditures necessary. While there was still an ample field for railway expansion, it would unduly hinder the future to build branch railways at present prices. At Calgary, on Feb. 12, the construction of a spur track along Fifth Ave. to open up industrial sites was discussed, and a plan will be laid before the city council at an early date. At Regina, Feb. 13, the question of a union station and matters affecting the building of an hotel were taken up. Mr. Hinton is further reported to have said that the arrangement for running through Saskatoon, on the C.P.R. tracks, using that company's station and yard facilities, was found to be very satisfactory all round, although the increased length of line was between 4 and 5 miles. At Winnipeg Mr. Hinton gave out the following statement:—"In view of the fact that the government's policy as to the nationalization of the Grand Trunk Pacific has not yet been stated, we are marking time in our construction plans for the coming year." (Feb., pg. 79.)

Grand Trunk Ry.—Local reports state that considerable extensions and improvements are to be made at the company's yards at York, near Toronto, and that plans have been prepared. It is also reported that part of the work now done at the Mimico yards will be transferred to York. When the Mimico yards were laid out, some years ago, the York yards were almost closed down, the train crews removing to Mimico. The increase in traffic is reported to be so great as to necessitate the reopening of the yards at York.

The work of strengthening the bridges on the line between Palmerston and Owen Sound, Ont., is reported to have been completed.

A press dispatch states that work was started Feb. 20 on a 3,000,000 bush. grain elevator at the G.T.R. terminals at Portland, Me. The company has two elevators there already.

A recent press report stated that plans had been prepared for removing the company's yards east of London, Ont., contiguous to Highbury Ave., and that work would be started on laying out 25 tracks there. Superintendent Forrester is reported as stating that the company was connecting up some tracks at the point mentioned; that there had been some talk about the other matter, but that nothing had been decided and that no plans had been prepared. (Jan., pg. 26.)

Greater Winnipeg Water District Ry. At a meeting of the Great Winnipeg Water District Commission, Feb. 6, the question of applying to the Manitoba Legislature for authority to operate the railway, built for construction purposes, as a regular freight and passenger line, was laid over for further consideration. The idea behind the project is that Dominion and Manitoba subsidies could be obtained and the line put in such a condition that it would command a better price if it was decided to offer it for sale. It was suggested that the question of the future of the line should be decided by a vote of the electors of the district. (Mar., 1918, pg. 98.)

High River, Saskatchewan & Hudson Bay Ry.—The Dominion Parliament is being asked to extend the time within which the company may build this projected railway from any point in Tps. 25 to 28, Range 1, West 4th Meridian, Alta., to Saskatoon, Sask., to the Saskatchewan-Manitoba boundary between Tps. 52 to 56, and thence to a junction with the Hudson Bay Ry. at Pas, Man., under construction by the Dominion Government. (See High River & Hudson Bay Ry., Jan., 1917, pg. 20.)

Kettle Valley Ry.—Clearing up operations are reported to be in progress at the rock slide at Petain, on the Coquihalla section of the line, upon which traffic has been suspended temporarily. Work is also in progress between Jessica and Portia, widening cuts and otherwise improving the roadbed. The matter referred to above is not expected to be reopened until the summer, traffic being carried meanwhile via Spences Bridge and Merritt. (Feb., pg. 79.)

Lacombe & Blindman Valley Ry.—The Premier of Alberta stated in the legislature recently that the government had been obliged to take over this line, and that an extension must be built with as little delay as possible.

We are officially advised that the line is built and track laid between Lacombe and Bentley, approximately 20 miles, and is graded for 15 miles further, to within 1½ miles of Rimby, the projected terminus. The portion between Lacombe and Bentley is being operated for freight and passenger traffic, a service of three trains a week being provided. Steam locomotives are being used for normal operation, and an internal combustion motor car for summer vacation service. The motive power comprises one 51-ton 2-6-0 mogul type locomotive; one 20-ton dinkey locomotive, and one 20-ton motor railway car of 100 h.p., equipped with Hill-Shaw oil transmission, fitted with couplers and air brakes, for hauling a light train of standard equipment. This car will accommodate 24 passengers and has a compartment for baggage. The line is being operated by F. T. Ames as Superintendent, under the direction of H. Warnar, Railway Engineer for Alberta. (May, 1918, pg. 186.)

Magdalene River Valley Ry.—In order to allow of the reduction of the gradient on the location of the present projected line of this railway on lot 37 of St. Maxime du Mont Louis, the Quebec Legislature is being asked to authorize a change of location on about 4,500 ft., of which 2,500 ft. are in the Magdalene River Seigniory, northly to a location at least 350 ft. from the east bank of the Magdalene River. (Feb., pg. 79.)

Medicine Hat, Alta.—The Medicine Hat City Council is applying to the Alberta Legislature for the confirmation of a bylaw leasing to Joseph B. Swan the right of way for a railway spur in the city, and granting him an option to purchase the spur track and right of way. (Jan., pg. 26.)

Medicine Hat Central Ry.—The Alberta Legislature is being asked to incorporate a company with this title to build a railway from Coutts, on the International Boundary, northeasterly, crossing the C.P.R. Lethbridge-Weyburn line near Foremost, and the C.P.R.'s Crowsnest line at Whitla or Winnifred, thence to Ajax on the South Saskatchewan River, and on to Medicine Hat, and thence northeasterly to the Alberta-Saskatchewan boundary, approximately due east of Hilda post office, Alta., the total length of the line being approximately 200 miles. Laidlaw, Blanchard & Co., Medicine Hat, Alta., are solicitors for applicants.

Pacific Great Eastern Ry.—The British Columbia Premier, in the course of a speech at Vancouver recently, is reported to have said that as soon as the frost is out of the ground work on the extension of this railway will be started. An adequate sum for this purpose will be included in the estimates to be submitted to the legislature, on which the government will draw from time to time as construction proceeds. (Feb., pg. 79.)

Quebec & Ungava Ry.—The provisional directors named in the application to the Quebec Legislature for the incorporation of a company with this title are Viscount Templeton, London, Eng.; the Earl of Clarendon, London, Eng., and Pickering, Ont.; B. Spring Rice, Burwash, Sussex, Eng.; E. S. Homewood, London, Eng., and H. C. Thomson, London, Eng. Lord Templeton was connected with the Atlantic, Quebec & Western Ry. or some of its associated enterprises, which failed. The company desires to have power to build a railway from Seven Islands, on the north shore of the St. Lawrence River, in Saguenay County, northerly to Lake Menihak, thence westerly or northwesterly to the most suitable harbor between the mouth of Big River and Nastapoka Sound on Hudson Bay, with branch lines. The applicants ask power to acquire and develop water powers, timber limits, fishery rights, and conduct various other business within the territory to be opened up by the line. See St. Felicien & Ungava Ry. (Feb., pg. 80.)

Quebec Central Ry.—We are officially advised that contracts have been let to the Sherbrooke Construction Co. for masonry and other work, and to the MacKinnon Steel Co. for the steel construction for car shops and other buildings for the company at Newington, Que. The work which had then been done, and the further work proposed to be done in connection with these shops was fully described in Canadian Railway and Marine World, Sept., 1914, pg. 397. A plan of the layout was also given. The general holding up of railway work resulting from war conditions prevented the continuance of the work at that time, and the company is now taking up the programme of improvements, the conditions being again favorable. April, 1916, pg. 139.)

St. Felicien & Ungava Ry.—The provisional directors named in the application to the Quebec Legislature for the incorporation of a company with this title are Viscount Templeton, London, Eng.; the Earl of Clarendon, London, Eng., and Pickering, Ont.; B. Spring Rice, Burwash, Sussex, Eng.; H. C. Thomson, London, Eng.; J. T. Ross, Quebec. The applicants ask for power to build a line from St. Felicien, St. John County, to Lake Mistassini, thence to Lake Nichikun to Lake Petitsikapau, or by an alternative route between the same points. The applicants also ask for power to acquire timber limits, water powers and fishery rights, and to develop the same, and to carry on other businesses within the territory reached by the line. (See Quebec & Ungava Ry.)

St. John & Quebec Ry.—It was reported in Fredericton, N.B., Feb. 5, that notice had been served on the Nova Scotia Construction Co., calling for the completion of the Gagetown-Westfield section of the line by June 15. At the end of 1918 it was reported that there were about 7 miles to be completed, and that ballasting had not been started on the 30 miles on which track had been laid.

A Fredericton report of Feb. 7 states that the steel bridge work on the extension has been completed and that the Canadian Bridge Co.'s erecting gangs have returned to Walkerville, Ont. It has been decided to put in only a temporary span on the highway bridge over the Nerepis, owing to the high cost of steel. The concrete abutments for the bridge are completed and will be utilized for the temporary span. It is estimated that the work to be done will cost about $100,000. One of the most important pieces of work is the widening of the Nerepis bridge embankment, which C. O. Foss, Chief Engineer, is quoted as stating will be done by the company's own forces on the unit basis. Tenders for installing a number of loading platforms on the extension have been called for. (Feb., pg. 80.)

Railway Construction for Saskatchewan.

At the Saskatchewan Legislature's closing sitting, Feb. 5, an address to the Governor General was adopted which included the following paragraph:—The early announcement by the Dominion Government of its railway policy, in order that the uncertainty now surrounding the railway situation in Saskatchewan be removed and that the Provincial Government and other authorities may, if necessary, make suitable arrangements for the required facilities."

The resolution and terms of the address were discussed at several sittings before being adopted. Under the legislature's railway building plan the province guaranteed Canadian Northern Ry. and Grand Trunk Pacific Ry. securities, either directly or through subsidiary companies, for the purpose of building certain branch lines within the province. There has been some construction on a number of these lines, while nothing has been done on others. The taking over of the Canadian Northern Ry. by the Dominion has affected the situation with regard to its lines, and the Saskatchewan Legislature desires to have the situation cleared up, so that railway accommodation may be provided at points where it is required.

Re-employment of Railway Men.—The Canadian Railway War Board's Winnipeg office is reported to have announced that railway employes from western points who enlisted in the Canadian Expeditionary Forces, as they are being discharged are being reinstated in the positions they held at the time of enlistment, or in equivalent positions, provided they are physically fit to do the work required. When they are not physically fit efforts are being made to provide them with positions which they are capable of filling. The railways have given orders that, where new employes are being taken on, returned soldiers are, in every case, to be given the preference.

The Prince Edward Island Aerial Transport Co. has been incorporated under the Dominion Companies Act, with office at Charlottetown, P.E.I., and authorized capital of $[illegible], to manufacture and deal in aeroplanes, balloons, airships and flying machines of all kinds, to establish aerodromes, etc., to establish and maintain lines of regular services of aircraft of all kinds, and to carry on business as carriers of passengers and goods by air, sea, river, canal or otherwise, in Canada and elsewhere. The provisional directors are: L. A. David, K.C., and other Montrealers.

Among the Express Companies.

The Canadian Northern Ex. Co. has closed its office at Bears Pass, Ont.

The Canadian Northern Ex. Co. has closed its office at Moscow, Ont.

F. V. Clare, heretofore agent, Canadian Ex. Co., Moose Jaw, Sask., has been appointed route agent, Winnipeg, vice F. Sails, resigned.

J. T. Madigan, heretofore chief clerk to Superintendent, Canadian Ex. Co., Toronto, has been appointed route agent, Hamilton, Ont.

R. J. Timpson, heretofore stenographer, has been appointed chief clerk to Superintendent, Canadian Ex. Co., Toronto, vice J. T. Madigan, promoted.

H. W. Lennox, heretofore chief clerk, Ottawa, Ont., has been appointed agent, Dominion Ex. Co., there, vice G. Parker, whose appointment as Superintendent, Eastern Division, Toronto, was announced in our last issue.

William Walsh, General Superintendent of Stables and Street Equipment, Dominion Ex. Co., Toronto, who died there Dec. 2, 1918, left an estate of $29,478.55. The residue, after payment of bequests of $5,000 and $2,000 to a step-sister and step-brother, respectively, was left to the widow.

An act passed by the Saskatchewan Legislature recently, for the taxation of certain companies, provides that every express company shall pay $150 for each city in which it transacts business; $50 for each town, and $10 for each office in any other place with a population of 200 or more.

W. C. Muir, General Superintendent, Canadian Northern Ex. Co., will probably remove his office from Winnipeg to Toronto in the spring. No announcement has been made as to the extension of the Canadian Northern Ex. Co.'s operations over the Intercolonial, National Transcontinental and Prince Edward Island Railways, but it is probable that this will occur before many months are over.

George Parker, whose appointment as Superintendent, Eastern Division, Dominion Ex. Co., Toronto, was announced in our last issue, was born at Ottawa, Ont., Jan. 6, 1876, and entered the company's service Oct. 19, 1892, since when he has been, to Apr., 1904, successively, clerk, station foreman, cashier and chief clerk, Ottawa; Apr. to Dec. 31, 1904, route agent, Ottawa; Jan. 1, 1905, to Dec. 31, 1918, agent, Ottawa.

The American Railway Ex. Co. has filed with the Interstate Commerce Commission, an application to increase the rates applying to or from all its offices and those of the Canadian, Canadian Northern and Western Ex. Co.'s in the U.S., and between its offices and express offices in Canada and Newfoundland, in order to align those rates with the general increases authorized by the Director General of the U.S. Railroad Administration.

Railway Lands Patented.—Letters patent were issued during January respecting railway lands in Manitoba, Saskatchewan, Alberta and British Columbia, as follows:—

	Acres
Alberta & Great Waterways Ry.	6.27
Calgary & Edmonton Ry.	117,633.92
Canadian Northern Alberta Ry.	190.00
Canadian Northern Ry.	3,199.00
Canadian Pacific Ry.	15.02
Qu'Appelle, Long Lake & Saskatchewan Rd & Steamboat Co.	68,781.88
Total	189,646.69

Canadian Pacific Railway's Honor Roll, No. 40

Adamson, Albert O.	Clerk	Montreal	Wounded
Anderson, Alfred W.	Sectionman	Renfrew	Killed in action
Ashton, Herbert	Storeman	Winnipeg	Wounded
Austin, John P.	Carpenter	Ogden Shops	Wounded
Bailey, Edwin G.	Sectionman	Milton	Wounded
Baker, Harry A.	Houseman	Calgary	Wounded
Beavis, Godfrey H.	Clerk	Victoria	Killed in action
Bell, John W.	Operator	MacTier	Wounded
Birthman, Warren S.	Freight checker	Lacombe	Wounded
Blake, Alex.	Laborer	Outremont	Died of wounds
Bowen, John	Painter	North Bay	Wounded
Boyce, Alfred J.	Biller	Calgary	Wounded
Bullman, Ernest	Apprentice	Winnipeg	Wounded
Campbell, John C.	Machinist	Ogden	Wounded
Carphin, Wm. McS.	Apprentice	Winnipeg	Wounded
Chalmers, David A.	Clerk	Fort William	Wounded
Christie, Andrew F.	Clerk	Winnipeg	Killed in action
Clapstone, Leo	Fireman	Lethbridge	Died of wounds
Coutts, William A.	Car cleaner	Toronto	Wounded
Cunningham, William	Brush hand	Winnipeg	Wounded
Curry, Johnston S.	Trainman	Brandon	Killed in action
Dawson, Robert	Boilerwasher	Outlook	Wounded
Donly, Frank	Fitter's helper	North Transcona	Wounded
Eames, Geo. E.	Operator	Minnedosa	Wounded
Edwards, John T.	Trainman	Kenora	Wounded
Emery, Harold	Carpenter	Winnipeg	Wounded
Estabrooks, Otto L.	Pilot	Rossland	Wounded
Evans, Edwin	Helper	Angus	Killed in action
Fancy, Geo. H.	Blacksmith's helper	Winnipeg	Died of wounds
Fielder, Alfred	Helper	Lambton	Wounded
Flanagan, Joseph S.	Clerk	London, Eng.	Killed in action
Fletcher, Charles	Clerk	Winnipeg	Wounded
Fox, Gordon	Clerk	Montreal	Wounded
Freeman, James A.	Fireman	Smiths Falls	Wounded
French, George G.	Trainman	Souris	Killed in action
Gammon, Wm. A.	Locomotive man	Moose Jaw	Wounded
George, Gordon H.	Brakeman	Moose Jaw	Wounded
Grant, Athol G.	Fireman	Lambton	Wounded
Groenier, Wiardus	Porter	Calgary	Killed in action
Hampson, Sidney T.	Apprentice	Moose Jaw	Wounded
Hannesson, Oscar	Clerk	Winnipeg	Wounded
Hannon, Albert G.	Clerk	Liverpool, Eng.	Presumed dead
Hartley, Wm. J.	Brakeman	Chapleau	Died of wounds
Hugonnet, Edwin F.	Timekeeper	Nipigon	Wounded
Jackson, Alex. C.	Call Boy	Winnipeg	Killed in action
Jarvis, Richard E.	Accountant	Calgary	Wounded
Kee, John J.	Fireman	Lambton	Wounded
Kirkland, Melville	Laborer	Calgary	Killed in action
McCarthy, Edward L.	Clerk	North Bay	Wounded
McCormick, John	Section foreman	Milan	Wounded
McDonald, Gordon P.	Brakeman	Cranbrook	Died of wounds
McGowan, James	Cashier	Camrose	Killed in action
McIver, Roy	Wiper	Brandon	Wounded
McLeod, Donald	Fireman	B.C. Lake Steamers	Killed in action
McNeil, David B.	Biller	Regina	Wounded
Mahon, Arthur J.	Clerk	Montreal	Gassed
Manson, John C.	Clerk	Winnipeg	Wounded
Meating, Joseph T.	Clerk	McAdam Junction	Wounded
Mitchell, Reginald	Clerk	Toronto	Wounded
Mitchell, Wm. J.	Wiper	Victoria	Died of wounds
Moore, John	Car cleaner	Toronto	Wounded
Morland, Robin C.	Clerk	Liverpool, Eng.	Killed in action
Murray, Thistle C.	Clerk	Regina	Wounded
Neal, Walter S.	Bell boy	Sicamous	Wounded
Newton, John H.	Clerk	Winnipeg	Wounded
Parker, Ernest	Laborer	Calgary	Wounded
Pascoe, Thos. G.	Car oiler	Calgary	Wounded
Paul, George F.	Seaman	B.C. Coast Steamers	Killed in action
Peake, Chas. J.	Clerk	Halifax	Wounded
Purdy, Stephen C.	Trainman	St. John	Wounded
Rhoades, Rupert	Hostler	Ignace	Wounded
Riches, Alvin	Fireman	Minnedosa	Died of wounds
Robertson, Arthur	Clerk	Winnipeg	Wounded
Robinson, Robert P.	Signalman	Bowmanville	Wounded
Ross, Donald	Boilermaker	Ogden Shops	Wounded
Rutherford, Albert	Operator	Toronto	Killed in action
Rutherford, Milford H.	Wiper	Sutherland	Wounded
Scouse, Robert	Boilermaker	West Toronto	Killed in action
Seeley, Peter J.	Engineer	North Bay	Wounded
Senior, Ernest	Baker	Moose Jaw	Wounded
Servey, Frank	Lineman	Sudbury	Wounded
Sessions, Gerald C.	Switchman	Dunmore	Wounded
Shackleton, Fredk. J.	Checker	Ignace	Killed in action
Sherring, Leonard	Apprentice	Ogden Shops	Wounded
Sloman, Edward F.	Apprentice	Angus	Gassed
Smith, John T.	Cook	Montreal	Wounded
Smith, Wm. C.	Trucker	Toronto	Wounded
Staples, Fredk. W.	Steward	B.C. Coast Service	Killed in action
Stewart, Chas. C.	Clerk	Montreal	Wounded
Sumner, James	Car handler	Lethbridge	Gassed
Sumner, John	Sectionman	Chatham	Wounded
Sutherland, Wm.	Car cleaner	Toronto	Killed in action
Tackaberry, Harold H.	Clerk	Brandon	Wounded
Waldie, Wm. C.	Painter's cleaner	Winnipeg	Wounded
Wallace, Samuel H.	Clerk	Brandon	Wounded
Watson, George	Wiper	Rogers Pass	Wounded
Webb, Geo. J.	Section foreman	Sedgewick	Wounded
Weir, John J.	Call boy	West Toronto	Wounded
Wheeler, Percy W.	Clerk	Winnipeg	Wounded
White, George	Biller	Owen Sound	Wounded
Whitman, George C.	Apprentice	Winnipeg	Killed in action
Wilding, Harry	Clerk	Winnipeg	Wounded
Williams, John K.	Car cleaner	Port McNicoll	Wounded
Wills, William G.	Car repairer	Sudbury	Wounded
Wilson, Bertram	Clerk	Strathcona	Wounded
Wilson, Thos.	Fireman	Lambton	Wounded
Winder, Thos.	Apprentice	Angus	Wounded
Worboys, William	Carpenter	Winnipeg	Wounded
Wright, Wm. R.	Brakeman	B.C. District	Wounded
Young, John F.	Investigator	Montreal	Killed in action

Shown on Honor Lists to date:— Killed, 804; wounded, 1,756. Total, 2,560.

Electric Railway Department

Ottawa Electric Railway Refused Increases in Suburban Fares, by Board of Railway Commissioners.

Sir Henry L. Drayton, Chief Commissioner, Board of Railway Commissioners, gave the following judgment Feb. 10:—The applications of Westboro Police Village and Nepean Township, for an order disallowing the Ottawa Electric Ry.'s proposed tariff C.R.C. 5, published and filed to become effective Nov. 18, 1918, were heard jointly in Ottawa on Nov. 18, 1918, and Dec. 2, 1918. At the close of the hearings further statistics were to be filed. These have since been filed, and the matter is now ripe for adjudication. At the hearings the City of Ottawa intervened, as well as certain property owners, in support of the applications of Westboro and Nepean for the disallowance of the tariff. The tariff complained of provides, inter alia, for fares on the following basis:—

Cash Fares Between 6 a.m. and 12 Midnight.

	Adults	Children under 10
Within zone 1, 2, 3 or 4......	5 cents	3 cents
Between zone 1 and zone 2 or 3	10 "	6 "
Between zone 1 and zone 4...	15 "	9 "
Between zone 2 and zone 3...	15 "	9 "
Between zone 2 and zone 4...	10 "	6 "
Between zone 3 and zone 4...	20 "	12 "

Between 12 midnight and 5.30 a.m., double the above fares.

Special Tickets.

Between zone 1 and zone 2 or 3.....3 tickets 25c
Between zone 1 and zone 4.........2 tickets 25c

Workmen's Tickets.—Good only within zone 1, from first morning trip until 7.30 a.m., and between 5 and 6.30 p.m: Thirty-three tickets $1; eight tickets 25c.

School Children (under 14 years of age).—Good only between 7 and 9.30 a.m., 11.30 a.m. and 1.30 p.m. and 3.30 and 5 p.m.: Forty tickets $1. One ticket for each zone travelled.

Sunday.—Seven tickets 25c. One ticket for each zone travelled.

Limits of Zones.

Zone 1—Within municipal limits of City of Ottawa and beyond to the Experimental Farm and to Cloverdale Ave. on Rockcliffe line.

Zone 2—West of zone 1, to and including McKellar.

Zone 3—East of Cloverdale Ave. to and including Rockcliffe Rifle Range.

Zone 4—West of McKellar, to and including Britannia-on-the-Bay.

This tariff was suspended by the board's order 27830, and the old tariff still remains in force and effect. The new tariff would radically change the fare basis. As matters now stand, to give an extreme illustration, a passenger is carried from Britannia-on-the-Bay to the rifle range, involving a movement of 11.70 miles, for a fare of 5c. It is obvious that if the company was operating only for such a distance and at such a rate, its operation could not continue; the return is not compensatory, the actual cost of operation is much greater. On the other hand, under the company's proposal, for the same trip a fare of 20c would have to be paid, an increase of 300%. The old rate, approximating 0.43c a mile, becomes approximately 1.71c. This again, heavy as the increase is, would be well below the recognized standard mileage rates were this company a radial company, and not really an urban system with feeders.

Another movement, not so extreme, but still long, is that from Britannia-on-the-Bay to the corner of Rideau and Charlotte Sts., 8.68 miles. Under the proposed tariff the old rate of 5c now applicable would become 15c, and the return per mile of 0.576 would be increased to 1.72c.

The company has filed statements which clearly establish that the operation of the extension to Britannia, standing by itself, is not remunerative. If the operation of this line can be so considered, it is clear that the company is entitled to an increased remuneration for the service it performs on it. The determination of this issue is attended with difficulty. The company operates in Ottawa under agreement with the city dated June 28, 1893. The company's franchise expires Aug. 13, 1923. The rates which the company desires to put into effect in each zone, are the rates reserved by the agreement, paragraph 46 of which reads:—

> "46. No higher fare than 5c shall be charged for the conveyance of one passenger from one point to another on the said line, and branches thereof, within the present city limits, and for children under 10 years of age no higher fare than 3c shall be charged except between the hours of 12 o'clock midnight and 5.30 a.m."

It will be observed that the contractual fare limitation applies merely to the limits of Ottawa as then constituted. Ottawa's boundaries in 1893 were, on the east, at the material point, viz., on the line running to the rifle range—Riverside Terrace, the city limits practically ending with the grounds of Government House, Lisgar Road, and Maple Lane. These easterly boundaries have not been extended. The other material boundary is to the west. Along the line of Somerset St., where the cars run, this boundary was Bayswater Ave., the general western boundary being the C.P.R. right of way up to Somerset St., when a jog was made to the west and the line continued up Bayview Road north. On July 27, 1907, the city's western boundary south of the G.T.R. and north of Caroline Ave. was extended to Holland Ave. On Dec. 19, 1907, the city was again extended to the north of the G.T.R. and south of Scott St. to the present westerly city limit. The route to Britannia ran through the territory covered by this annexation. The new western city boundary resulting from this annexation is described in the evidence as the division line between Lots 33 and 34 in the 1st Concession, Ottawa Front, of Nepean Tsp., along the company's line to Britannia. This new boundary is some 2,000 ft. west of Holland Ave. The city's westerly boundary was squared off by the annexation of Feb. 4, 1909, which extended part of the city lying north of Caroline Ave., and south of the G.T.R. tracks to the prolongation of the westerly boundary of the territory annexed Dec. 19, 1907.

The section of the Ottawa agreement above set out, confined as it is to the old city boundaries, does not apply to the territory covered by these annexations. The company, in a further agreement of April 8, 1895, made with the city, contracted to build, equip, and operate the line to the Experimental Farm. The resolution of the city council of April 1, 1895, adopted by the agreement and referring to the branch to the Experimental Farm, reads:

> "2. That the company be bound to have a line of railway fully equipped and in operation from the city to the Experimental Farm, before the end of the present year (1895), and that the company be allowed to charge only city rates for any passenger from any point within the city limits to the Experimental Farm (or any intermediate point), and the same rates from the farm (or any intermediate point) to any part of the city."

The route to the farm, as provided in the agreement relating to it, was not followed, and the line as today operated to the Experimental Farm runs from the Britannia line south along Holland Ave. to and along Carling Ave., and thence to the Experimental Farm. The company does not seek to raise the rates to the Experimental Farm; it is included in zone 1, the company admitting that the rates of fare are governed by agreement, and are not sought to be advanced. In like manner the territory annexed Dec. 16, 1907, which consisted of the former Village of Hintonburg, is, as far west as Holland Ave., included in the same zone. Here again rates are covered by the agreement of May 11, 1895, the company's agreement with Hintonburg containing the following provision:

> "37. No higher fare than 5c shall be charged for the conveyance of one passenger from one point to another on the said line and branches thereof within the present and any future limits of the Village of Hintonburg, and from thence to any point within the present limits of the City of Ottawa or to the Experimental Farm, and for children under 10 years of age no higher fare than 3c shall be charged, except between the hours of 12 o'clock midnight and 5.30 a.m."

The principle on which the company has constructed its first zone, makes it applicable, not only to Ottawa as constituted in 1903, but as extended on the east to Cloverdale and on the west through the former Municipality of Hintonburg to Holland Ave. I am of the opinion that this zone in any event cannot stop at Holland Ave. On the other hand, it must be continued to the present existing city limit. The company's agreement with Hintonburg limits the rate to 5c, not only within present and future limits of the village, but from it to any point within the then (1907) limits of the City of Ottawa, or to the Experimental Farm. Hintonburg was to get Ottawa rates. On the evidence Hintonburg's westerly limit was not Holland Ave., but was the division line which now constitutes the westerly city limit already described. In any event, bound as the company is by its Hintonburg agreement, zone 1 ought to extend to the present westerly city limit, which coincides, as stated, with the limit of the old Municipality of Hintonburg. It is clear that the company's operations to the Rifle Range on the east, past the easterly city limit, and to Britannia on the west, past the westerly city limit, are not in any way bound by municipal agreements, and are not subject to municipal rate limitations.

Mr. Proctor, who appeared for Ottawa, urged that as the company's general operations showed a good return, that notwithstanding the loss on the extensions, the board ought to level up rates, having regard, doubtless, to expenses on the one hand and profits on the other; and that when increasing fares on the extensions the city rates should be reduced to a more reasonable basis. Such action is not open to the board. The city, as well as the company, is bound by the agreement. In my opinion, Mr. Proctor's argument that the effect of the municipal agreement is only to provide that the company cannot charge more than a certain amount, and that the board can reduce it, is not tenable. The main-c party and the company agreed that rates should not be higher than the amount stipulated. As between the city and the company, rates within the amount stipulated are accepted and are just and reasonable. The company has the right to charge them.

Following the board's practice, notwithstanding the city's agreement, on a proper case being made out for reduction, generally speaking, the board's jurisdiction would enable it to reduce the rate. The scheme of the act is that rates shall be just and reasonable, and if under an agreement the carrier is getting more than a reasonable rate, beyond question the board ought to reduce that rate; and, conversely, if the agreement has not reserved a rate just and reasonable, and discrimination has resulted, it is the duty of the board to increase it. While, therefore, under the general rule, effect could be given to Mr. Proctor's contention, no such action can here be taken, because the Dominion Parliament, whose legislation absolutely binds the board, has confirmed the agreement. Section 2 of the Dominion act of 1894 provides:—"The agreement between the said companies and the Corporation of the City of Ottawa, dated June 28, 1893, and set out in schedule B to this act, is hereby ratified and confirmed." The board's general jurisdiction is bound by this special act. The same question was considered by the board having reference to the Crowsnest Pass agreement in the Increase in Passenger and Freight Tolls Case, reported in 22 Can. Ry. Cas. 49. Similar effect was given to municipal agreements in Hamilton Radial Electric Co. v. Hamilton et al., 23 Can. Ry. Cas. 114.

I now deal with the Britannia-on-the-Bay service. The evidence shows that this line commenced its operations May 24, 1900; that the company charged an extra fare beyond Holland Ave. for three or four years; and that the company then exacted the extra fare only for the winter months, and in 1908 abandoned the extra fare altogether. Operations have since been carried on subject to the company's general tariff applicable to Ottawa. The extension to Britannia was authorized by the Dominion Act of 1899, c. 82, which provides that the company may, as an extension of its present railway, construct and operate a railway from some point on its present railway, in Hintonburg or Nepean, to some point at or near Bells Corners, in Nepean Tsp. Mr. Proctor contends that the operation of this line is purely optional on the company, and that as it is optional the company is not in a position to come to the board for relief; that the company is not in a position to say that service must be given, and that the board should therefore allow a just and compensatory rate. If this principle be adopted, the result would be that when the line would be remunerative, that is, during the summer, a service would be given and no service at all in the spring, autumn or winter. While this result would work little or no inconvenience to those living in Ottawa, who would be able to get out to the Britannia summer resort when they desired to go, for the single fare. It would work a direct hardship on all residents on the line, Westboro and west. Relatively a very considerable population (although insufficient to support the car service at the present rates) is served the whole year round by the line. Its operations ought to continue. The wording of the act, as I view it, does not relieve the company from its duty to operate. The wording is usual. No railway act of incorporation provides that the railway shall be built. Permission is simply given to build and operate, but when once the line is built and the company is solvent and can operate, the statutory duty to operate applies. In any event, if the line is not to be run regularly and with a proper service, the only alternative would be its complete abandonment and removal. No railway company should be permitted to operate a line for a given short period of the year only, and decline to operate it for the remainder, when against public interest.

Rates of fare not being determined, it becomes necessary to ascertain the company's position having regard to Dominion control. The company's original incorporation is an act of the old Province of Canada, 1866, c. 16. No reference is made in the statute to any regulative tribunal or general act, but the directors of the company are given power and authority to "make, amend, and repeal, and re-enact all such bylaws, rules, resolutions, and regulations as shall appear to them proper and necessary, touching ....the fares to be received for passengers and freight transported over the railway, or any part thereof, the intervals of time in running each car, the time within which, on each day, the cars shall run, the speed of running the same...."

The railway at this time being entirely local, jurisdiction over it after Confederation rested in the Ontario Legislature, and that legislature amended the act of incorporation by its statute, c. 45, in 1868. Under this act a number of clauses of the Railway Act of the old Province of Canada were made applicable. No clause made applicable, however, covers the regulation of fares and tolls. The measure of public control over railway fares, provided by the Railway Act in force at the time of the company's incorporation and when this amending act was enacted, and being Consolidated Statutes of Canada, 1859, c. 66, is contained in the following provisions:

> "118. The legislature of this province may from time to time reduce the tolls upon the railway, but not without consent of the company, or so as to produce less than 15% per annum profit on the capital actually expended in its construction; nor unless, on an examination made by the Commissioners of Public Works, of the amount received and expended by the company, the net income from all sources, for the year then last passed, is found to have exceeded 15% upon the capital so actually expended."
>
> "151. The by-laws of every railroad company regulating the tolls to be taken on such road, in the special act respecting which a provision has been inserted that such railroad should be subject to the provisions of any general act relating to railroads, shall be subject to the approval of the Governor in Council, and no bylaw of any railroad or railway company in this province by which any tolls are to be imposed or altered, or by which any party other than the members, officers, and servants of the company are intended to be bound, shall have any force or effect until the same has been approved and sanctioned by the Governor in Council."

As already pointed out, sections of the Railway Act incorporated do not include the above provisions. On the other hand, they are expressly excluded, the special act providing that no other clause, except the clauses mentioned, shall apply. As a result, under the two special acts of 1866 and 1868, the whole question of fares to be charged for both passengers and freight transported was left to the regulation of the directors' bylaws. No parliamentary or other public regulation was provided.

In 1892, the company contemplating its extension across the river into Hull, an act was passed by the Dominion Parliament, c. 53, which contains the declaration to the effect that the company's undertaking is declared to be a work for the general advantage of Canada. The usual effect of the declaration is to give the Parliament of Canada full jurisdiction over the company and its undertaking, and to make the Dominion Railway Act in its entirety applicable. This result is, however, qualified by a provision that:

> "The operation of so much of the company's line of railway as may be within the Province of Ontario by any new or additional powers covered by this act, shall be subject to the statutes of Ontario in force from time to time in relation to street railways, and the operation of so much of the said line of railway as may be within the Province of Quebec by any new or additional powers conferred by this act, shall be subject to the statutes of Quebec in force from time to time in relation to street railways."

This act again makes specific sections of the Railway Act applicable. In view of the well known effect of the declaration of the general advantage of Canada, it is difficult to account for this action, unless the incorporators desired the specific reference, or the intention was to exclude the company and railway from unnamed sections, and among others the sections empowering the board to regulate fares. All doubt, however, which might arise as to whether or not the board had jurisdiction under the Railway Act to regulate the company's tolls was removed by the subsequent act of the Dominion, 1894, c. 86. Sec. 7 of this act declares the company's lines to be works for the general advantage of Canada, and the Ottawa Electric Ry. Co. to be a body corporate, subject to the legislative authority of the Parliament of Canada. This absolute declaration would also appear inconsistent with the exceptions reserved in favor of provincial jurisdiction in the statute of 1892.

A further act of the Dominion, however, 1899, c. 82, was also passed on the company's petition, this act being the act already referred to as authorizing the construction of the Britannia line. For some reason which is not at the moment apparent, again, certain sections of the act were made specifically applicable, sec. 3 of the statute reading:

> "Sections 90 to 172, both inclusive, of the Railway Act, and such of the other sections of the said act as are applicable, shall apply to the company with respect to the said extension."

In view of the declaration contained in the act of 1894, the company in all its operations was subject to the provisions of the Railway Act. The provisions of the act of 1899, making specific sections of the act applicable, does not of necessity, in view of the circumstances, relieve the company from the operation of the act generally. The promoters of the legislation may have desired, and parliament may have enacted the specific sections merely for greater certainty. The board ought not to find the provisions of the act of 1894 repealed by implication without some very strong reason. The apparent inconsistency now considered in my opinion is not sufficient. Sec. 5 is of special importance, in that parliament thereby recognizes as continuing the provisions of the act of 1892 and which reserves a limited provincial control. In 1899 parliament thus treats as existing, and legislates on the supposition, rights reserved to the provinces by the act of 1892.

I am of the opinion that all these special acts have to be read together, and that they should be so read as to give effect, where possible, to the provisions of all. I therefore find that the company is under the control of the Dominion Parliament and subject to the provisions of the Railway Act, subject to the exception made in the statutes of 1892. The result, therefore, is that the actual operation of the company's line in Ontario, by any new or additional powers conferred by the act of 1892, is subject to the statutes of Ontario in force from time to time in relation to street railways. The new and additional power granted by this act, and having reference to operation, is the authority which has since been exercised by the company to operate the railway by the force and power of electricity. As a result, subject to the modifications worked by the Dominion acts of 1892 and 1899, the company and its railway, apart from the electrical operation, are subject to the board's jurisdiction, and the electrical operation of the railway only is subject to provincial law. As a result, I find that the board is properly seized of the present case.

Under the Railway Act, the same company may have different rates on different parts of its system, where traffic and operating conditions and construction costs are dissimilar; for example, railway tolls are justifiably higher in a mountainous district, where cuttings and grades are heavy, and as a result the cost of construction and operation is greater than in other districts. Again, the tolls may be greater where traffic density and diversity differ. Rates on a branch or lateral line may be justified, although higher than those of a main line, with greater traffic and although owned by the same company. Almonte Knitting Co. v. C.P.R. and M.C.R.R., 3 Can. Ry. Cas. 441.

These considerations apply to railways which give a measured service, and receive a measured rate, reasonable and just for the service rendered. No case has heretofore arisen requiring consideration as to whether or not such principles can be applied to a city street railway, although possessing an outside feeder, and which does not give a measured service for a measured rate, but on the other hand applies a flat rate to all using its facilities, and without regard to the actual value of the service rendered, for which a particular fare is paid. The conditions applying to the tolls and tariffs of the railway systems of the character contemplated by the Railway Act, and considered in the board's past decisions, are so different to the conditions surrounding the operation of the Ottawa Electric Ry., that previous decisions of the board are easily distinguishable. In the case of a measured service, finding as I do that the service on the branch line of itself is not at the present remunerative, the company's other tolls would in such case be subject to reduction, in case the revenues of the branch were increased, and the company's general revenue from transportation greater than it ought to enjoy.

The Britannia line forms part of the company's general investment. As previously stated, the line was constructed in 1899 and operated on and after May 24, 1900. In 1899 the company's capital was $814,000, its funded debt $310,000, and its current liabilities $107,553. In 1900, while the capital was the same, the funded debt was increased to $500,000 and current liabilities reduced to $50,436. In the absence of exact information on the point, it would appear that the construction of the line was financed, at least in part, by the addition of the funded debt. The stock issue and funded debt remained constant until 1903, at which time the capital was increased to $995,700 and the current liabilities reduced to $33,601. In 1905, the capital issue was again increased, amounting as it then did to $998,200, while the current liabilities amounted to $120,566. In 1908 the capital was increased to $1,247,700, and the current liabilities then amounted to $210,394. In 1912 the capital had increased to $1,876,900, and the current liabilities were $136,909. The funded debt still remained at $500,000. It will be observed that the construction of the Britannia line caused no particular change in the capital account, but that account has varied quite as sharply as when the line was built. The investment became, and is, part and parcel of the company's general investment in its transportation undertaking.

The company, in support of its application, shows that, in view of greatly increased cost of operation, conditions have changed, and urges that increased fares have become necessary. Undoubtedly all costs have greatly risen. War conditions have brought about abnormal conditions. Transportation companies have been injuriously affected to a very marked degree. The Ottawa Electric Ry. has suffered from general increased costs, in common with other companies and business concerns. Some of these increased costs, at any rate, were more marked during the period of active hostilities than they are today. I now consider the effect of the active war period on the company.

The year ended June 30, 1913 (the date as of which the company has to make its statutory return), may, as I think, be looked upon as normal. The last return made to the Railways Department is for the year ended June 30, 1918. A perusal of the reports filed with the department shows that during this period the company maintained its position, having regard to both its balances and dividend payments. While there was no new issue of stock, the mileage operated increased from 47.7 miles to 52.82 miles. The funded debt in 1913 was $500,000; in 1918 it had been reduced to $410,000. In 1913 the company's reserves were $210,000; in 1918 they were $558,076. As against this, the company's current liabilities in 1913, of $520, grew to $400,056 in 1918. This increase in current liabilities, in the absence of any increase in funded debt or capital, may well be accounted for by the fact that the company's return of cash spent in construction and equipment, less deductions, which it made in 1913, amounted to $2,725,778, while the total returned in 1918 had increased to $3,370,368, an increase of $644,500. In 1913 the company commenced its operations with a surplus of $203,500, and after paying the usual dividends and interest, as well as $69,000 transferred to contingent account, increased its surplus by $13,259. In 1918 the year's operations commenced with a surplus of $47,589. The company paid the usual dividends and its interest charges, and transferred $110,000 to depreciation reserve, but decreased the surplus it commenced the year with by $29,929. The results of the respective years' business differ but slightly. In so far as surpluses are concerned, 1913 has the advantage to the extent of $43,188, while in 1918 transfers to other accounts exceeded 1913 by $41,000.

In so far as the company's balance sheet is concerned, admittedly an increased floating debt has the drawbacks inherent to such liabilities. Nevertheless, the railway property operated has increased over 10%. The funded debt has decreased $90,000; the reserve, apart from any consideration of specific depreciation reserves, or the contingent account, has increased $348,076. On the other hand, the increase in current liabilities is $399,536, and the surplus remaining on hand at the end of the year decreased $186,831. To recapitulate, the company's returns support the following conclusions as to changes worked in the company's position between 1913 and 1918:

Decrease in funded debt	$ 90,000
Increase in reserve or surplus . . .	348,076
Increase in construction and equipment account.	644,590
	$1,082,666
Increase in current liabilities . . .	$ 399,536
Decrease in yearly balance . . .	186,831
To balance	496,299
	$1,082,666

In other words, after maintaining a 15% dividend and all interest on its funded debt, the company's returns show it to be $496,299 better off on June 30, 1918, than it was before the war. Another method of estimating the company's prosperity is that afforded by the operating ratio, which expresses the percentage of operating expenses to receipts. The company's annual reports to its shareholders gives the operating ratio for the calendar year 1899, at 57%. The same return is made for 1900, but as at that time a special charge was made for the Britannia service, the effect of the Britannia operation without the payment of fares cannot be illustrated. For the calendar year 1901, with fares charged on the Britannia line, a percentage of 63% is shown, dropping to 60% in 1902, and in 1904 rising again to 62%. It was about this period that the company carried passengers on the Britannia line without an extra fare, during the summer. For the calendar year 1905 the ratio was shown as 59 2/5%. Some time in 1908 the company ceased making any extra charge on the Britannia line. The operating ratio in 1908 was 66 2/5%; in 1909, 63½%; in 1912, 57 1/5%; in 1913, 60 2/5%; and for the calendar year 1917 the operating ratio had dropped to 56 4/5%.

The company, however, since the last return was made to the government, has been obliged to make a large increase in its wage account. The evidence shows that the wage increase, calculated on the actual payments for Sept. and Oct., 1918, and compared with the same months of 1917, amounted to an increase of 28%, while the total expenses showed an increase of 30%. It is, of course, impossible to deny the grave effect of the increase, but the company is, on the other hand, in receipt of increased revenues. It no longer sells 6 tickets for 25c. As a result of the change in the rate basis, which under its contract the company was able to make, the average fare paid per passenger has increased from 4.19c to 4.71c, an increase of 0.52c. If the company's volume of traffic is maintained, this increased revenue will go a long way in recouping increased expenses. The returns of Sept. and Oct., 1918, are undoubtedly disappointing, but these months cannot be considered characteristic—the influenza epidemic was then at its height—not only were many people ill and unable to be about, but those who could, were urged to keep out of street cars and all crowded places.

Much has been said of the London and Port Stanley and the Hull Electric cases. They do not apply. The circumstances were, and are, entirely different to those of this case. London was netting less than 2% on its original investment, and the Hull Co. operating without profit.

It is undoubtedly in the public interest that railway companies should be prosperous, and their operation remunerative. With impoverished companies, service always suffers, and the rails, rolling stock, and equipment rapidly deteriorate.

Happily, in the present case, the company has been, and is, prosperous and well managed, the plant well maintained, and perhaps the best service in the country afforded. All of this is in the best interest of the public; it is also in the best interest of the company, whose careful and efficient management has resulted in large dividend earnings, as well as a proper service.

As a result of the view I take of the general issue, it is unnecessary to discuss the line to the Rifle Range in any detail. It is hoped and expected by many that costs will shortly decrease. However this may be, the company has failed to show that it requires increased revenues. I would disallow the suspended tariff.

The foregoing judgment was concurred in by Deputy Chief Commissioner Nantel and by Commissioners McLean, Goodeve and Boyce.

Winnipeg Electric Railway Report, Meeting and Changes in Directorate.

The outstanding feature of the Winnipeg Electric Ry.'s annual meeting, held at Winnipeg, Feb. 12, was the retirement of the four non-resident directors, Sir Wm. Mackenzie, Sir Donald Mann, D. B. Hanna, and R. J. Mackenzie, the election of Sir Augustus Nanton, heretofore Vice President, as President, and of A. W. McLimont, heretofore General Manager, as Vice President and General Manager.

Sir Augustus Meredith Nanton,
President, Winnipeg Electric Railway.

The annual report was presented as follows and adopted.

Gross earnings from operation		$3,588,723.09
Operating expenses, before charging depreciation		2,412,226.47
Net operating revenue		1,176,496.62
Miscellaneous income		44,931.65
[illegible] available for fixed charges, etc.		1,221,428.27
From which the following deductions are made:		
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
		[illegible] 644.19
Net income, available for depreciation		[illegible]

The gross income for 1918 shows an increase of $249,713.20 over 1917, but increased wages and operating expenses have swelled the operating charges, so that for 1918 the net income shows a decrease of $63,845.57 from 1917.

During 1918 great difficulties were encountered. The prevalence of the influenza epidemic was responsible for a large loss in revenue, and in May the company's motormen and conductors went out on a sympathetic strike, with the city fire brigade, tying the service up for several days. The motormen and conductors were granted a board of conciliation, which awarded to them very large increases of wages dating from Oct. 1, 1918. A similar result ensued from a board of conciliation appointed at the request of the shop and track men. The increased wages thus awarded, together with higher wages paid in all departments, and increased cost of materials, made a very large addition to operating costs. On the other hand, your directors are glad to be able to report that the jitney competition, which this company had to endure so long, and which was a source of much financial loss to it, has been eliminated. The Public Utilities Commission, upon the company's application, made an order providing for a temporary increase of fares, effective on Nov. 1, 1918. Application for a permanent increase of fares is now before the commission.

Unless further unforeseen adverse conditions have to be contended with, the outlook for 1919 is much brighter, and more hopeful than for a number of years past. With the return of peace, business is gradually resuming its normal activity, and provision is being made by the management to take advantage of the increased business which is looked forward to.

Sir Wm. Mackenzie, who was in the chair, and who had been President from the company's inception, announced his intention of retiring from the board, and also that Sir Donald Mann, D. B. Hanna and R. J. Mackenzie would retire.

Sir Augustus Nanton, Vice President, referred to the great service rendered to the company by Sir Wm. Mackenzie and expressed regret at his retirement, and said:—"Sir William has been President of the company practically since its inception. Today the citizens of Winnipeg can be proud of the fact that they have an electric railway second to none on the American continent, due to the great energy, ability, and farsightedness of Sir Wm. Mackenzie and his associates. Sir William fathered the establishment of water power plants on the Winnipeg River and the Winnipeg Electric Ry. Co.'s line was the first long distance power transmission line in Canada. The introduction of the electric railway transportation system has given rapid transportation to outlying districts of Winnipeg and has increased the value of suburban properties."

The following directors were re-elected: Sir Augustus Nanton, F. Morton Morse, G. V. Hastings, J. D. McArthur, Hugh Sutherland. The following were elected directors to fill the four vacancies mentioned above: G. W. Allan, K.C., M.P., W. R. Bawlf, W. J. Bullman, and A. W. McLimont. This constitutes a completely resident board, all the directors living in Winnipeg.

At a meeting held subsequently, Sir Augustus Nanton was elected President, and A. W. McLimont, Vice President and General Manager. F. Morton Morse was re-elected Secretary, and Lawrence Palk was re-elected Assistant Secretary.

Electric Railway Employes' Wages.

The Brantford Municipal Railway Commission has, according to a press report, been asked by the street railway men's union for a rearrangement of schedule of hours, so that they will work on a 9-hour day basis, with pay at the same rate as now paid for 12 hours.

A. W. McLimont,
Vice President and General Manager, Winnipeg Electric Railway.

The Montreal Tramways Co.'s employes on Feb. 1 negotiated with the company's officers for a further increase of wages, a 9-hour working day and better conditions as to holidays, clothing and some other matters. The present wage scale is for different periods of service, 31c, 33c, 35c and 37c an hour, and it is reported that the men are asking that these rates be increased to 43c, 45c, 48c and 50c an hour. Several meetings have been held.

The Quebec Public Utilities Commission, in a report to the legislature, calls attention to the fact that "the lack of definite authority to compel public utilities to enter into co-operation arrangements with one another, subject to mutual service and proper compensation, is not in the public interest, and, it is respectfully suggested, should be given by amendment to the law."

Advances in Electric Railway Freight and Passenger Rates.

British Columbia Electric Ry.—The voting upon the bylaw in North Vancouver recently resulted in the overwhelming majority of 482 to 90 in favor of the new agreement. As a result of this, the company receives an extension of its franchise to sell light until 1925, and in return give the North Vancouver people a 7c commutation fare, with transfer, to Vancouver city lines. The city fare in North Vancouver remains at 6c.

The 1919 city council has taken office in Vancouver. The new bridges and railways committee recommended that the mayor sign the 6c fare bylaw, which was passed last July. The mayor, however, still refuses to sign. The B.C. Electric Ry. has declined to continue franchise negotiations and has notified the city of this, and that it will rely upon the public utilities commission to deal with fares.

The Vancouver City Council passed a resolution, Feb. 7, cancelling the existing agreement authorizing the B. C. Electric Ry. to collect a 6c fare on its cars, at the expiration of the 9-month period dating from July 8, 1918, viz., April 8, 1919.

Alderman Porter, now Mayor of Victoria, said in the course of his recent election campaign that, if elected, he would take up immediately the 6c fare issue with the B.C.E.R. and press it to a satisfactory conclusion. A special meeting of the newly-elected city council, presided over by Mayor Porter, was held toward the end of January, to deal with the proposed agreement between the city and the company. It was agreed that a delegation should meet the company without delay. The council authorized the committee to come to terms with the company along lines much simpler than the list of conditions submitted to the company in the early part of December, during Mayor Todd's term of office. At a meeting of the city council, held the last week in January, it was decided to abandon the original 14 demands and to ask only three main concessions from the company, in return for permission to charge a 6c fare with transfer privileges, in place of the existing straight 5c fare. These conditions are:

1. That the company put into effect a fare schedule, making the regular fare on all lines 6c, with transfer privilege, 6 tickets being sold for 35c; special tickets for children under 12, good at all hours, and for school children, during school hours, to cost 25c for a strip of 10; children under 5 to be carried free.
2. That the same rates for electric lighting be in force in Victoria as in Vancouver. This would probably make the rate per kilowatt 6c, abolish meter rent, and make the minimum 50c a month.
3. That the company maintain the strip of roadway between the rails and a strip of 18 in. on either side of the track.

Whatever agreement the city reaches with the B.C.E.R., the council stipulated that it should be binding for at least a year, or until such time as a public utilities board is appointed, when the question will be re-opened.

The question of regulating jitneys was brought up at the same meeting of the council, but no definite action was decided on.

A Victoria press dispatch of Feb. 18 states that A. T. Goward, Local Manager B.C.E.R. there, had notified the city council that, with a few minor amendments, the company would accept the proposal for a temporary arrangement of the terms of the franchise drawn up by the city recently.

The Vancouver, Fraser Valley & Southern Ry. and the Vancouver & Lulu Island Ry., two lines operated by the B. C. Electric Ry., put in effect Feb. 1 a new standard freight mileage tariff, authorized by the Board of Railway Commissioners.

Hamilton Radial Electric Ry.—After a period of considerable electioneering activity, a new mayor and several other members of council were elected for Burlington, Ont., Feb. 3, with the result that on Feb. 5, the H. R. E. Ry. resumed service between Hamilton and Oakville, 21.46 miles. The agreement with the Burlington council as to fares to be charged supersedes for a year the provision in the original franchise, and provides as follows:—

Workman's ticket for 12 trips, good for one week, Burlington to Hamilton terminal and return, $1.50, and to Sherman avenue, $1.20.

Hamilton commutation tickets, to and from Hamilton, good for 26 trips within 6 weeks, $4.50 each, or a rate of 35c for return trip.

Transient tickets, one way 25c, return 45c.

School tickets to be sold at the same price as formerly.

Ratification of this agreement is to be made by the company, the Burlington council and the Board of Railway Commissioners, and the proceedings in connection therewith are in progress. A full schedule put in effect Feb. 20 provides for an hourly car service from 6.10 a.m. to 11.10 p.m. every week day, and from 9.10 a.m. to 10.10 p.m. on Sundays; while there is a service from Burlington to Hamilton at 6 and 7 a.m., the regular hourly service starting from Oakville at 7.30 a.m. and continuing to 10.30 p.m., except on Sunday, when the last car to Hamilton leaves at 9.30 p.m. There is a car leaving Oakville for Burlington at 11.30 p.m. (daily) and another at 12.30 a.m. (daily except Sunday), and on Sundays only a car from Oakville to Burlington is run at 10.30 p.m.

London St. Ry.—The London, Ont., Chamber of Commerce committee appointed to investigate the service-at-cost plan for streets railways and other matters relating to the London St. Ry. met Feb. 14, when Mr. E. P. Fredericks, of the Association of Holders of Public Utility Securities, Toronto, was heard again on the subject, he having addressed the whole chamber at an earlier date. At this committee meeting he explained the plan in more detail and submitted a draft copy of a proposed bylaw, which might be applied to London, and he also answered queries by members of the committee. The company's annual report was informally discussed by the committee, but no action was taken.

At another meeting on Feb. 17, members of the committee took up the service-at-cost plan, and after some expressions to the effect that it was apparently quite an experiment in most places, and in view of the fact that they had not received replies to enquiries sent out in regard to it, they again deferred any definite action. The mayor expressed himself as against the plan.

The company's application for increased fares, as set for in a letter to the mayor, dated Feb. 5, asking an increase to 5c cash, or 6 tickets for 25c, was taken up by the city council's no. 1 committee on Feb. 19. In that letter the company's president asked the city council to consider whether it would care to buy the property, as provided in the bylaws, without waiting until the expiration of the franchise in 1925. Ex-Alderman H. B. Ashplant, an admitted socialist, claiming to represent the real investors in the property, asked to be heard, and presented figures compiled from the company's reports for the past five years, aiming to show that the property had been built up on earnings, and that whereas capital was entitled to get out only what it had put in, without any return in the meantime, the company did not therefore need to increase its fares. After consideration by the committee, it was decided to recommend that the city council employ an independent auditor, familiar with street railway work, to investigate and report on the company's position. The company had previously expressed perfect willingness to have such an investigation made by any independent, competent authority.

Nipissing Central Ry.—A Cobalt, Ont., press dispatch of Feb. 19 says that over $8,000 was lost in 1918 in operating this line, which is owned by the Province of Ontario and operated by the Timiskaming & Northern Ontario Ry. Commission. The report also stated that some of the officials had been interviewing local authorities to ascertain their opinions as to a 25% increase in passenger fares.

Ottawa Electric Ry.—The Board of Railway Commissioners' judgment, refusing to allow the company to advance passenger fares on its suburban lines, is given in full on another page of this issue.

The Board of Railway Commissioners passed order 28,120, Feb. 25, disallowing the Ottawa Electric Ry.'s tariff C.R.C. 5, pubilshed and filed, to become effective Nov. 18, 1918.

Attempt to Cancel Montreal Tramways Co's Franchise Defeated.

A bill having for its object the amending of the City of Montreal's charter was introduced into the Quebec Legislature recently by G. Myrand. The petitioners named in the preamble were A. Goyette, J. A. Vaillancourt, L. Dubois and J. M. Savignac, who alleged that public opinion was manifestly in favor of the repeal of secs. 2 to 24 of chap. 24 of the statutes of 1918, creating an administration commissioner not elected by the people for the city, and of sec. 28, chap. 60 of the statutes of 1917, appointing a commission to draw up a contract for the tramways franchise between the City of Montreal and the Montreal Tramways Co.; and of sec. 75, chap. 84 of the statutes of 1918, ratifying such franchise contract. The preamble further alleged that public opinion was evidently in favor of not having any franchise and exclusive privileges and any modification of such franchise and privileges already existing in connection with any public utility company being granted in Montreal otherwise than by the direct representatives of the electors of the city, nor of their coming into force until they had been ratified by a referendum or by a vote of the majority of the electors. The sections of the measure provided for the repeal of various portions of the acts mentioned, and the insertion of sections providing for the governing of the city after April 1, by the mayor and aldermen then in office, instead of by the commission, defining their duties, etc. Sec. 10 provided for the repeal of sec. 28 of chap. 60 of the statutes of [illegible] appointing a commission to draw up a franchise agreement between the Montreal Tramways Co., and sec. 11 provided for the insertion of an article in chap. 58 of the act of 62 Vict., enacting the second allegation of the preamble.

The bill was read a second time and referred to the private bills committee for consideration. The hearing before this committee was begun Feb. 18, when the sections proposing to do away with the present commission governing the city were thrown out by 32 to 2. There was considerable discussion on the two sections affecting the tramways franchise, and further discussion was postponed. The final sections of the bill were dealt with in the committee Feb. 19, when they also were defeated, only two members voting in their favor.

At a meeting of the city council Feb. 3, Alderman Bedard submitted a motion asking that the council support the bill, but after a discussion the motion was referred to the legislative committee by a vote of 12 to 5. A report of the legislative committee recommending the council to support the measure was considered at a meeting of the council Feb. 10, Mayor Martin and Alderman Shaw only voting against it, the remaining 17 aldermen present voting for it.

Negotiations for Purchase of Ottawa Electric Ry. by the City.

Ahearn & Soper, Ltd., wrote the Mayor of Ottawa towards the end of January as follows:—"Your favor of Dec. 13, 1918, advising us that the board of control would be pleased to have us place a price upon the street railway property, was received upon the eve of the civic elections at which the question of the city owning and operating the street railway was submitted to the ratepayers. Pending an expression by the ratepayers, we postponed replying to your communication, believing that an adverse opinion would render further negotiations unnecessary.

"It was our desire, as stated to your board, that the franchise should be renewed, and we have only decided to make a recommendation to the traction company's shareholders because of the refusal by your board to consider a renewal of the franchise and because of the expressed wish of a majority of the Ottawa ratepayers at the recent municipal election that the city should own and operate the road.

"Therefore, subject to approval by the shareholders of the Ottawa Traction Co., and to acceptance by the City of Ottawa on or before May 1 next, we will agree to assign to the corporation all the street railway properties at a price equal to par for the Traction Co.'s stock, which consists of 56,307 shares of $100 each. The corporation to assume the unexpired portion of the franchise and such liabilities of the company as may exist at the date of the corporation taking possession of the property. Payment to be made by the corporation by any one of the following options:—1. Cash. 2. 5-year 5½% City of Ottawa bonds. 3. 10-year 5½% City of Ottawa bonds. 4. 20-year 5½% City of Ottawa bonds. 5. 30-year 5½% City of Ottawa bonds.

"The price submitted is in accordance with your letter of Dec. 4. You wrote: 'You will understand that if the company fixes a price, it must be a real price. There is no room under the circumstances for any haggling. The price would either have to be accepted or rejected.'

"In our reply of Dec. 6 we wrote: 'We are fully in accord with your view as expressed above. The price to be named will be explicit and final.'

"The terms of this letter are without prejudice to the price of the street railway assets if assumed by the city at the termination of the company's franchise."

The city's board of control then asked for further information as to the liabilities to be assumed by the city should the offer be accepted, to which Ahearn & Soper replied as follows:—

"The financial liabilities of the company today are: Bonds, 4%, $400,000; current loans, $370,000. The bond issue is being reduced by drawings from time to time. Current loans vary according to the needs of the company's business.

"The business will be conducted during the period of the option in accordance with the company's established practice. No large capital expenditures are planned for the next three months, and we are advised by the acting Secretary-Treasurer that the item current loans will be approximately $350,000 on May 1.

"The company's dividends at the rate of 5% a year will not be exceeded during the period of the option. The company will permit inspection of its books and properties by your representatives."

The city council authorized the board of control to engage engineering, financial and legal assistance in connection with the matter, and it was announced subsequently that Thos. Bradshaw, Finance Commissioner of Toronto, had been retained in this connection.

Hydro Electric Railway Project from Toronto to Niagara Falls Revived.

The dispute between the Hamilton Radial Electric Ry. and the Town of Burlington and adjacent municipalities respecting fares, which has been fully dealt with in previous issues, and also in this one, revived the question of railway construction under the Ontario Hydro Electric Ry. Act. As a result the Hamilton city council decided to resubmit to a vote the bylaw which was defeated Jan. 1, 1917. Some discussion took place as to whether the bylaw should be amended in any way before resubmission, but Sir Adam Beck, Chairman, Hydro Electric Power Commission of Ontario, stated it would have to be resubmitted as it was originally. Hamilton ratepayers are asked to vote Mar. 15 on the question whether or not the city council shall enter into an agreement with the Hydro Electric Power Commission of Ontario, for the construction and operation of an electric railway from Toronto to Niagara Falls, Ont., under the provisions of the Hydro Electric Railway Act of 1914, and amendments thereto. The bylaw sets forth the route of the projected line, the total construction cost, the apportionment among the various municipalities interested, the annual cost to be provided by the municipalities, and all other matters necessary to the carrying out of the agreement. A very full summary of the agreement was given in Canadian Railway and Marine World, Jan., 1917, pgs. 26 and 27, when the bylaw was submitted originally. Of the 16 municipalities interested in the Toronto-St. Catharines section of the line, only three—Hamilton City, Nelson Tp. and Saltfleet Tp., voted against the bylaw, while all the eight municipalities interested in the Welland-Bridgeburg line voted in favor of the bylaw.

One-Man Cars Authorized for Saskatchewan.

At its 1913 session, the Saskatchewan Legislature added the following as sec. 237 of its Railway Act:—"Every street car shall be in charge and under control of at least two competent men, a motorman and a conductor." Since that time the desire of the municipalities and companies operating electric railways to give the fullest possible service to the public, brought about the adoption of one-man cars on the less frequented lines, and on other lines during hours when travel was at its lowest. War conditions, with the consequent increased cost of labor and materials, further accentuated the desire of the railway managements to increase the number of one-man cars operated, in order that full service might be given and the lines kept on a paying basis. With the direction that at least two men should be in charge of every car, electric railways in Saskatchewan were not in a position to take any steps towards its adoption on their lines.

In 1917, the legislature was asked to amend the act by authorizing municipalities to pass bylaws authorizing the operation of one-man cars within their limits, and a bill was introduced and rereferred to a special committee. The municipalities of Regina, Saskatoon and Moose Jaw were represented before the committee, and favored its adoption, but owing to the attitude of labor organizations, the committee did not make a report, and the session ended without any action being taken. The matter, however, was not allowed to drop by representatives of the three electric railways in the province: the Regina Municipal Ry., the Saskatoon Municipal Ry. and the Moose Jaw Electric Ry., with the result that a bill was introduced at the legislature's recent session, and after passing through its earlier stages was referred to the standing committee on railways. This committee met representatives of the companies, the municipalities and others interested on Jan. 28, and on Jan. 29 reported the bill without amendment. It was given its final reading Jan. 30, and was assented to Feb. 5. By its final section it is to come into force May 1. The act adds a new section to the Railway Act, numbered 237a, as follows:—

"The council of any city or town may pass a referred bylaw declaring that the preceding section shall cease to apply to any street railway, tramway or electric railway operating within the municipality; and from the time when such bylaw comes into force the said section shall cease to apply to the operations of any such street railway, tramway or electric railway, whether within or without the municipality, until repealed as hereinafter provided.

(2) The council of any city or town shall also have power to pass a referred bylaw repealing any bylaw passed in ac-

cordance with the preceding subsection. and after such repealing bylaw comes into force the said section 237 shall again apply to every street railway, tramway or electric railway operating within the municipality.

"(3) Every bylaw provided for by this section shall receive the assent of the majority of the persons voting thereon.

"(4) The persons qualified to vote upon any such bylaw shall be the persons whose names appear on the last revised voters' lists of the municipality.

"(5) All the provisions of The City Act or The Town Act, as the case may be, respecting bylaws requiring the assent of the electors shall, in so far as they are not inconsistent with the provisions of this section, apply mutatis mutandis to the proceedings upon a vote under the provisions of this section."

Electric Railway Projects, Construction, Betterments, Etc.

British Columbia Electric Ry.—Geo. Kidd, General Manager, is reported to have informed the Point Grey municipal council, Feb. 4, that if the authorities of the two municipalities interested would get together and open up the Alma Road through, and place it in good condition for laying track, the company would lay the track and operate its cars from Kerrisdale to Fourth Ave. and return, provided that no action be taken by landowners in the district. The matter is under consideration. (Dec., 1918, pg. 505.)

Grand River Ry.—We are officially advised that the new construction between Preston and Hespeler, Ont., consists of a revision of 2 miles of the branch line between those towns. Each spring the high water of the Speed River floods the roadbed, making necessary the closing down of operations for anything from 3 to 10 days at a time, with consequent damage to roadbed. It was thought best, in order to overcome these conditions, to relocate the line above all highwater marks, at the same time reducing gradients and curvature. On the new location there will only be 3 curves, whereas on the present line in the same distance there are 9, varying from 3 to 8 degrees each. The heaviest gradient on the new location will be 0.40%, and the sharpest curvative 4 degrees. The revision work starts at mileage 0.7 from Preston and connects with the present line at George Forbes & Co.'s mills at Hespeler.

The company owns Idylwild Park, on a stretch of the Speed River, which is equipped with a dancing pavilion, refreshment booths, baseball diamonds, swings, etc. A road from the new line to the park will be provided.

The work of clearing and fencing the new route is being proceeded with and the grading will be started as soon as weather permits. The overhead work will be of catenary construction, with a 7/16 steel messenger, using 3/0 copper trolley insulated for 1,500 volt operation. All the work is being done by the company's own forces, under the supervision of F. H. Midgley, Resident Engineer. (May, 1918, pg. 211.)

Levis Tramways Co.—A bill for the incorporation of the Levis Tramways Co. is being considered by the Quebec Legislature. The petitioners are Senator Raoul Dandurand, S. H. Ewing, J. A. Ewing, of Montreal; E. A. Macnutt, Westmount, and J. C. Blouin, who are to be provisional directors. The office is to be in Levis, and the authorized capital is to be $1,500,000, which may be divided by the directors into ordinary and preferred stock. The company is being incorporated to acquire the railway owned by the Levis County Ry. Co., as it now exists, and to operate thereon any kind or kinds of cars by electricity or otherwise in the City of Levis, the parish of St. Romuald d'Echemin, the village of Bienville, and the town of Lauzon; and it may also acquire all the Levis County Ry.'s other property, with all rights, agreements, franchises, etc., with all amendments to the same. Further alterations in the terms of the agreements with municipalities may be made by mutual consent. The applicants ask authority to extend the present railway in Levis, and in or between any of the various municipalities of the counties of Levis, Bellechasse, Dorchester and Beauce, subject to agreements with the municipalities, for periods not exceeding 40 years; and authority to build branches not exceeding 15 miles in any one case, from the main line. The applicants also ask power to enter into agreements for extending the line as far as the Quebec Bridge, and over the same, and also on the north shore of the River St. Lawrence, and to connect at some point with the Quebec Ry., Light, Heat & Power Co.'s electric railway.

The new legislation means a reorganization of the present Levis County Ry. Co., with more extensive powers, and a new title.

Moose Jaw Electric Ry.—The Moose Jaw, Sask., City Council was informed by the company, Jan. 28, that until the city decided to take over the company's line, or to render it such help as would enable it to operate, the company did not see fit to take any responsibility for any part of the repairs of the Fourth Ave. bridge. The matter was referred for consideration to the works committee. (Dec., 1918, pg. 505.)

Saskatoon Municipal Ry.—A press report states that the Saskatoon, Sask., city council contemplates making some extensions to the city's electric car lines during this year at an estimated cost of $46,000. (June, 1917, pg. 244.)

St. Thomas St. Ry.—The question of the repavement of Talbot St., one of the streets on which the St. Thomas St. Ry. operates, is before the City Council. The railway is not a paying proposition, and it is reported that the ratepayers will be asked to vote on the question of continuing to operate it, before the repaving matter is settled. It was reported, Feb. 19, that it would take about $75,000 to repair and improve the line to meet traffic conditions.

Sudbury-Copper Cliff Suburban Electric Ry.—The Ontario Legislature is being asked to amend the company's act of incorporation, by authorizing an increase in the capital stock from $250,000 to $500,000, and by empowering the company to sell its unissued ordinary shares. (Aug., 1917, pg. 324.)

Toronto & York Radial Ry.—The switch connecting the company's Metropolitan Division and the Grand Trunk Ry. at Aurora, Ont., was reported to have been opened for traffic Feb. 2. The object is to give the T. & Y. R. R. access to the factories in the western end of the town. (Jan., pg. 40.)

Toronto Suburban Ry.—The City of Toronto is asking the Ontario Legislature to confirm a city bylaw passed Mar. 5, 1917, requiring the company to construct and operate lines upon certain streets in Ward 7, north of Dundas St., on or before Oct. 1, 1917, and to declare that the city had authority to pass such a bylaw. (Aug., 1918, pg. 348.)

Electric Railway Notes.

The Hydro Electric Power Commission of Ontario has received a double end, double track, snow plough from Canadian Car & Foundry Co.

The Montreal & Southern Counties Ry. has asked tenders for two 50-ton electric locomotives equipped with four 175 h.p. box type interpole 600 volts meters.

The Fort William, Ont., utilities committee has directed A. L. Farquharson, Manager of the municipal railway, to make a report on capital charges against the railway and to suggest of what charges, if any, the railway should be relieved.

The City of Niagara Falls, Ont., application to the Board of Railway Commissioners, for an order directing the Niagara, St. Catharines & Toronto Ry. to lay its rails down the center of Queen St., and to construct a new crossing at intersection of Queen St. and Erie Ave., has been dismissed.

The matter of the price to be paid by the City of Toronto for the Toronto and York Radial Ry.'s Metropolitan Division came before the Ontario Railway and Municipal Board, Feb. 4, and on the company's application that it was impossible to get certain important witnesses, the hearing was postponed to Feb. 25.

The Toronto City Council has retained I. F. Hellmuth, K.C., to deal with the city's case in the Toronto Ry. appeal against the fine of $24,000 imposed for non-compliance with the Ontario Railway and Municipal Board's order to place 100 additional cars in service by Jan. 1, 1918, which is scheduled to be heard by the judicial committee of the Imperial Privy Council shortly.

The Hamilton City Council's street railway committee had a conference with the Dominion Power & Transmission Co.'s General Manager, Feb. 17, with reference to a general improvement of the service given by the Hamilton St. Ry. The basis of the conference was the recent report of the city's special railway committee, which will be considered by the company's officers, and a further conference will be held at an early date.

At a recent public meeting in Edmonton, Alta., complaints were made as to the service given on the Edmonton Radial Ry. The city council took up the matter a few days thereafter and turned it over to the Utilities Committee for consideration. The committee, after discussing the complaints, referred the whole matter to Superintendent [illegible] and the commissioners, with power to make whatever remedies they deem to be necessary having regard to the suggestions made by the South Side Community League.

Service at Cost.—Sir Adam Beck, Chairman, Hydro Electric Power Commission of Ontario, in speaking at Hamilton recently, declared himself in favor of "service at cost." In answering a question as to rates on the proposed hydro electric railway from Burlington to Hamilton, he said that "the operation would be at cost" and that "he did not think there would be any serious competitor to a quick, efficient radial service provided at cost to the people."

Acquisition of Portion of Toronto & York Radial Railway by City of Toronto.

On Feb. 25, the arbitration proceedings before the Ontario Railway and Municipal Board, to determine the amount to be paid by the City of Toronto, for the Toronto & York Radial Ry.'s franchise, property, etc., on Yonge St., within the city limits, were adjourned indefinitely, it being announced that the city and the company had arrived at a settlement. Particulars of the arrangement are given in a report to the City Board of Control, dated Feb. 21, by R. C. Harris, Works Commissioner; T. Bradshaw, Finance Commissioner, and W. Johnston, City Solicitor, in which it is stated that they had been negotiating with the T. & Y. R. R. for 22 months, for the acquisition by the city of the portion of the company's Metropolitan Division within the city limits. With the report they submitted an agreement between the company and the city, providing for the acquisition by the city of all the company's rights, franchises and privileges, within the limits of the city, the company having executed the agreement, which is held in escrow, pending execution by the city. The principal points of the agreement are as follows:

The city to pay $590,000, for the company's rights, franchises and privileges within the present limits of Toronto, and other property and assets as per schedule attached to the agreement, which includes all the company's track and appurtenances, overhead work, etc., on Yonge St. within the city limits, from Farnham Ave. to the north city limits, 3.394 miles, and all sidings and switches, making a total of 4 miles of track, together with the 8 local motor cars now operated within the city.

On the completion of the agreement, the company is to cease operating its cars over the portion of Yonge St. within the city limits, and is to establish a terminal station, abutting Yonge St., at or near the north city limits.

The company may establish receiving and forwarding stations, within the city limits, upon sites to be agreed on between the company and the city's Works Commissioner. A piece of land in the North St. Lawrence Market, on which the company may erect a building, may be used as one of such stations, for which the company shall pay a rental of $2,000 a year and taxes, for a 5-year period, renewable. Until the city acquires the Toronto Ry., the city is to provide cars to carry the company's package, freight and express goods, between the company's terminal, at the north city limits, and a terminal station to be established by the company on the west side of Yonge St., between Farnham and Woodlawn Aves. The city to consent to the Toronto Ry. carrying, during the term of its franchise, the T. & Y. R. R.'s package, freight and express goods, and the city is to permit the Toronto Ry. to take the city's cars, used for the Toronto & Y. R. R.'s package freight and express goods, from that company's terminal, between Farnham and Woodlawn Ave., to and from the T. & Y. R. R.'s receiving and forwarding stations. When the city acquires the Toronto Ry., it is to furnish and operate cars to transfer the T. & Y. R. R.'s freight and express goods, from the terminal station at the north city limits, to the company's receiving and forwarding stations in the city, the transferring of such freight and express to be done by the company's employes. The company is to pay the city monthly, for carriage of package freight and express goods, the depreciation and maintenance charges upon cars provided by the city exclusively for such carriage, and interest at 6% a year on their cost, the actual cost of conductors and motormen, and the actual cost to the city of electric power used in the carriage fo goods, but no charge is to be made for power from midnight to 6 a.m. Should the city in the future operate any car line to points of contact with the company's Mimico and Scarboro divisions, the provisions of the agreement relative to carriage of package freight and express goods shall apply to those divisions also.

Until the city acquires the Toronto Ry., it is to permit the T. & Y. R. R. to use 6 pins on cross arms, fastened to the city poles, on Yonge St., between Farnham Ave. and the north city limits, to carry two 500,000 circular mils electric power cables, and 4 telephone wires, for the company's use in the operation and dispatch of cars on its railway outside the city limits, the company to pay the city 30c a year per pin per pole. After the city acquires the Toronto Ry., the city shall continue to carry the telephone wires to the company's dispatching office on Yonge St., at the same rental, but the power cables are to be then removed by the company.

The company is to give the city, for 6 months from the agreement becoming effective, a lease of its car barns and premises on Yonge St., south of St. Clair Ave., together with such machinery and fixtures as the company shall not require for the remainder of its system, the city to pay $1 therefor.

The city officials say in their report that if the agreement becomes effective, it will enable the city to lay its rails at the city gauge, and operate a car line from a short distance south of Farnham Ave. to the north city limit, which means that in 1921, after the acquisition of the Toronto Ry., the city will be in a position to give a through service without transfer. The officials strongly recommend that the city approve the agreement and join in application to the Ontario Legislature to ratify it. They also recommend that they be authorized to apply for legislation to enable the city to raise funds, without submitting a bylaw to the ratepayers, and to do everything necessary to enable the city to construct and operate a civic railway on North Yonge St., at the earliest date possible.

The company originally asked the city for $2,250,000 for its franchise rights, property, etc., within the city, but as shown above, has agreed to cacept $590,000 and the package freight and express goods rights as outlined.

Edmonton Radial Ry. motormen and conductors have evidently been making complaints of the noisy and boisterous conduct of young people on the cars going to and from the East End Park, as the City Solicitor's department is looking into the matter with a view of taking steps to protect the employes and the general public.

The Vancouver, B.C., City Council received notification, Feb. 10, that the British Columbia Court of Appeal had sustained Justice Gregory's judgment in favor of the constitutionality of the bylaw eliminating jitney traffic in the city.

Electric Railway Finance, Meetings, Etc.

British Columbia Electric Ry. and allied companies.—

	Dec. 1918	Dec. 1917	6 months to Dec. 31, 1918	6 months to Dec. 31, 1917
Gross	$691,065	$555,555	$3,418,095	$2,923,660
Expenses	451,760	388,222	2,644,178	2,323,863
Net	239,305	167,333	773,917	599,797

Cape Breton Electric Co.—

	Nov. 1918	Nov. 1917	12 months to Nov. 30, 1918	12 months to Nov. 30, 1917
Gross	$49,235.47	$42,612.67	$507,951.52	$458,245.61
Exp.	37,074.51	28,255.79	382,583.70	293,236.68
Net	12,160.96	14,356.88	125,367.82	165,008.93

	Dec. 1918	Dec. 1917	12 months to Dec. 31, 1918	12 months to Dec. 31, 1917
Gross	$51,173.79	$46,120.31	$513,005.00	$464,081.53
Exp.	37,181.60	27,356.11	392,409.19	298,246.60
Net	13,992.19	18,764.20	120,595.81	165,834.93

Hamilton Radial Electric Ry.—A press report says that at the Dominion Power & Transmission Co.'s annual meeting in Hamilton, Ont., Feb. 24, it was stated that the Hamilton Radial Electric Ry. deficit for 1918 was $53,000.

Hamilton St. Ry.—A report submitted by the city treasurer to the Hamilton, Ont., City Council recently showed that the receipts of the Hamilton St. Ry. for the three months ended Dec. 31, were $188,003.70, against $201,748.21 for the same three months in 1917. The city's percentage and mileage for the three months was $16,920.26.

Ottawa Electric Ry.—The annual report for the calendar year 1918 of the Ottawa Traction Co., which owns the Ottawa Electric Ry. Co.'s stock, appears in full on page 105 of this issue.

St. John's (Newfoundland) St. Ry.—The Reid Newfoundland Co. is reported to have advised the St. John's, Nfld., City Council that the St. John's St. Ry. earned $52,257.80 during 1918, against $48,617 for 1917. The number of passenger carried during 1918 was reported to be slightly in excess of 1,000,000.

Toronto Civic Railway.—

	1919		1918	
	Receipts	Passengers	Receipts	Passengers
Jan......	$32,232	1,950,461	$26,903	1,565,269

Toronto Railway.—

	1919		1918	
	Receipts	City %	Receipts	City %
Jan.......	$588,923	$88,338	$562,707	$84,406

Winnipeg Electric Ry.—The Winnipeg City Treasurer reporting to the city council Jan. 31, stated that the Winnipeg Electric Ry. earnings for 1918 were $2,163,389.35. The city percentage on this at 5%, is $108,169.46, in addition to which the city receives $20 for each of the 317 cars in use, bringing the total receivable by the city to $114,5009.46. This amount, the city treasurer stated, was $8,009.46 in excess of the amount placed in the city estimates for 1918. The car earnings for December were $240,075.95, the largest for the year; while May, with car earnings of $158,219.80, was the lowest.

Quebec Railways Bonds and Interest.—Article 6474 of the Quebec Railway Act deals with the powers of railway companies, and sec. 16, as it stood in the Revised Statutes of 1909, authorized the companies to borrow money not exceeding the legal rate of interest, and that the bonds to be issued should be in currency or in sterling. In 1911 this section was amended by authorizing the issue of bonds in francs, or in the currency of any country, in addition to currency or sterling. A bill is before the legislature having for its object the striking out of the words "legal rate," and inserting in lieu thereof the words "seven per cent."

Toronto Railway Co's Annual Report.

Following are extracts from the report presented at the annual meeting in Toronto, Feb. 5.

The operations for the year do not show the usual increases, the main reason for such condition being the higher wages paid to employes and to the high cost of materials.

The gross earnings were		$6,526,302.37
Charges for operating, maintenance, etc., including judgments and fines given against company but still unpaid, other than injuries and damages		4,509,651.33
Net balance from operation		$2,016,651.04
Distributed as follows:—		
Dividends paid	$480,000.00	
Bond interest, etc.	138,660.47	
War and provincial government taxes	75,155.27	693,815.74
Payments to city:		
Percentage on earnings	$1,046,495.24	
Pavement charges	98,817.20	
General taxes	155,953.74	1,301,266.18
Balance carried forward		21,569.12
		$2,016,651.04

The earnings, which amounted to $6,526,302,37, show an increase of $234,543.31 over 1917. The various charges against the earnings for operation, maintenance, etc., include provision for judgments and fines given against the company but still unpaid. The payments made to the City of Toronto amounted to $1,301,266.18, which amount when compared with payments made during 1917, shows an increase of $114,234.86.

The large increase in wages granted to employes in June, 1917, was paid throughout the year. Notwithstanding that this increase was granted under a binding agreement which does not expire until June, 1919, the employes asked for a war bonus of from 11c to 16c an hour, to date from Oct. 1, 1918. The government, at the request of the employes, appointed a conciliation board, which awarded an increase of 2½c an hour to employes in their first six months service and 2c an hour to all other employes covered by the agreement.

The eighth drawing of the company's currency and sterling bonds, under the terms of the mortgage deed, took place on June 21. The company draws annually during the last 10 years of its franchise, 5% of the amount of bonds issued, thus reducing during the 10 years mentioned, the outstanding bonds to 50% of the original issue, and all bonds so drawn are to be redeemed on or after the 31st day of August following the date of drawing, from which date no interest is payable on bonds so drawn. There has been drawn to date a total of $1,819,466.64.

At a meeting of directors held immediately after the close of the annual meeting on Feb. 6, 1918, it was deemed advisable to increase the number of directors from 7 to 9, when a bylaw was enacted accordingly, which was confirmed at a special meeting of shareholders on May 6, 1918, on which date Hugh Mackay, K.C., of Montreal, and H. H. Pitts, of Ottawa, were elected directors.

The directors declared out of the accumulated surplus earnings 4 quarterly dividends of 1%, all of which were paid on the several dates set for payment.

Revenue Statement for Year 1918.

Gross earnings		$6,526,302.37
Operating, maintenance, etc., including judgments and fines given against company, but still unpaid, other than i. & d.	$4,509,651.33	
Interest on bonds, etc.	138,660.47	
Percentage on earnings	1,046,495.24	
Pavement, taxes	329,926.21	6,024,733.25
		$ 501,569.12

Profit and Loss Account, Dec. 31, 1918.

Balance from 1917 (all re-invested in company's property)	$5,543,683.55
Surplus earnings after payment of all expenses, interest, taxes, etc.	501,569.12
	$6,045,252.67
Dividends, 4 of 1% each on paid-up capital	$ 480,000.00
Balance carried forward	5,565,252.67
	$6,045,252.67

Comparative Statement.

	1918	1917
Gross income	$6,526,302.37	$6,291,759.06
Operating, maintenance, etc.	4,509,651.33	3,815,277.82
Net earnings	2,016,651.04	2,476,481.24
Passengers carried	166,510,326	158,087,984
Transfers	63,176,397	62,301,636
Percentage of charges, etc., to passenger earnings	71.7	61.5

The directors, all of whom were reelected, are as follows:—Sir Wm. Mackenzie, President; Hon. Frederic Nicholls, Vice President; Sir Henry M. Pellatt, Hon. C. P. Beaubien, Geo. H. Smithers, E. R. Wood, Hugh Mackay, K.C., H. H. Pitts, Frank W. Ross.

Mainly About Electric Railway People.

Capt. F. D. Burpee, Superintendent, Ottawa Electric Ry., who has been overseas since early in the war, was expected to return to Ottawa by the end of February.

Sir Rodolphe Forget, President, Quebec Ry., Light, Heat & Power Co., died at Montreal, Feb. 19, after a long illness. He was born at Terrebonne, Que., Dec. 10, 1861, and during the greater part of his business life was associated with transportation companies. He was connected with Sir Herbert S. Holt in the present organization of the Montreal, Light, Heat & Power Co., and also with his uncle, the late Senator L. J. Forget, one time President, in the electrification of the Montreal St. Ry., now the Montreal Tramways Co. He was, at one time, President of the Richelieu & Ontario Navigation Co., now part of Canada Steamship Lines, Ltd., and was, for many years, a director of the Toronto Ry. Co. He was also associated with the Quebec & Saguenay Ry., a partially constructed road, which was acquired by the Dominion Government recently, and incorporated in the Canadian Government Rys. He was elected to the House of Commons as member for Charlevoix, Que., in 1904, and also for Montmorency, Que., in 1911, holding both seats until 1917, when he resigned owing to poor health. He was made a Knight Bachelor Jan. 1, 1912.

A. H. Foster, heretofore Manager, Guelph Radial Ry., has been appointed Manager, Brantford Municipal Ry., at Brantford, Ont.

Jas. D. Fraser, a director and Secretary-Treasurer, Ottawa Electric Ry., who died Dec. 17, 1918, left an estate valued at $131,931.97, including real estate, $9,700; mortgages, $28,150; war loan and other bonds, $43,045; bank and other stocks, $45,445. After leaving $1,000 to the County of Carleton Protestant Hospital, of which he was a director, and dividing his household effects equally between his three sisters and his late brother's widow, he left the residue as follows: One fifth to a sister, one tenth each to two other sisters, three tenths to his late brother's widow, for life or widowhood, with reversion to her children, and three tenths to his late brother's children.

Capt. F. R. Glover, who returned from France after two years service with the C.E.F., and has for the last year acted as Superintendent of the Military Police in British Columbia under the Military Service Act, is reported to have returned to his position as General Executive Assistant, British Columbia Electric Ry., Vancouver.

J. W. Hagenah, of Chicago, who was acting for the City of Toronto, in connection with the arbitration proceedings respecting the value of the Toronto & York Radial Ry., Metropolitan Division's franchise within the city, has been notified that his services are no longer required, the city having decided to secure another expert.

G. F. Henderson, K.C., has been elected a director of Ottawa Electric Ry. Co., Ottawa Traction Co. and Ottawa Car Manufacturing Co. to succeed the late Jas. D. Fraser.

A. W. McLimont, heretofore General Manager, Winnipeg Electric Ry., has been elected Vice President, succeeding Sir Augustus Nanton, elected President. He also retains his title as General Manager. He was born at Quebec, Que., and was for some time in the Bell Telephone Co.'s service. He was subsequently Electrical Engineer for the Public Service Commission of the First District, New York, N.Y.; Vice President and General Manager, Michigan United Rys.; General Manager and Treasurer, Chicago and Milwaukee Rd.; Vice President and General Manager, San Francisco-Oakland Terminal Ry., and Vice President and General Manager, Georgia Power Co. He has also served for the General Electric Co. in the construction and operation of electric systems in Brazil, the Argentine Republic, Peru, Costa Rica and Mexico. He was appointed General Manager, Winnipeg Electric Ry., in Sept., 1917.

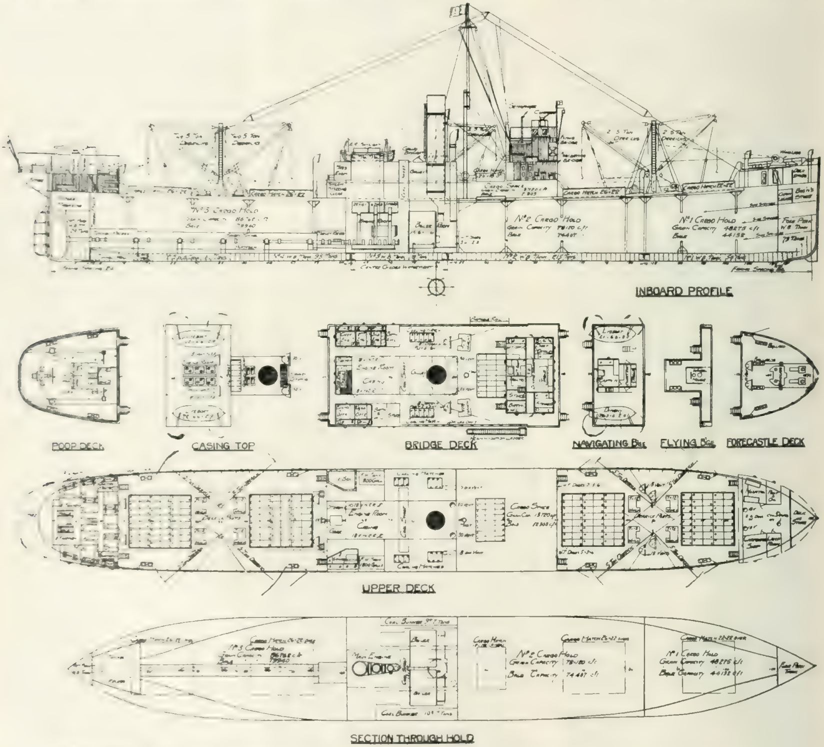
Sir Augustus Nanton, heretofore Vice President, Winnipeg Electric Ry., has been elected President, succeeding Sir Wm. Mackenzie, who did not seek reelection. He was born at Toronto, May 7, 1860, and educated at the Model School there. He became a junior partner in the brokerage firm established by E. B. Osler (now Sir Edmund Osler), in 1884, and was sent to Winnipeg to establish a branch office, where he remained. He was President of the Board of Trade there, in 1898; President of the Winnipeg Stock Exchange and Manitoba Cartage Co.; Director Winnipeg Electric Ry., Dominion Bank, and several other industrial, financial and insurance companies. He was Managing Director of the Alberta Ry. and Irrigation Co., to the time of its absorption by the C.P.R., of which company he is a director, and he was Receiver, representing the English bondholders, Manitoba & Northwestern Ry., in 1898. He was created a knight bachelor June 4, 1917.

R. Robertson, chief dispatcher, Niagara, St. Catharines & Toronto Ry., died at St. Catharines, Ont., Feb. 15, aged 44, after a short illness.

E. F. Seixas, heretofore Manager, Niagara, St. Catharines & Toronto Ry., who was appointed General Manager and Official Representative, Monterey Ry., Light & Power Co., recently, left St. Catharines, Ont., Feb. 17, to assume his new duties at Monterey, Neuvo Leon, Mexico.

Marine Department

Specification for 4,300-ton Steel, Screw, Cargo Steamships for Canadian Government Merchant Marine Ltd.



Plans of steel, screw cargo steamship, Canadian Voyageur, 4,300 tons d.w., for Canadian Government Merchant Marine, Ltd.

The Marine Department, in pursuance of the Dominion Government's shipbuilding programme, has ordered 45 steel screw cargo steamships, aggregating 263,850 tons d.w. Of these, 6 are of 4,300 tons d.w. each, the orders having been divided as follows:—Canadian Vickers, Ltd., Montreal, 2; Wallace Shipyards, Ltd., Vancouver, 2; Port Arthur Shipbuilding Co., Port Arthur, Ont., 2. Orders for 2 steamships of 4,350 tons d.w. each have been given the British American Shipbuilding Co., Welland, Ont.

Canadian Vickers, Ltd., laid the keel for department contract 1, builder's yard no. 66, June 10, 1918, and launched her Nov. 25, 1918, when she was named Canadian Voyageur. She left Montreal Dec. 11, 1918, under her own steam, for Quebec, where she was completed, and sailed thence Jan. 21, 1919, for Halifax, arriving at the latter port Feb. 4, after a difficult voyage owing to ice conditions in the St. Lawrence.

Other keels have been laid as follows:—Contract 4, Wallace Shipyards, Ltd., builder's yard no. 100, Oct. 1, 1918; contract 5, Wallace Shipyards, Ltd., builder's yard no. 106, Nov. 15, 1918.

A technical description of the 4,300-ton steamships was published in Canadian Railway and Marine World for August, 1918. Following are the complete hull specifications for the first one of this type, the Canadian Voyageur, built by Canadian Vickers, Ltd.

1. Dimensions:

Length between perpendiculars	320 ft.
Breadth moulded	44 ft.
Depth moulded	25 ft.

2. Erections:

Poop, about 41 ft. long by 7½ ft. high.
Bridge, about 96 ft. long by 7½ ft. high.
Forecastle, about 34 ft. long by 7½ ft. high.

The height in each case being measured from top of beam to top of beam.

Sheer forward, 8½ ft.; aft, 4 ft. 1½ in.

3. General Description.—The vessel to be constructed by the builders to plans approved by Classification Society, in accordance with this specification and to a general arrangement plan, approved and signed by the purchasers before the work is commenced.

4. Accommodation for saloon, captain, officers, engineers, engineers' mess room, steward, pantries, bathroom, w.c.'s, storeroom, with usual lockers, galley, etc., to be in accordance with general arrangement plan. Seamen and firemen berthed aft under the poop, with separate mess rooms. Two closets for seamen and firemen; washroom with shower baths, as required by British Board of Trade Regulations. Paint and oil room, carpenter's shop and deck stores under forecastle. Hospital with two cot beds under forecastle. Gunners to be accommodated in wood house under bridge.

To have a straight stem and elliptical stern. Engines to be placed about amidships. To be rigged with one mast amidships. The vessel to have an estimated gross deadweight of about 4,300 tons, with Lloyd's summer freeboard, which will allow of a mean draft of about 21 ft. 2 in. in salt water.

5. **Engines.**—To be fitted with engines built by Goldie & McCulloch, Galt, Ont., and boilers built by Canadian Vickers, Limited, or as may be approved. Cylinders 25, 41, 67 in., stroke 45 in.

6. **Boilers.**—Two in number, of the multitubular type, of steel, 15½ ft. diameter by 11½ ft. long. Working pressure 180 lb. per sq. in. All in accordance with specifications and plans. Boilers to work under forced draft.

7. **Speed.**—The vessel to be capable of a speed of not less than 11½ knots, in fully laden condition, at a draft of approximately 21 ft. 2 in. mean, in sea water.

8. **Plans, etc.**—The builders are to supply the owners with the following as soon after completion of the vessel as possible:—Photo prints of the general arrangement plan, cargo capacity plan, also ballast pipe plan, showing ballast pump suctions, air and sounding pipes, and Downton type pump connections. Docking plan to be provided. A sheet showing the deadweight capacity at various drafts, the cubic content of each cargo space, and the capacity of each bunker and water ballast tank.

9. **Tonnage.**—Care is to be taken to ensure a reduction of 32% for propelling space and a proper allowance for crew space, as prescribed by regulations. Spaces under bridge deck and forecastle to be exempted from tonnage if possible.

10. **Class and Certificates.**—The vessel to be constructed in accordance with plans approved by Classification Society, the builders paying all classification and certificate fees. Vessel to be classed 100 A1 at Lloyd's. The following certificates to be supplied if required:—Classification of hulls and engines, freeboard, anchors and cables test, life saving and fire appliances, lights and fog signals, compass certificate, tonnage certificate.

11. **Hull.**—Steel and iron work: The scantlings, quality of materials, and workmanship to be in accordance with Lloyd's 100 A1 class, and the vessel is to be built under their special survey. Material to be of steel, all to be of the best ship quality.

12. **Stem.**—To have a straight stem of rolled steel bar to Lloyd's requirements, with scarphs efficiently fitted.

13. **Stern frame** of cast steel, in one piece, to be of scantlings, as required by Lloyd's rules. Heel of rudder post to be raised above line of keel. Connection to heelplate and transom to be efficiently and satisfactorily made. Gudgeons of stern frame to have lignum-vitae or steel bushing.

14. **Rudder** of the single plate type, according to approved plans. Rudder frame being of forged steel, with arms shrunk to main piece. Rudder stock to be forged steel. To have at least 5 pintles fitted. Pintles of steel, fitted in gudgeons with taper and secured by nut and check pin. Brass liners to be fitted on rudder pintles. Locking head to be fitted on upper rudder pintle. Rudder trunk to be of sufficient size to allow of the easy shipping or unshipping of the rudder. To have a quadrant of sufficient size, properly keyed to the rudder head. The rudder stuffing box to be fitted in halves, of cast iron with hardwood chocks. Horizontal coupling to be fitted on rudder.

15. **Shell Plating.**—Thickness of shell plating to be according to Lloyd's approved midship section and profile plans, plates being scarphed and overlapped. The edges and butts of outside strakes of shell plating to be planed. Plates to be joggled at builders' option. Shell plating around hawse pipes to be doubled or increased in thickness, as approved by Lloyd's. Eyeplates to be fitted on the stern for lifting the rudder and propellers.

16. **Deck and tank top plating** to be joggled, or beams and reverse frames joggled at builders' option.

17. **Keels.**—To have a flat plate keel with butts overlapped.

18. **Keelson.**—Center keelson formed of plates and angles and made watertight according to approved midship section and profile plans.

19. **Frames** to be of channel steel, or bulb angle, amidships, in accordance with approved midship section and profile plans. Frames to be joggled at builders' option. Frames joggled from 25 to 145.

20. **Double Bottom.**—To have a cellular double bottom, fitted right fore and aft in accordance with plans approved by Lloyd's Society, being divided sectionally for water ballast, having all the necessary piping and valves, so arranged that each compartment may be filled and pumped out independently. Tanks under machinery space to be divided fore and aft so that each side can be used separately. To have a sufficient number of manhole doors fitted where necessary and made watertight. Manholes to be fitted with stud bolts and gasket. To have the necessary air and sounding pipes fitted to each section of the ballast tanks, with a doubling plate under each sounding pipe. All air and sounding pipes to have deck pieces neatly fitted to deck, and to be cased in with wood in the holds. To be led up inside frames if possible. All suction pipes in tanks to be of cast iron and lead bends securely fastened, and to have cast iron rose boxes at the end of the pipes. Center suction pipes to tanks, and wing suctions to be as approved by Lloyd's. No. 2 tank to be entered from boiler room. Fore and aft peaks arranged to carry water ballast; to have the necessary air and sounding pipes and to be pumped out by connection to the tank suctions.

21. **Watertight bulkheads** to be in number and position as shown on plan. All to be constructed of steel, with scantling and stiffening, as approved by Lloyd's Society. If required, forward side of boiler room bulkhead to be cleaded with 1½ in. wood on face of stiffeners and ventilated by 2 goosenecks on fore side of casing on upper deck. Provision to be made on bulkheads for shifting boards.

22. **Riveting.**—To be in accordance with Lloyd's requirements. Rivets to be of mild steel.

23. **Deck plating** to be in accordance with approved midship section and profile plans. Deck plating to be joggled at builders' option. Upper deck of steel. Forecastle deck of steel. Bridge deck of steel.

24. **Bulwarks.**—3½ ft. high. To be fitted between the poop and bridge and bridge and forecastle and suitably stayed. Stays to be riveted to bulwark and main rail. To have a sufficient number of water ports and scuppers to comply with the British freeboard tables. Steel bulwarks 3 ft. 3 in. high to be fitted across front and 12 ft. alongside of bridge deck. Mooring pipes of cast iron to be fitted in bulwarks where shown on general arrangement plan. Opening in bulwarks to be of ample area and to have 2 rods across, no ports to be fitted.

25. **Bollards and fairleads** of cast iron, securely through bolted, the number and position being as shown on the general arrangement plan. Extra pair of bollards on poop. Fairleads on forecastle and poop to have rollers. Small bollards and fairleads on bridge deck.

26. **Hawse pipes,** of cast iron, one on each bow, of sufficient size and strength to suit stockless anchors, with deck pieces fitted with plate slide covers on the forecastle deck.

Engine room to be arranged with a view to obtaining the 32% allowance off the gross tonnage for propelling space.

28. **Floors** to have floor plates fitted in accordance with approved midship section and profile plans, having the usual water courses to allow water to pass freely to the pumps.

29. **Beams** spaced as per plan.

30. **Caulking.**—Shell, tanks, deck, bulkheads, etc., to be planed or chipped and caulked in the usual manner.

31. **Hatches.**—All coamings of hatchways on deck to have cope iron moulding riveted on the top edge, with angle iron rest inside. The hatch corners to be square web plates of sufficient strength shipped into strong shoes riveted on inside of coaming.

	Length	Breadth.
No. 1, fore hatch	22 ft.	22 ft.
2, main hatch	26 ft.	22 ft.
3, bridge deck hatch	12 ft.	18 ft.
4, after main hatch	26 ft.	22 ft.
5, after hatch	26 ft.	22 ft.

Bunker hatches as shown on plan. A sufficient number of wrought iron cleats to be riveted on the outside of the coamings, and flat bars for securing the tarpaulins with wedges. The hatch covers on weather decks to be of spruce. 2½ in. thick, with iron handles for lifting. No. 1 hatch covers to be 3 in. thick. Hatch webs to have lifting gear. Strong bridles to be supplied to each hatch with hooks.

32. **Chain lockers** to be fitted of steel or wood, at builders' option, securely built, and of sufficient size to hold the cables, and kept well up, so that the cables will run out easily.

33. **Bunkers.**—All available space in engine and boiler room (consistent with obtaining 32% reduction for propelling space off the Board of Trade measurement for gross tonnage) to be arranged for bunkers. Plan of bunkers to be submitted to owners' representative for approval. Center coal shoot to be provided. Bunkers to be coated with Canadian Vickers bitumastic enamel. Two watertight doors to be arranged on boiler room bulkhead, so that aft end of no. 2 hold can be used for reserve bunker.

34. **Engine and Boiler Casing.**—Casing enclosing the engine and boiler space, as shown on general arrangement plan. Steering engine placed in the after end of the engine casing open to the engine room.

35. **Engine and Boiler Seating.**—The girders under tank top in engine and boiler room to be arranged to Lloyd's requirements. Thrust seating of ample strength. Thickness of tank top under boilers to be increased as per Lloyd's requirements.

36. **Pillaring** of solid round bar or built section at builders' option, in accordance with approved midship section and profile plans. Pillars to be reeled for shifting boards.

37. **Engine Room Skylights.**—To be strongly made of steel, and the top to be made in flaps, fitted with circular lights to lift up, with strong iron quadrants. Strong beam for lifting cylinder covers, etc. Small skylight for the galley, having steel frames and steel or wood flaps. Rods to be fitted on top of engine room skylight for fastening flaps.

38. **Shaft Tunnel** as per approved plan, built of steel plates and increased in thickness under hatches in lieu of wood sheathing. A 9 in. ventilator to be fitted on top of tunnel escape and carried up to weather deck. Thrust recess to be in engine room, and passage built at one side into tunnel. Plank platform fitted for engineers. Ring bolts fitted at after end to assist in drawing tail shaft. Portable plate in tunnel recess bulkhead to withdraw tail and shaft. Tunnel escape trunk fitted at aft end of tunnel.

Canadian Government Merchant Marine, Ltd., steel screw cargo steamship, Canadian Voyageur, 4,300 tons d.w.

39. **Ventilators** to pass British Board of Trade rules and Lloyd's requirements. Hold vents to be 18 in. diameter.

40. **Panting Arrangements.**—The hull to be stiffened where and as required by Lloyd's rules to prevent panting.

41. **Bilge keels**, 10 in. deep, to be fitted for about 120 ft. amidships, of 10 x ⅝ in. plate and 6 x 4 x 10/20 or 7/16 T bar, 3 x ¾ flat bar on edge of bilge keel.

42. **Stringers.**—To have panting and deck stringers in accordance with plans approved by Lloyd's Society.

42. **Scuppers.**—As necessary on each side. Scuppers to be also fitted on bridge, and deck houses where necessary. Wash ports for freeing as required.

44. **Rails.**—Bulwark rail to be formed of 7½ x 3 in. bulh angle.

45. **Watertight Doors.**—The stokehold bulkhead to have a cast iron sliding door fitted on each side, and worked with a rod and wheel from the boiler room platform; a watertight door also to be fitted to the tunnel. All doors to be operated from deck level.

46. **Poop.**—A full poop to be fitted aft, being about 41 ft. long. Crew berthed in poop in separate rooms as shown on general arrangement plan.

46a. **Gun Seating.**—Arrangements to be made for mounting one 4.7 gun aft on poop, complete with firing platform, magazine, ammunition trunk and hoisting gear. Gun on top of poop deckhouse at center of ship. Platform to suit. Structure in way of guns to be suitably stiffened. Hatch on ammunition trunk to be hinged cover.

47. **Bridge** to be fitted amidships, being about 96 ft. long, as shown on general arrangement plan. Accommodation for officers and engineers, baths and w.c. in sidehouses on bridge deck. Deck house at fore end, containing dining saloon, wireless room, chief officer's room, steward's room, pantry and bath and w.c. Deck house on upper bridge, containing captain's room, with stairway to dining saloon below. Small chart house at fore end of captain's room.

48. **Forecastle.**—To have a topgallant forecastle about 34 ft. long, arranged as shown on general arrangement plan.

49. **Painting.**—The whole of the steel and iron work of the vessel to have 2 coats inside of best red lead and 3 coats outside of good oxide paint. Steel work on deck and inside bulwarks to be painted and neatly finished. Berths to be tastefully painted and varnished. Midship accommodation to be enamelled where required. Steel work in stores and accommodation to be cork cemented; 1 coat anti-corrosive, 1 coat anti-fouling.

50. **Cementing.**—Inside of ballast tanks and peaks, to be coated with cement wash. Tank top under E. & B. to be coated with Vickers bitumastic enamel 1 in. thick. The shell to be coated with a mixture of Portland cement and sand, in double bottom tanks under machinery space and in tank wing bilges. The remaining spaces in double bottom to have a triangular fillet of cement at the seams only, other parts to be coated with a good cement wash.

51. **Tanks.**—Two fresh water tanks of 1,800 gall. capacity each, having manhole door in each tank, to be strongly built, having necessary hand pump, stays, plug, filling and air pipes, and washed out with cement. To be placed in the bridge.

52. **Cargo battens** of 2 in. spruce to be fitted as shown on midship section. Battens to be hung in cleats and not bolted to frames. No sparring under bridge or forecastle.

53. **Ceiling** of spruce, 2½ in. thick, laid over tank limbers, being portable as required. Ceiling laid on flanges of wing brackets. Ceiling in bunkers to be of spruce, 2½ in. thick, caulked and payed. Tank top plating under hatches increased 0.08 inch in thickness in lieu of ceiling.

54. **Galley.**—Placed in position shown on general arrangement plan. Galley furnishings to be to satisfaction of owners' representative. Door to be in halves. To have a dresser, seat, locker, shelves, etc. Floor to be cemented and tiled. Wrought iron grating pan rack. Range to be 6 ft. long with 1 fire and 2 ovens, complete with firing tools.

55. **Decks.**—Where wood decks are fitted, they are to be reasonably free from dead knots, sap and shakes, and securely fastened with galvanized iron bolts and

nuts, carefully dowelled. To be thoroughly caulked, payed, scraped, and planed smooth. Poop deck to be of 5 x 3 in. British Columbia fir; deck over saloon and engineers' and officers' accommodation to be of 5 x 2½ in. B.C. fir. The beams to be extended to the ship's sides, and fitted with B.C. fir, forming boat decks. The deck over the saloon to form the upper bridge, and to extend to ship's side. All to be caulked and payed.

Captain's House.—Chart house top to be of 5 x 2½ in. B.C. fir, carried full width of captain's house, wings extended to form flying bridge. Steel decks inside of accommodation to be covered with 2 in. flooring deals, caulked and payed with pitch.

56. **Deck Fittings.**—To have all necessary cleats, ring and eyebolts.

57. **Ladders.**—To have two ladders fitted at the poop front, at each end of the bridge, front of forecastle, and to the upper bridge, formed of steel, having wrought steel treads, and iron hand rails, also ladder to be fitted in the fore and after peaks. Ladders to flying bridge of hard wood. Ladders to upper bridge to be fitted portable. Accommodation ladder of pitch pine to be fitted complete with grating of hardwood. Fittings for both sides of ship. Iron ladder to be formed at one end of the hatch to each hold, the rungs spaced about 11 in. apart. One shore gangway.

58. **Rail Stanchions.**—To have rails fitted all around, and across the poop and forecastle, formed of stanchions with 3 rods. Bridge deck rails to be formed of 3 rods, and upper bridge and flying bridge rails 3 rods. Rails to be portable in way of the bunker hatches on bridge. Pine cleading across front and forward sides of navigating and flying bridges. Rails and stanchions to be galvanized. Top rods ⅞ in., others ¾ in. Steel bulwark across front of bridge deck and extended aft to fore side of accommodation ladder gangway. Double half ovals on top to form rail. Portable rails in way of cargo hatch, hinged stanchions, chains and screws.

59. **Lamp locker** to be arranged where shown on plan; built of steel, with all usual and necessary fittings.

Cold storage to be fitted with refrigerating plant if desired, to be arranged at aft end of bridge. All work in connection with refrigerating plant will be charged extra.

60. **Name, etc.**—Name on bow and stern, port of registry of stern, and draft marks on stem and stern to be cut in and painted. The official freeboard disc and deck mark to be also cut in and painted.

61. **Bilge Pumping Arrangement.**—5 in. Downton type pump in steering gear space to be fitted in lieu of hand pumps, as required by Lloyd's rules. Steam suctions to be fitted to draw from the hold wells and engine room well, and tunnel well, to be of diameter and thickness as required by Lloyd's rules.

62. **Steam Winches.**—To have 11 horizontal steam winches of approved make, with cylinders 7 in. diam. by 12 in. stroke, and all necessary pipes and fittings as usual. All clutches to be on square shafts, not keyed. All the winch steam pipes to be of steel or iron, exhaust pipes to be of galvanized steel and led to exhaust tank, and where on deck to be supported on wrought iron chocks and strongly and neatly covered with iron plating or angle bars, but to be carried alongside coamings or casings where practicable. Steam top valve to be arranged so that forward and after winches may be used separately or together. Stop valve at forward winch to shut off steam from windlass when winches are working.

63. **Windlass.**—To have a patent steam windlass of approved make, with quick warping ends, securely through-fastened to the deck plating. Bow stoppers and lashing screws to be fitted for stockless anchors. Steam pipe of steel or iron, being a continuation of winch steam pipe. To exhaust overboard, through galvanized wrought iron pipes; change cock on windlass exhaust pipe to take steam over either side of ship. To be bedded on B.C. fir planks 10 x 3¾ in.

64. **Steering Apparatus.**—Steam steering engine, by an approved maker, to be fitted in after end on engine casing, and connected by shafting and gearing to a stand and wheel amidships. Steering engine to be placed athwartships, with drum on aft side of casing, and connected with quadrant on rudderhead by all necessary rods, chains, blocks, etc. To have separate exhaust to main condenser, and up waste pipe. Spring buffers to be fitted to relieve strain on steering gear. A strong screw gear is to be fitted aft, with teak wheel of suitable diameter, to be easily connected or disconnected to rudderhead. Open rail and stanchions round quadrant, hardwood grating in way of wheel.

65. **Electric Lighting Installation.**—A complete installation of electric lighting to be fitted, comprising in all about 120 16-c.p. lamps, including 5 6-light clusters and 4 navigating lights. The whole installation to be of the very best description, and to conform to Lloyd's requirements for a ship of this class. A continuous current, 10 k.w., steam driven generating set of 110 volts, capable of supplying the necessary current for the whole installation, to be supplied. Metal filament lamps to be fitted in accommodation spaces and cabins, elsewhere carbon filament lamps to be fitted. Standard compass and telegraphs to be fitted with electric light. The lamps and fittings throughout to be of best quality. All lamps screw socket pattern.

66. **Switchboard.**—A main switchboard, complete with instruments and switches, fuses, etc., mounted on a slate panel, to be fitted in engine room. Wiring to be on the 2-wire (lead and returns) system and to be rubber insulated and lead covered in the accommodation spaces; in engine room, boiler room and up the masts, the wires to be lead covered and armored. The whole system to conform to Lloyd's requirements. Morse lamps to be fitted in approved position. Shipbuilders to arrange for a supply for direct current from main switchboard to double pole switch in wireless room.

67. **Electric Bells.**—One from saloon to pantry, one from captain's room to pantry.

68. **Davits** of sufficient length and outreach to swing the boats clear of the ship's side and to lift them clear of the chocks. To be fitted complete with blocks, falls, etc. Small anchor davit fitted aft for working stream anchor.

69. **Sidelights.**—Where fitted in cabins, through ship's side, to be 9 in. diam. in seamen's and firemen's accommodation; all to have galvanized iron deadlights, and brass frames. All sidelights in deckhouses to be 10 in. diam. with brass frames and no deadlights. Fixed lights in saloon entrance and crews entrance doors. Sidelights across front of saloon to be 12 in. diam.

70. **Wash deck pipes**, of 2½ in. iron, carried well fore and aft, having nozzles at intervals for hose attachment. Three 25-ft. lengths of 2 in. canvas rubber lined fire hose, with couplings and conductor to be supplied.

71. **Saloon Cabins.**—To be arranged as shown on general arrangement plan, panelled with polished wood, neatly and tastefully furnished. Dining table of mahogany, fitted with movable racks, also settees and 2 mahogany sideboards. Mirror in polished hardwood frame. Brass rails fitted on top of sideboards. Six chairs at saloon table. A steam radiator to be fitted, the woodwork being efficiently protected. The bottoms and backs of the settees in saloon and sofa pillows to be stuffed with hair suitably upholstered. To have a set of holland slip covers for the saloon cushions neatly bound at the edges. The saloon floor to be covered with linoleum. Curtains for sidelights in saloon of durable material hung on brass rods. All beds in officers' accommodation to have brass lee rail and spring mattress. Floors cemented.

72. **Pantry** to be fitted where shown on general arrangement plan, having dresser, lockers, plate-racks and brass cup hooks as required. Dresser covered with lead, and to have strong edging in the front, the sink being fitted with plug and chain complete, and to discharge overboard. Supply from sanitary tank, fitted with brass tap and deck filling pipe. Spaces lined with tin for barley, rice and peas, etc. Pantry floor to be cemented.

Cabin and Officers' Accommodation.—Generally to be as shown on general arrangement plan. Rooms to be plainly fitted up in tongued and grooved lining. Ceiling and deck beams in rooms and saloon not to be covered.

73. **Berths, etc.**—Berth for captain, with telescopic bed, having drawers underneath; bookcase, with set of drawers in lower part; wardrobe, small table, sofa, chronometer stand, hat and coat hooks, etc. Bottom, back and sofa pillow in captain's room to be stuffed with hair and covered with Utrecht velvet, and to have a set of holland covers. Floors to be covered with carpet. Curtain for sidelights and for bed, fitted on brass rods. Berth for officers, engineers and steward; each room fitted up with bed, sofa seat, washstand with plug basin, toilet rack, wardrobe, mirror, and hat and coat hooks. The chief officer's and chief engineer's beds to have drawers fitted underneath; these 2 rooms to be also fitted with a separate chest of drawers, desk, wardrobe, and book rack. The berths for the other officers, engineers, and steward to have drawers fitted underneath the beds, but in case where 2 are fitted in one room, a separate chest of drawers also to be fitted. Bed front boards, drawer fronts, toilet rack and washstand tops to be of polished wood. Each berth lighted and ventilated as required by Board of Trade regulations. The bottom of the sofa seats in the officers' and engineers' berths to be stuffed with hair, and covered with repp. Curtains of durable material fitted on brass rods, for all sidelights and beds in the above accommodation, and for sidelights in messroom. The floors of all officers', engineers' and stewards' berths and pantry to be cemented; passage and messroom to be covered with linoleum. Messroom to be fitted for engineers where shown on plan, having cupboard, table, seats, rack for bottles and two glasses and hat and coat hooks. Sparred seat to be formed of wood laths. Bathroom and cistern closet for saloon to be fitted, where shown on general arrangement plan, at a convenient height, the bathroom being furnished with seat, dress hooks, etc. Bath of cast iron with waste

pipe and valve fitted to the shell of the ship. Bath heater to be fitted. Washstand with plug basin, toilet rack and mirror to be fitted in saloon bathroom. Saloon bathroom and w.c. floors to be cemented and tiled. Also baths and w.c.'s, etc., to be fitted for officers and engineers, where shown on general arrangement plan, the floors being cemented. Bath heater jet led into baths. Filling tank for baths to be fitted on top of deck house. Cabins for 3 gunners to be fitted up in temporary wood house under bridge deck.

74. **Chartroom**, to be built of steel, having teakwood doors and fitted with round lights. To have a chart table, set of drawers, sofa seat. Curtains of durable material, fitted on brass rods at the lights. Bottom and back of seat to be stuffed with hair, and covered with repp. Floor to be covered with linoleum.

Wireless cabin to be fitted up to approval. Wood wheel house on flying bridge, fore end open, with glazed wood screen on rail and sliding doors at sides in line with flying bridge wings.

75. **Steam Heating.**—Installation of steam heating to be provided for each living room in amidship accommodation on bridge deck. Heaters to have steam and exhaust regulating valves, the exhausts being returned to exhaust tank in engine room. Steam heating plan to approval of owners' representative. Steam heating to crew space aft.

76. **Water and Trough Closets.**—Closet to be fitted for the saloon, also closets for use of the officers and engineers. Trough closets to be fitted for seamen and firemen, as required by Board of Trade regulations. All soil pipes in connection with water closets to discharge through ship's side, and to be properly fitted to shell of ship with cast iron storm valves. Sanitary tanks for captain's closet; engineers', officers' and crew to be filled through wash deck service pipe.

77. **Speaking Tubes.**—One speaking tube from captain's room to wireless room, one speaking tube from chief engineer's room to engine room, one speaking tube from bridge to engine room, of brass.

78. **Storeroom.**—To have a storeroom as shown on general arrangement plan, having all necessary shelves and bread locker.

79. **Sundries.**—Flag locker; teakwood case for night glass; 2 wood hold ladders; 2 rope side ladders; foot gratings for wheels and chartroom doors; locker for medicines to be fitted in saloon bathroom, with supplies according to British Board of Trade; galvanized iron cage for masthead and stern lights; screens for sidelight lamps; lockers for navigation stores and life belts.

80. **General.**—Plates are to be scarphed, where necessary, butts overlapped, and flanged plates to be fitted, instead of angles, wherever practicable. All materials and workmanship, deck and cabin fittings, furniture, rigging, and outfit as specified herein, to be strong, and of good quality and make, as usually specified to cargo steamers of this class.

Bedding, napery, provisions, wireless installation and refrigerating plant and fittings, fresh water paints, oils and other consumable stores are excluded. All survey fees are to be paid by builders, who are to hand the purchasers the classification certificates. Delivery of vessel to be made as per contract.

Marine insurance, other than war risks, for trial trip, to be paid by builders. All liability on part of builders in respect of this contract shall cease from the date of transfer of the vessel, except as specified in clause 63 of engine specification.

81. **Outfit, Masts and Derricks.**—To have one fitted pole top mast. After flagstaff to be fitted, and masthead and flagstaff to have a truck with sheaves for signal halliards. Steel lower mast plump. Topmast fidded on fore side of lower mast; fitted for wireless. Topmast of p.p. Two steel combined derrick and ventilating posts, with mushroom ventilator tops, to be fitted as shown on general arrangement plan, with derricks, cargo blocks, tipping lifts, and wire runners and hooks as necessary; 10 p.p. derricks in all. Derricks and fittings all to be capable of lifting 5 tons safe load. All necessary smithwork to be fitted on masts and spars, and derricks to be fitted with strong hoops and goosenecks. The necessary crutches, standards, stays and other fittings for derricks to be provided and fitted. Two large cleats for each topping lift tackle. Four steel derrick posts complete. Special stiffening under derrick posts.

82. **Blocks.**—All rigging blocks to have inside bindings.

83. **Standing and Running Rigging.**—Standing rigging as per plan to be of galvanized wire rope, of suitable sizes, and served with Hambroline, say 6 ft. above rigging screws. Running rigging to be of manilla. Derrick topping lifts to be wire tackle with double sheave blocks. Funnel painting boards to be supplied complete, with blocks and tackle.

84. **Boat Sails.**—Each lifeboat to be fitted with a lug sail, as required by British Board of Trade regulations.

85. **Covers.**—The following covers to be supplied:—2 tarpaulins to weather deck cargo hatches, 1 being tarred; 2 tarpaulins for weather deck coaling hatches, 1 being tarred; 1 canvas cover for each boat; 1 canvas cover for binnacle; 1 canvas cover for steering standard; canvas covers for hold ventilators, wire reels, and windlass.

86. **Awnings** to be fitted over flying bridge, navigating bridge and poop deck, with all necessary stanchions, ridge poles and ropes.

87. **Bridge Cloths.**—Weather screens for front of navigating bridge and the usual dodgers.

88. **Anchors and Cables.**—In accordance Lloyd's rules and tests: 3 stockless anchors, 1 stream anchor, 1 kedge anchor, stud chain cable. Wire hawser, with geared winch, instead of stream chain, manilla hawsers as per midship section, approved by Lloyd's. Stream wire and towline, mounted on double purchase reels.

89. **Boats.**—Vessel to be provided with boats fitted to meet requirements of British Board of Trade regulations: One 20 x 6½ x 2½ ft.; one 22 x 6½ x 2¾ ft.; one 22 x 6½ x 2¾ ft.; one dinghy, 20 x 5½ x 2 1/3 ft. All to be constructed of pine and clinker built, having American elm gunwale, copper fastened throughout. Boats to have blocks with falls, spans, guys, etc., complete as per Board of Trade requirements. Lifeboats to be fitted with yellow metal airtight cases, and all boats to have galvanized wrought iron gripes and lashings, galvanized rowlocks, fitted with ¼ in. plate let flush into gunwale, fishback ridge poles with stays, rudder, oars, boat hooks, and outfit as per British Board of Trade regulations.

90. **Compasses.**—One 10 in. standard compass amidships, on top of wheelhouse, with brass rail and access ladders, with stand and binnacle; one steering compass forward, 10 in. card; one 10 in. compass aft, with stand and binnacle. Each binnacle to have lamps, etc., complete. All compasses fitted on vessel to be tested and accurately adjusted by a competent adjuster and deviation cards supplied. All to be in accordance with British Board of Trade regulations.

91. **Sundries.**—1 aneroid barometer; 1 pr. binocular glasses in case; 1 telescope; 1 timepiece for saloon; 1 timepiece for chart room; 1 timepiece for wireless room; 1 sounding machine, Chadburn's or equal.

92. **Flags.**—2 ensigns—red, 3 yards and 1½ yards; 1 house flag to owners' sketch; 1 blue peter, 1 quarantine flag, each 6 x 4 ft., as per British Board of Trade regulations; 1 set commercial code; 1 signal book. All flags to be of bunting. Three Canadian ensigns, 4¼ ft. and 1½ yds.; 1 Union Jack, 3 yds.; 1 burgee with ship's name.

93. **Signal Lamps.**—British Board of Trade regulations: 1 set masthead and sidelights (dioptric lenses) of galvanized iron, 10 x 8. Masthead light on signal pole or fore side of flying bridge, to hinge down semaphore on flying bridge supplied by carpenter. Flash lamp on top semaphore supplied and fitted by shipbuilders. One anchor light, 8 x 6; 2 red globe lamps; 2 black balls; 1 stern light; 1 spare set to be supplied, suitable for burning colza or paraffin. Spare colored slides in brass frames for port and starboard lights.

94. **Oil Tanks.**—Four 25-gall. galvanized iron tanks with taps, etc., complete.

95. **Boatswain's Outfit.**—Each derrick to be supplied with wire guys, topping lift, iron leading block, cargo block, cargo wire and hook; one set tackle and blocks at each mast for lifting derricks; 4 chain hooks; 4 cork fenders and lanyards; 4 wood roller fenders, iron bound, and lanyards; 2 iron snatch blocks; 4 coal gins; 2 crowbars; 1 set of iron relieving blocks for tiller; lifebuoys and belts to meet Board of Trade requirements; 2 coir brooms; 3 paint scrubbers; 2 deck scrubbers and handles; 2 paint scrubbers and handles; 2 mops and handles; 1 grindstone, spindle and trough; 2 scrapers; 1 branding iron with ship's name; 2 marline spikes; 1 padlock to each door where necessary; 2 oil feeders; 1 12 in. bell, with name of the vessel engraved thereon, hung in a wrought iron belfry; bells as per British Board of Trade regulations; 1 6 in. binnacle bell; 1 patent foghorn; 1 megaphone; 1 taffrail log and line with governor, Cherub or equal; 2 log glasses, 14 and 28 secs.; 2 log slates; 1 deep sea lead, reel and line; 1 hand lead and line; signal halliards to each mast; 2 oak buckets; 2 sounding rods and lines; a sufficient quantity of wood wedges for hatches; tightening screws for stockless anchors; keys for all cocks, valves and deck pieces.

96. **Cooking Range and Outfit.**—A first class cooking range to cook for officers and crew, to be supplied and fitted with utensils as follows: 1 galvanized boiler, with steamer; 1 kettle, cast iron, 8 pints; 1 kettle, copper, 8 pints; 2 oval pans, 2 saucepans, 1 oval stew pan and cover, 1 fish pan, 1 gridiron, 2 frying pans, 1 slicer, 1 colander, 1 grater, 1 pepper box, 1 dredger, 1 basting spoon, 1 cook's ladle, 1 tormentor, 1 meat saw, 1 chopper, 1 mincing knife, 1 cook's knife, 1 pudding dish, 1 baking tin, 6 skewers, 1 sea pie tin, 1 poker, 1 rake, 1 shovel.

97. **Outfit, Stores, Lamps, etc.**—1 saloon lamp, 1 engineer's mess room lamp, 1 lamp for each berth, with smoke shades; 1 pantry lamp, 1 chart-room lamp, 1 galley lamp, 1 dark lantern, 2 cargo lanterns, 1 steward's hand lamp, 2 lamps for forecastle, 1 lamp for carpenter and boatswain, 1 lamp for buoys, 1 pair lamp scis-

sors, 1 cabin table bell, 1 long cabin brush, 1 short cabin brush, 1 set shoe brushes, 2 black lead brushes, 1 serving tray, 1 bread tray, 1 corkscrew, 1 filter, 1 knife box, 1 inkstand, 1 plate basket, lined; 1 coffee canister and 1 sugar canister, 1 register box and lock, ship's name printed on; 1 cash box, 2 spittoons, 1 steward's water can, 1 dust pan, 1 toasting fork, 1 knife board, 1 spring balance, 28 lbs.; 4 coir mats, 4 camp stools, 1 tapestry table cover for saloon, 1 American leather cover for saloon, 1 tapestry cover for table in captain's room, 1 American leather cover for the mess room table, japanned jug and receiver for each plug wash basin.

99. **Engineers' Mess Room Stores.**—1 hand brush, 1 hand shovel, 1 inkstand, 1 filter.

100. **Ware and Glass, Cabin.**—2 qt. decanters, 12 small tumblers, 12 large tumblers, 2 salts, 12 meat plates, 10 in.; 12 soup plates, 10 in.; 12 cheese plates, 6 in.; 3 dinner dishes, assorted; 3 cover dishes, 1 water jug, 12 breakfast cups and saucers, 12 teacups and saucers, 1 slop basin, 1 cream jug, 1 butter boat, 1 sugar basin, 12 egg cups, 1 water bottle for each cabin and officer's berth and 2 glasses. All crockery to have Canadian Government badge.

101. **Engineers.**—2 water bottles and glasses, 6 tumblers, 6 breakfast cups and saucers, 6 teacups and saucers, 6 dinner plates, 10 in.; 6 soup plates, 10 in.; 6 pudding plates, 8 in.; 3 egg cups, 1 slop basin, 1 cream jug, 1 sugar basin, 1 butter pat, 1 water jug, 1 salt cellar, 2 dinner dishes, 2 cover dishes. All crockery to have Canadian Government badge.

102. **Electro Plate and Cutlery, Cabin.**—12 table forks, e.p.; 12 dessert forks, e.p.; 12 tablespoons, e.p.; 12 dessert spoons, e.p.; 12 teaspoons, e.p.; 6 egg spoons, e.p.; 2 salt spoons, e.p.; 1 mustard spoon, e.p.; 1 teapot, b.t.; 1 cruet frame, e.p., 6 bottles; 1 soup ladle, e.p.; 3 dish covers, b.t.; 1 soup tureen, b.t.; 12 table knives, white handles; 12 dessert knives, white handles; 1 pair of carvers, white handles; 1 steel, white handle; 1 sugar basin and tongs, e.p.; 1 cream jug, e.p.; 1 small cruet, e.p., with 4 bottles. All to have Canadian Government badge.

103. **Engineers.**—6 table knives, black handles; 6 tea knives, black handles; 6 forks, n.s.; 6 tablespoons, n.s.; 6 teaspoons, n.s.; 6 dessert spoons, n.s.; 1 pair carvers, black handles; 1 steel, black handle; 1 soup tureen and ladle, b.t.; 1 cruet frame, b.m., 4 bottle; 1 mustard spoon, n.s.; 1 coffee pot, b.t.; 1 teapot, b.t. All to have Canadian Government badge.

Anything twice mentioned in this specification to be only once supplied.

Following are particulars of the vessel's various capacities:—

Cargo Hatches Capacities.

No. 1 hatch	1,369	cu. ft.
No. 2 hatch	1,618	"
No. 3 hatch (on upper deck)	120	"
No. 4 hatch	1,618	"
No. 5 hatch	1,618	"
No. 3 hatch (on bridge deck)	540	"
Total	6,883	"

Bale Capacities.

Holds (including hatches)	Between frames	Cu. ft.
No. 1 hold	123-151	44,132
No. 2 hold	84-123	74,407
No. 3 hold	8- 61	79,940
Between upper and bridge decks	84-105	12,303
Total bale capacity (including hatches)		210,782

Grain Capacities.

Holds (including hatches)	Between frames	Cu. ft.
No. 1 hold	123-151	48,275
No. 2 hold	84-123	78,120
No. 3 hold	8- 61	86,762
Between upper and bridge decks	84-105	13,720
Total grain capacity (including hatches)		226,877

Water Capacities.

Tanks (s. w.)	Frames	Cu. ft.	Tons
Fore peak	151-f.p.	2,568	73
No. 1 w. b.	123-151	1,873	54
No. 2 w. b.	82-123	7,540	215
No. 3 w. b. (p. & s.)	62-82	4,136	118
Hold well	18-20	72	2
No. 4 w. b.	41-62	3,519	100
No. 5 w. b.	20-41	1,420	41
Aft peak	0-8	1,003	29
Total water capacity		22,131	632

Coal Capacities.

Bunker	Frames	Cu. ft.	Tons
Port bunker	68-84	4,106	98
Starboard do.	67-84	4,355	104
Coal shoot	72-74	757	18
Bunker (under bridge deck)	84-105	13,720	327
Port bunker (under bridge deck	69-84	2,730	65
Starboard bunker (under deck	69-84	2,730	65
Total coal capacity		28,398	677

Naval Service Vessels to be Sold.

Following is a list of vessels of various types, utilized by the Naval Service Department for coast patrol and other purposes during the war, for the purchase of which tenders were received to Feb. 20:

Six patrol steamships, named Festubert, Messines, St. Eloi, St. Julien, Vimy and Ypres, built in 1917, by Polson Iron Works, Toronto. They are of iron, and have these dimensions: length 130 ft., breadth 23.5 ft., depth 13.5 ft.; tonnage, 320 gross, 204 register; equipped with fore and aft compound engines of 59 n.h.p.

Forty-five steel steam trawlers, to Class C; length between perpendiculars, 125 ft.; breadth, extreme, 23½ ft.; depth, moulded, 13½ ft.; speed 10 knots; bunker capacity 155 tons; coal consumption, for 10 knots, 9 tons, and for 7½ knots, 7 tons; equipped with triple expansion, surface condensing engine, 61.6 n.h.p., with cylinders 12¾ x 21½ x 35 in.; reversing gear; air, circulating and other pumps; electric lighting, large trawl winch, steam windlass for anchor, bilge syphon, etc.; boiler, Scotch type, 13½ x 10½ ft.; 3 plain furnaces, 180 lb. working pressure under natural draft.

Fifty wooden steam drifters, equal to Lloyd's 100 A1 for this class of vessel. Length between perpendiculars, 84 ft.; breadth, extreme, 18 ft. 3 in.; depth, moulded, 10 ft. 11½ in.; bunker capacity 25 tons, equipped with compound, surface condensing engine with cylinders 12 and 24 in. diar., by 16 in. stroke, 24 n.h.p., for a speed of 9 knots an hour, supplied with steam by 2 Scotch boilers 9 ft. long by 9½ ft. diar., at 140 lb., with plain furnaces and natural draft; air, circulating, feed and bilge pumps working from main engine, duplex donkey pump, injector and bilge syphon; fuel consumption 4½ tons a day.

Steamship Constance, owned formerly by Customs Department, built at Owen Sound, Ont., in 1891, of steel and wood; length 115½ ft., breadth 19½ ft., depth of hold 11.2 ft.; tonnage, 185 gross, 126 register, displacement 400, draft loaded 11½ ft.; equipped with 4½ compound engine, 330 i.h.p., with cylinders 18 and 36 in. diar. by 24 in. stroke, supplied with steam by a single boiler 12 ft. 4 in. by 11 ft. 2 in., at 140 lb. working pressure; bunker capacity 46 tons; average speed 9 knots an hour.

Steamship Curlew, built at Owen Sound, Ont., in 1892, with composite hull; length 116½ ft., breadth 20 ft., depth of hold 11.3 ft.; tonnage, 158 gross, 96 register, 415 displacement, draft loaded 11 ft.; equipped with fore and aft compound engine, 350 i.h.p., with cylinders 18 and 36 in. diar. by 24 in. stroke, and supplied with steam by a single boiler 10 ft. 7 in. by 10 ft. 9 in.; bunker capacity 40 tons; average speed 9 knots an hour.

Steamship Grib, owned formerly by Canadian Whaling Co., Seven Islands, Que., and built in 1907, at Sandefjord, Norway, of steel; length 94.5 ft., breadth 18.7 ft., depth of hold 10.2 ft.; tonnage, 140 gross, 78 net, 185 displacement; draft loaded 10.2 ft.; schooner rigged and equipped with vertical triple expansion engine, 350 i.h.p., with cylinders 11, 18 and 29½ in. diar. by 18 in. stroke, supplied with steam by a single boiler at 100 lb. working pressure; bunker capacity 75 tons; average speed 11 knots.

Steamship Lady Evelyn, formerly owned by Post Office Department; built in Great Britain in 1901, and originally named Deerhound. She is of steel, with bunker capacity of 90 tons; length 189 ft., breadth 26 ft., depth 9½ ft.; tonnage, 483 gross, 192 register; equipped with engine of 1,500 i.h.p. driving a screw; ordinary speed 12½ knots an hour.

Steamship P.V. IV, formerly Martin J. Marran, bought from Seaboard Fisheries, Inc., New York, for $105,000; built in 1911 of wood; length between perpendiculars 149 ft., length over all 160 ft. 10 in., beam 22½ ft., depth of hold 9 ft.; tonnage, 323 gross, 145 net, deadweight capacity 350 tons; draft, light, 12½ ft.; draft, loaded, 14 ft.; equipped with triple expansion engine, with cylinders 12½, 13¾ and 36 in. diar. by 24 in. stroke, 600 h.p., located about 29 ft. from the stern post, and supplied with steam by a single Scotch boiler 12½ by 16¼ ft., at 180 lb., and also with 7 k.w. electric lighting plant; bunker capacity 75 tons; speed about 12 knots an hour, with a consumption of 18 tons a day. There are two hatchways to the hold, one 18 x 12 ft., the other 12 x 9¼ ft.

Steamship P.V. V, formerly Rollie E. Mason, bought from Seaboard Fisheries, Inc., New York, for $105,000; built in 1911, and of similar type to the foregoing; length between perpendiculars 149 ft., length over all 167 ft. 10 in., beam 23 ft., depth of hold 8¼ ft.; tonnage, 323 gross, 145 net, deadweight capacity 350 tons; 2 hatchways, one 17 ft. 9 in. x 11 ft. 11 in., the other 12 ft. x 9½ ft.

Steamship P.V. VI, formerly Leander Wilcox, bought from J. W. Wilcox Co., New London, Conn., for $85,000; built in 1907; length 126 ft., beam 22¼ ft., draft 11 ft., gross tonnage 205; compound engine with cylinders 15 and 30 in. diar. by 23 in. stroke, supplied with steam at 150 lb.; one hold of 150 tons capacity; speed 12 knots; complete equipment, including electric lighting throughout, and hoisting machinery.

Steamship P.V. VII, formerly Roland H. Wilcox, bought from J. W. Wilcox Co., New London, Conn., for $85,000; built in 1911; length 132 ft., beam 22¼ ft., draft 10 ft. 7 in.; tonnage, 247 gross, 119 register; one hold with capacity for 170 tons; bunker capacity 40 tons; speed 12 knots; compound engine with cylinders 15 and 30 in. diar. by 23 in. stroke, supplied with steam by a single ended Scotch boiler 12 ft. by 12 ft. 2 in., at 160 lb.; all complete, including electric lighting througnout, and hoisting machinery.

Steamship Speedy II, owned formerly by Public Works Department, and built in Scotland in 1896 of steel; length 125 ft., breadth 20 ft., depth of holds 10½ ft.; tonnage, 252 gross, 154 net, displacement 420 tons; draft loaded 11 ft.; equipped with 2 triple expansion engines with cylinders 10, 16 and 30 in. diar. by 18 in. stroke (6 cylinders), 500 i.h.p., and supplied with steam by 2 cylindrical marine and return boilers, 9½ by 10 ft., at 200 lb.; bunker capacity 40 tons; average speed 10 knots an hour.

The s.s. Canadian Voyageur's Trip from Quebec to Halifax.

As stated in Canadian Railway and Marine World for February, the steel cargo steamship Canadian Voyageur, the first vessel built under the Dominion Government's shipbuilding programme, which was launched by Canadian Vickers, Ltd., at Montreal, Nov. 23, 1918, completed at Quebec ,and delivered to the Marine Department there Jan. 17, left there Jan. 20, in charge of Capt. R. Aikman, for Halifax, to be delivered there to the Canadian Government Merchant Marine, Ltd., for operation. She was accompanied from Quebec by the Dominion Government icebreaking s.s. Montcalm, the latter being intended to go as far as ice conditions might necessitate. The trip to Halifax took 16 days, owing to trouble with ice. As Jan. 20 is said to be the latest date at which an ocean going vessel ever left Quebec for the sea, the following extracts from the Canadian Voyageur's log will be of considerable interest:

Jan. 20, 10 a.m., left Quebec, 10.50 a.m., started snowing, wind increasing from eastward; 11 a.m., turned ship around; 1.10 p.m., made fast Quebec pier, snowing.

Jan. 21, 9 a.m., left Quebec, following C.G.S. Montcalm; 11.50 a.m., passed Bellechasse; 1 p.m., Crane Island; 2.55 p.m., Lower Traverse; 6 p.m., stopped in heavy ice; 8.20 p.m., full speed ahead; 10.50 p.m., Cape Salmon; midnight, fine, moderate ice.

Jan. 22, 8.45 a.m., Bic Island; 10 a.m., Father Point, C.G.S. Montcalm took off two pilots and Canadian Vickers, Ltd., engineer; 1.50 p.m., Bersimis Point; 5 p.m., stopped in heavy ice; 8 p.m., ice pressing against ship side heavily, dull and overcast.

Jan. 23, 7 a.m., C.G.S. Montcalm broke ice around us; we proceeded, making for north shore; 4 p.m., stopped in heavy ice, wind increasing from eastward; midnight, strong e.n.e. gale with heavy snow.

Jan. 24, heavy easterly gale blowing all day; drifting with ice; 10.30 p.m., cast 48 fathoms, midnight cast 50 fathoms, high easterly gale, blinding snow storm.

Jan. 25, 2 a.m., sighted Portneuf light abeam, sky clearing, cast 28 fathoms; 8.30 a.m., cast 50 fathoms; 10.30 a.m., full speed ahead; 11.45 a.m., stopped and coaled Montcalm alongside; finished coaling 11.45 p.m.; midnight, full speed ahead.

Jan. 26, midnight to 4 a.m., bucking heavy ice; 4 to 5.30 a.m., loose ice; 6 a.m., clear water following north shore; 12.45 p.m., Pointe Des Monts; 4 p.m., heavy ice, light snow; 6 p.m., Carousel Island light; 10 p.m., stopped.

Jan. 27, 5.15 a.m., full speed ahead; 7.40 a.m., West Point light, Anticosti, moderate ice; 10 a.m., bucking heavy ice; 2 p.m., clear, no ice; 4 p.m., heavy slack ice; 8 p.m., stopped in heavy ice.

Jan. 28, stuck in heavy, close packed ice, 5 miles off Table Head, strong north wind with snow flurries, no open water in sight, drifted 3 miles s.e.

Jan. 29, stuck in heavy, close packed ice, 4 miles off Table Head, fine clear weather, light northerly wind, freezing hard, no open in sight, drifted 4 miles s.e.

Jan. 30, stuck in heavy close packed ice, 2 miles off Table Head, fine clear weather, fresh n.w. wind, freezing hard; 2 p.m., ice opening in seams to eastward; 8 p.m., drifting s.s.e.

Jan. 31, stuck in heavy close packed ice, half mile off shoal at Fox Bay, fine clear weather, fresh n.w. wind, drifting to south, ice spreading in seams and cracking slowly.

Feb. 1, stuck in heavy close packed ice, 4 miles off shore, East Point, Anticosti, fine and clear, moderate westerly wind, drifting s.e.; 9 a.m., C.G.S. Montcalm came alongside, took tow line and pointed steamship's head east; 10.10 a.m., full speed ahead, bucking heavy ice, slight westerly wind, snow flurries; 4 p.m., passing snow showers, fresh southwesterly wind, running through slob ice; 10 p.m., encountered heavy ice field; 11.45 p.m., St. Paul's Island light; 3 p.m., proceeded slowly through heavy ice.

Feb. 2, 8 a.m., ice thinning out, light n.w. wind, snowing hard at intervals; 9.35 a.m., passed Glace Bay; 11.20 a.m., Sow Point; 11 a.m., took pilot aboard; 11.20 a.m., anchored off North Sydney, snowing until midnight.

Feb. 3, 8 a.m., fine and clear, light n.w. wind; 11.40 a.m., raised anchor and proceeded; 12.45 p.m., Lowe Point; 3.12 p.m., Scatarie, fresh n.w. wind; 8 p.m., St. Esprit; 10.10 p.m., Cranberry Island, strong northwest wind.

Feb. 4, 1.40 a.m., Country Island; 3.35 a.m., Liscomb; 5.50 a.m., Sheet Harbor; 7.25 a.m., Egg Island; 8.10 a.m., Jeddore Head; 10.10 a.m., Chebucto Head, took pilot; 11.15 a.m., anchored in Halifax harbor, 12 fathoms water, draft 6½ ft. forward, 18 ft. aft.

Feb. 5, light southerly wind, fine and clear, anchored in stream.

Feb. 6, moderate north wind, clear, then overcast, anchored in stream.

Feb. 7, fresh n.n.w. wind, clear, then overcast; 1 p.m., proceeded to no. 4 pier, south side, assisted by tug.

Feb. 8, fresh n.w. wind; lying at no. 4 pier.

Feb. 9, light n.w. wind; lying at no. 4 pier.

Feb. 10, light north wind; commenced taking coal from no. 4 hold to bunkers, lying at no. 4 pier.

Feb. 11, light north wind; shifting coal to bunkers, lying at no. 4 pier.

Feb. 12, fresh north wind; shifting coal to bunkers, lying at no. 4 pier.

Feb. 13, light west wind; shifting coal to bunkers till 6 p.m.

Feb. 14, 8 a.m., left pier 4 and proceeded, with assistance of 2 tugs, to Halifax drydock; 9.30 a.m., in dock; 5 p.m., water pumped out of drydock.

The Canadian Voyageur did not suffer any material damage from the ice, an examination in the drydock showing that only one or two plates had been slightly dented and these were straightened out without any difficulty, and, of course, some painting had to be done.

The Canadian Voyageur took on cargo at Halifax for the West Indies, and was expected to sail about Feb. 28. Her return cargo for Halifax probably will consist of sugar from Demerara and San Domingo.

Toronto Shipbuilders and the Dominion Government Shipbuilding Programme.

A deputation representing the various shipbuilding companies in Toronto, the city council, the board of trade, and other local organizations, waited on the acting Premier and other members of the Dominion Government at Ottawa, Feb. 13, to protest against the position in which Toronto has been placed regarding orders for vessels for the Government Merchant Marine, and urging that the programme be proceeded with, by the placing of further orders, in which a due proportion should be placed in Toronto. The shipbuilders were represented by J. B. Miller, President, and H. G. Miller, Vice President, Polson Iron Works, Ltd.; L. Dahlgren, Vice President and General Manager, and A. C. McMaster, Counsel, Dominion Shipbuilding Co., and Chas. Boone, Vice President, Toronto Shipbuilding Co.

The position was clearly outlined by the representatives of the shipbuilding companies, who referred to the large expenditures they had made in the organization and equipment of their plants, and the prospects held out to them that the yards would be kept busy on government orders. Of the orders placed by the Dominion Government none have been placed in Toronto.

Sir Thomas White, in replying, stated that the government, having placed orders for 45 vessels, had now to consider what its future policy was to be, and it would be the government's duty to take the unemployment question into consideration in reaching a decision whether or not it should place further orders. The cost of construction would also be considered.

Of the three shipbuilding companies concerned, two are builders of steel vessels, and the third is equipped for building wooden vessels. Polson Iron Works has carried out a number of contracts for government vessels of various types, and at present is engaged on the completion of orders for the British Government, placed by the Imperial Munitions Board, and which, it is expected, will be completed by August. The Dominion Shipbuilding Co., which acquired Thor Iron Works, Ltd., and laid out and equipped a large, up to date yard, has built several steel steamships, chiefly for its own account, with a view to chartering, or selling them as occasion arises. It has received no orders from the Imperial Munitions Board. or from the Dominion Government. The Toronto Shipbuilding Co. is equipped for wooden shipbuilding, and has completed contracts for two wooden steamships for the British Government, under orders from the Imperial Munitions Board.

Canadian Fishing & Transport Co. Ltd., has been incorporated under the Dominion Companies Act, with $1,500,000 authorized capital and office at Toronto, to carry on a general fishing and transportation business, and in connection therewith to own and operate steam and other vessels, and other transportation facilities.

Losses on Great Lakes in 1918.—The total of losses on the Great Lakes throughout 1918, was 93 lives and approximately $8,000,000 worth of shipping. The heavy loss of life is accounted for by the foundering of two French mine sweepers, with their crews, during a gale on Lake Superior, Nov. 24.

Canadian Government Merchant Marine, Ltd., Shipbuilding, Operation, Etc.

Orders for Vessels.—On another page is a complete table showing the number and type of all vessels ordered by the Dominion Government for Canadian Government Merchant Marine, Ltd., together with information concerning contract no., contract date, builders name and address, builders yard no., tonnage deadweight, type, classification, sea speed, price per ton d.w., total price, approximate delivery date, date of laying of keel, date of launching and name of vessel, so far as obtainable. This information will be added to from time to time, as construction progresses, or when any changes take place. This matter has been got together after a considerable expenditure of time, and has been classified and arranged in such a form, that all the information available can be obtained easily and expeditiously by reference to it. Canadian Railway and Marine World is the only medium which has dealt thoroughly with the shipbuilding development throughout the Dominion, and especial pains are being taken to place before its readers accurate and up to date information as to the Dominion Government's actions in connection with the shipbuilding industry in Canada, which means so much for the future of the country. Following is a summary of the orders placed, classified according to builders:—

	No.	Tons each	Total tonnage
British American Shipbuilding Co., Welland, Ont.	2	4,350	8,700
Canadian Vickers, Ltd., Montreal	2	4,300	8,600
Canadian Vickers, Ltd.	6	8,100	48,600
Collingwood Shipbuilding Co., Collingwood, Ont.	4	3,750	15,000
Collingwood Shipbuilding Co., Kingston, Ont.	1	3,750	3,750
J. Coughlan & Sons, Ltd., Vancouver, B.C.	4	8,100	32,400
Davie Shipbuilding & Repairing Co., Lauzon, Que.	2	5,100	10,200
Halifax Shipyards, Ltd., Halifax, N.S.	2	8,100	16,200
Halifax Shipyards, Ltd., Halifax, N.S.	2	10,500	21,000
John L. Mullen Construction Co., Prince Rupert, B.C.	2	8,100	16,200
Nova Scotia Steel & Coal Co., Ltd., New Glasgow, Ont.	2,	2,800	5,600
Port Arthur Shipbuilding Co., Port Arthur, Ont.	4	3,400	13,600
Port Arthur Shipbuilding Co.	2	4,300	8,600
Tidewater Shipbuilders, Ltd., Three Rivers, Que.	4	5,100	20,400
Victoria Machinery Depot, Victoria, B.C.	2	8,100	16,200
Wallace Shipyards, Ltd., Vancouver, B.C.	2	4,300	8,600
Wallace Shipyards, Ltd.	2	5,100	10,200
	45		263,850

Contracts Signed—Dates of Contracts.—Referring to the table published in Canadian Railway and Marine World for February, and repeated in more complete form in this issue, some misapprehension has arisen apparently in the public mind in reference to contract dates given. These dates are those on which the contracts were signed respectively, and as will be seen by the table in this issue, some of the contracts had not been signed up to the date of our latest advice, though orders in council authorizing the giving of the contracts were passed some time previously. Since the publication of the table in our February issue, giving full particulars of contracts which the Marine Department had been authorized by order in council to place, the following contracts have been signed on the dates named.

Contracts 15 and 16, Jan. 24, 1919, Tidewater Shipbuilders, Ltd., Three Rivers, Que., yard nos. 7 and 8, two steamships 5,100 tons d.w. each, at $200 a ton, or $1,020,000 each.

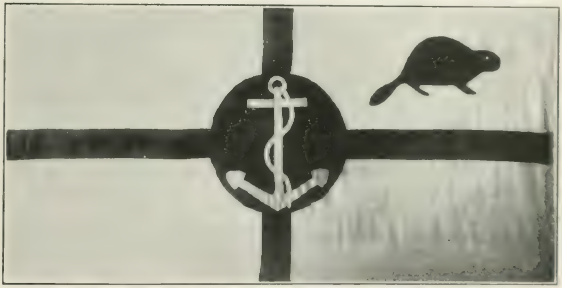
Contracts 29 and 30, Jan. 24, 1919, Victoria Machinery Depot Co., Victoria, B.C., yard nos. 1 and 2, two steamships 8,100 tons d.w. each, at $198 a ton, or $1,603,800 each.

Contracts 44 and 45, Jan. 23, 1919, British American Shipbuilding Co., Welland, Ont., yard nos. 4 and 5, two steamships 4,350 tons d.w. each, at $215 a ton, or $935,250 each.

For fuller details, see table published on another page in this department.

Names of Vessels.—In addition to the names Canadian Voyageur, Canadian Pioneer and Canadian Warrior, given to the first three steamships launched under orders from the Marine Department as shown in Canadian Railway and Marine World for February. the following names have been decided on.

Contract 4, builders yard no. 100, Wallace Shipyards, Ltd., Vancouver, Canadian Volunteer.



House flag, Canadian Government Merchant Marine, Ltd.

The illustration above is from a photograph of the house flag which has been adopted by the Marine Department for vessels of the Canadian Government Merchant Marine, Ltd. The flag is 12 x 6 ft., the design consisting of a Greek cross, with a ball 18 in. diar. in the center, carrying an anchor, and a representation of a beaver in one of the quarters. The cross and ball are blue on a white ground, and the anchor is yellow.

Contract 5, builders yard no. 106, Wallace Shipyards, Ltd., Vancouver, Canadian Trooper.

Contract 10, builders yard no. 62, Collingwood Shipbuilding Co., Collingwood, Ont., Canadian Recruit.

Contract 11, builders yard no. 63, Collingwood Shipbuilding Co., Canadian Signaller.

Contract 12, builders yard no. 64, Collingwood Shipbuilding Co., Canadian Gunner.

Contract 24, builders yard no. 69, Canadian Vickers, Ltd., Montreal, Canadian Ranger.

British American Shipbuilding Co., Welland, Ont., advised us Feb. 10 that it was making some extensions to its building berths, which were necessary before keels could be laid for the 2 steel steamships of 4,350 tons d.w. each, for which it has orders from the Dominion Government. It then expected to have the keel for department's contract 44, builders yard no. 4, laid early in March.

Canadian Vickers, Limited, Montreal, advised us Feb. 19 that the steel cargo steamship, Canadian Pioneer, 8,100 tons d.w., which left Montreal, Dec. 6, 1918, in tow, for Quebec, had been completed there, and was ready for handing over to the Marine Department, subject to a few minor details, which cannot be completed at Quebec owing to climatic conditions.

As stated in Canadian Railway and Marine World for February, the keel of builders yard no. 68, 8,100 tons d.w., was laid Aug. 26, 1918, and it was expected to launch her Jan. 15. Canadian Vickers, Ltd., advised us Feb. 19 that the hull had been ready for launching for about a fortnight, but that it had not been put into the water, owing to the river level being abnormally high, reference to charts showing it to be higher than for the past six years. The vessel will be named Canadian Ranger.

Halifax Shipyards, Ltd., Halifax, N.S.—In an interview given to a Halifax newspaper at the end of January, J. W. Norcross is reported to have stated that the first keel of the four steamships to be built for Canadian Government Merchant Marine, Ltd., will be laid as soon as the material arrives at the yard. The ground is pretty well prepared and it was expected to have all the buildings under erection by Mar. 1. The keel blocks are already laid for two vessels. The company has contracts for 2 steamships of 8,100 tons each, and 2 of 10,500 tons each.

Harbor & Marine Co., Ltd., is stated to be the name of a company which is establishing a plant at Victoria, B.C., to build 2 steel steamships of 8,100 tons d.w. each, for the Dominion Government. The head of this company is stated to be C. J. V. Spratt, of the Victoria Machinery Depot, Ltd., which has a contract for 2 steel cargo steamships of 8,100 tons d.w. each, at $198 a ton. The contracts for these vessels were signed Jan. 24, and the approximate delivery dates are Jan. 31 and Nov. 20, 1920. It is stated that plans for the buildings to be erected on the site of the new shipyard, including mould loft, mill, plate shop, blacksmith shop, building ways and offices, have been completed, and construction was expected to commence towards the end of February. The site selected, at Hospital Point, has been prepared and a wharf built for landing

(Continued on page 155.)

Orders for Steel Cargo Steamships for Canadian Government Merchant Marine Ltd.

The following is a complete list of steel cargo steamships which the Dominion Marine Department has been authorized, by order in council, to place orders for, and which orders are to be carried out. Where a contract date is not given the contract had not been signed at the time of our latest official advice.

The following contractions are used in the column giving the type of the vessels to be built: s.d., single deck, 2.d., two decks, 3.d., three decks, lake, lake type, p., poop, b., bridge, f'c's'le, forecastle.

Contract no.	Contract date	Builder	Yard no.	Tons d.w.	Price per ton d.w.	Total price	Type	Classification	Speed, knots	Approximate delivery date	Keel laid	Launched	Name
1	Mar. 4, 1918	Canadian Vickers Ltd., Montreal	66	4,300	$207.	$890,100	S.d., p., b. and f'c's'le	Lloyd's	11	Dec. 31, 1918	June 10, 1918	Nov. 23, 1918	Canadian Voyageur
2	May 22, 1918	" "	67	8,100	180	1,458,000	2.d., p., b. and f'c's'le	"	11	Jan. 31, 1918	July 17, 1918	Dec. 3, 1918	Canadian Pioneer
3	May 18, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	61	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	May 1, 1919		Dec. 21, 1918	Canadian Warrior
4	Mar. 15, 1918	Wallace Shipyards Ltd., Vancouver, B.C.	100	4,300	207.	890,100	S.d., p., b. and f'c's'le	Lloyd's	11	Mar. 31, 1919	Oct. 1, 1919		Canadian Volunteer
5	Nov. 25, 1918	" "	106	4,300	217.	933,100	S.d., p., b. and f'c's'le	"	11	May 31, 1919	Nov. 15, 1918		Canadian Trooper
6	Nov. 25, 1918	" "	101	5,100	210	1,071,000	S.d., p., b. and f'c's'le	"	11	July 31, 1919			
7	Nov. 25, 1918	" "	102	5,100	210.	1,071,000	S.d., p., b. and f'c's'le	"	11	Sept. 30, 1919			
10	July 5, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	62	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	May 15, 1919	June 3, 1918		Canadian Recruit
11	Oct. 17, 1918	" "	63	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 15, 1919			Canadian Signaller
12	Oct. 17, 1918	" "	64	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919			Canadian Gunner
13	Aug. 9, 1918	Tidewater Shipbuilders Ltd., Three Rivers, Que.	5	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	Lloyd's	11	Aug. 1, 1919	Jan. 8, 1919		
14	Aug. 9, 1918	" "	6	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Sept. 1, 1919	Jan. 10, 1919		
15	Jan. 24, 1919	" "	7	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 15, 1919			
16	Jan. 24, 1919	" "	8	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	May 15, 1920			
17	Sept. 4, 1918	Davie Shipbuilding & Repairing Co., Lauzon, Que.	459	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 1, 1919			
18	Sept. 4, 1918	" "	460	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 8, 1919			
19	Sept. 4, 1918	Port Arthur Shipbuilding Co., Port Arthur, Ont.	39	3,400	205.	697,000	Lake, s.d., p., b. and f'c's'le	"	9	June 1, 1919	Dec. 9, 1918		
19a		" "	41	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Sept. 30, 1919			
20	Sept. 4, 1918	" "	40	3,400	205.	697,000	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	Dec. 10, 1918		
20a		" "	42	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Oct. 31, 1919			
21	Sept. 13, 1918	Halifax Shipyards, Ltd., Halifax, N.S.	1	8,100	195.	1,579,500	2.d., p., b. and f'c's'le	"	10	Dec. 19, 1919			
22	Sept. 13, 1918	" "	2	8,100	195.	1,579,500	2.d., p., b. and f'c's'le	"	10	Apr. 1920			
23	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	68	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	May 1, 1919	Nov. 30, 1918		Canadian Ranger
24	Oct. 11, 1918	" "	69	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	June 1, 1919	Nov. 30, 1918		
25	Oct. 11, 1918	" "	70	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	July 1, 1919	Dec. 2, 1918		
26	Oct. 11, 1918	" "	71	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	Aug. 1, 1919			
27	Oct. 11, 1918	" "	72	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	Sept. 1, 1919			
28	Oct. 11, 1918	" "	73	4,300	215.	924,500	S.d., p., b. and f'c's'le	"	11	May 27, 1919			
29	Jan. 24, 1919	Victoria Machinery Depot, Victoria, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Jan. 31, 1920			
30	Jan. 24, 1919	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Nov. 30, 1920			
31	Dec. 11, 1918	Collingwood Shipbuilding Co., Kingston, Ont.	15	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	Nov. 1, 1919			
32		Port Arthur Shipbuilding Co., Port Arthur, Ont.	43	4,300	215.	935,250	S.d., p., b. and f'c's'le	Lloyd's	11	Nov. 1, 1919			
33		" "	44	4,300	215.	935,250	S.d., p., b. and f'c's'le	"	11	Nov. 15, 1919			
34	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	11	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	July 31, 1919			
35	Nov. 22, 1918	" "	12	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Aug. 31, 1919			
36	Nov. 22, 1918	" "	13	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Sept. 30, 1919			
37	Nov. 22, 1918	" "	14	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Oct. 31, 1919			
38	Dec. 10, 1918	Halifax Shipyards Ltd., Halifax, N.S.	3	10,500	197½	2,073,750	3.d., p., and f'c's'le	"	12	Aug. 1, 1920			
39	Dec. 10, 1918	" "	4	10,500	197½	2,073,750	3.d., p., and f'c's'le	"	12	Nov. 1, 1920			
40		Nova Scotia Steel & Coal Co., New Glasgow, N.S.	5	2,800	210.	588,000	S.d., p., b. and f'c's'le	"	8½	Oct. 1919			
41		" "	6	2,800	210.	588,000	S.d., p., b. and f'c's'le	"	8½	Nov. 1919			
42	Feb. 21, 1919	Prince Rupert Shipbuilding & Engineering Co., Prince Rupert, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Feb. 1920			
43	Feb. 21, 1919	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	June 1920			
44	Jan. 23, 1919	British American Shipbuilding Co., Welland, Ont.	4	4,350	215.	935,250	S.d., p., b. and f'c's'le	Brit. Corp.	10	Nov. 1919			
45	Jan. 23, 1919	" "	5	4,350	215.	935,250	S.d., p., b. and f'c's'le	"	10	June 1920			
				263,850		$52,691,450							

(Continued from page 153.)

construction supplies, and a temporary yard office and foreshore tracks have been laid down. Mr. Spratt is reported to have announced that construction of the 2 vessels will commence immediately on the arrival of the steel, the keel plates being expected early in March. J. S. Clark is reported to have been appointed Superintendent Engineer.

The Port Arthur Shipbuilding Co., Port Arthur, Ont., as stated in Canadian Railway and Marine World for February, has contracts from the Marine Department for 4 steel cargo steamships, of 3,400 d.w. each, and for 2 of 4,300 tons d.w. each. It laid keels for 2 or 3,400 tons each as follows: Builders yard no 19, Dec. 9, 1918; builders yard no. 20, Dec. 10, 1918. The approximate launching dates for these are about April 15. The company advised us Feb. 19 that it expected to lay keels for 2 more, of 3,400 tons each, about Mar. 15.

Prince Rupert Shipbuilding & Engineering Co., Prince Rupert, B.C. As stated in previous issues, the Marine Department was authorized by order in council to give contracts to John L. Mullen Construction Co. to build 2 steel cargo steamships of 8,100 tons d.w. each at Prince Rupert, B.C., the company having leased the Grand Trunk Pacific Ry.'s shipbuilding and drydock there. The Prince Rupert Shipbuilding Co. has been incorporated under the British Columbia Companies Act by persons interested in the John L. Mullen Construction Co. and others, as stated in Canadian Railway and Marine World for February, and contracts for the 2 vessels have been given to it and were signed Feb. 21.

Tidewater Shipbuilders, Ltd., Three Rivers, Que., has advised us that it has laid keels for two, out of the four, 5,100-ton steel cargo steamships for which it has orders from the Marine Department as follows: Contract 13, builders yard no. 5, keel laid Jan. 8; contract 14, builders yard no. 6, keel laid Jan. 10. It is expected to launch these two steamships about the latter part of August. Contracts 15 and 16, for builders yards nos. 7 and 8, were signed Jan. 24, and keels will be laid immediately after launching builders yard nos. 5 and 6.

Canada Steamship Lines, Ltd., Dividend, Official Changes, Etc.

The Canada Steamship Lines, Ltd., directors, on Feb. 11, declared a quarterly dividend on the common stock, at the rate of 4% for the year, the first quarterly payment to be made Mar. 15. At the same time it was announced that the President, Jas. Carruthers, and another director, J. C. Newman, Manager, McClary Mfg. Co., Montreal, had resigned, being opposed to paying a dividend on the common stock. J. W. Norcross, Vice President and Managing Director, was elected to succeed Mr. Carruthers as President, and retains the title of Managing Director. He stated that the company was in a strong position financially, that a dividend was justified by earnings, and that the 4% rate decided on was an indication of a conservative policy.

C. A. Barnard, K.C., Montreal, and M. J. Haney, Toronto, both directors and members of the executive committee, were elected vice presidents. F. S. Isard, a director and member of the executive committee, also Comptroller, was appointed Director of Finances, and Comptroller. W. E. Burke, a director and Assistant Manager, was appointed Director in charge of Transportation, and a member of the executive committee. H. W. Cowan, a director and Operating Manager, was appointed Director in charge of Operations, and a member of the executive committee.

Mr. Carruthers left Montreal for the Pacific coast some time prior to the directors' meeting referred to above, and before doing so made the following reference to his opposition to paying a dividend on the common stock:—"I cannot admit the propriety of paying such a dividend, for several reasons, and in this attitude have received Mr. Newman's consistent sympathy and support. My principal reason for adopting the attitude described was that I considered the company's best interests were bound up in maintaining the dividend position of its premier capital issue, the preferred stock. In other words, this issue should be strengthened during a period of exceptional earnings, with such a reserve backing that the continuance of the regular rate would be assured for some years to come. My contention is that the disbursement should not be made until there is a strong liquid reserve behind the preferred. It was not the idea of the organizers of the company at its inception that the common should receive anything in the way of dividend until the company had gone thorugh a period of years of experience, which would prove its earning capacity beyond question. In order that my attitude should not prove an embarrassment to the board, and so that the decision to declare the dividend might be considered unanimous, I have decided to resign the presidency and also from the board, and Mr. Newman joins me in my retirement."

Great Lakes-St. Lawrence Tidewater Association.

The Great Lakes-St. Lawrence Tidewater Association is reported to have been organized in Washington, D.C., to urge the enlarged canalization of the St. Lawrence River, with the view of "bringing the Atlantic to the heart of the continent." The U.S. Government is to be asked to take such steps as may seem best and most expeditious, and to co-operate in what Canada is already doing, toward this end. The states said to be represented in the organization are: Wisconsin, Minnesota, North Dakota, Iowa, Illinois, Indiana, Michigan and Ohio.

A correspondent writes us in regard to the foregoing report as follows: "The association's purpose, as stated, is not likely to be fulfilled, as it would appear that engineers have pretty well decided that if the Great Lakes are to be connected with tide water, through the St. Lawrence River, for deep draft vessels, it will not be by enlarging the St. Lawrence canals, but by the use of dams to create a series of basins in the St. Lawrence channel, so as to obviate the need of excavation of the many existing difficult channels other than the canals. Canadians, who believe in making Toronto, Fort William and Port Arthur ocean ports, will no doubt welcome the idea that Washington is waking up to the importance of the St. Lawrence route, and may possibly make up its mind to join with the Dominion Government in utilizing the river for navigation, at the expense of the power barons. Doubtless, if the two governments did join hands on such a rational scheme, the public would get plenty of power and the only losers would be those who have heretofore been permitted to exploit the natural resources of the river largely for their own benefit."

Casualties on the Great Lakes, Etc.

The Canadian Lake Protective Association's bulletin 1 for 1919 to masters of vessels enrolled in the association gives a list of the casualty reports received during 1918 subsequent to the issue of the last bulletin and dealt with at a meeting of the association's committee at Montreal, Feb. 5. Masters and engineers are warned that there is but one authorized set of engine signals, and that, notwithstanding any unauthorized practice to the contrary in some quarters, 2 bells or 2 whistles must be accepted as a signal to go astern, no matter how the engines are turning at the time. If these signals are to be taken as "one to stop", followed by "one to go ahead", there must be a distinctly appreciable pause between them. Non-observance of this rule, or failure to understand it, has led to more than one casualty during 1918, and the same comment has been made upon the record of previous years. Officers will be able to avoid misunderstanding only by using and obeying these signals in the way indicated above.

Canadian Pacific Ocean Services Steamships' Atlantic Terminus.

On Feb. 23 it was reported in Montreal that the C.P.O.S.'s principal steamships would make Portland, Me., their terminus, instead of St. John, N.B., that the C.P.R. would contribute to the building of a new state pier at Portland, and would make connection with its own line over the Maine Central Rd., probably at Newport, Vt.

On Feb. 24, G. M. Bosworth, Chairman, C.P.O.S., was reported to have said to an interviewer: "It is possible that the C.P.O.S. steamships may go to Portland."

Later, on Feb. 24, E. W. Beatty, President, C.P.R., was reported as saying that the company had no such intention at that time.

The American-Canadian Corporation is reported to have been organized under Delaware law, with office at 30 Church St., New York, and authorized capital of $5,000,000, to carry on a general shipping business between North and South America and Europe. It is stated that contracts amounting to $30,000,000 have been placed for the construction of turbine steamships, and that exclusive foreign selling agencies have been arranged with well known Canadian and U.S. manufacturers, and also for the handling of cattle and coal. It is also stated that contracts will shortly be closed for the construction of six passenger steamships of approximately 18,000 tons each, of a similar type to the White Star steamships. Some of the freight steamships said to have been purchased are stated to be of 1918-19 construction, some having been launched recently, and others still on the ways. These are said to have been purchased from the United States Steamship Co., and include the s.s. Tilland, 8,800 tons, and the s.s. Dutton Hall, 9,400 tons, both of which have been chartered for voyages to Greece and Italy. The management will be under Carl O'Ruddy, of the Italian Shipping Co.

Mainly About Marine People.

Andrew A. Allan, formerly of the Allan Line Steamship Co., and at one time, President, Shipping Federation of Canada, died at the Royal Victoria Hospital, Montreal, Feb. 11, aged 58, following an operation for cancer of the throat. He entered the Allan Line service in 1881, and was later elected Vice President. He was elected President of the Shipping Federation of Canada in 1910, and was also Chairman of the Quebec Salvage & Wrecking Co., and of the Marconi Wireless Telegraph Co. of Canada. He was at one time a member of the Montreal Harbor Commission, and was associated with many industrial and financial concerns, and charitable institutions.

Lieut.-Col. William Patrick Anderson, C.M.G., C.E., Chief Engineer, Marine Department, Ottawa, who has applied for superannuation, is taking a holiday at La Jolla, San Diego County, California, and is not expected to return to Ottawa until towards the end of April. He was born at Levis, Que., Sept. 4, 1851, and educated at Bishop's College, Lennoxville, Que., passed the preliminary examination for Provincial Land Surveyor for Quebec in Jan., 1873, and on taking employment exclusively engineering, he neglected to pass the final examination. He was employed in surveying and engineering in the Northwest and Manitoba from 1872 to 1874. He entered the Marine Department in Oct., 1874, as draftsman and assistant engineer, and was appointed permanent Assistant Engineer in May, 1875, and Chief Engineer in Feb., 1880. During his occupancy of that position he had charge of all works executed by the Department, and as General Superintendent of Dominion Lighthouses, all plans of lighthouses, piers, lanterns and illuminated apparatus, were made under his supervision. He is a member of the executive committee of the Geographic Board of Canada, member of the Lighthouse Board of Canada, a councillor of the Institution of Civil Engineers, Eng., a Fellow of the Royal Geographical Society, and was one of the charter members of the Canadian Society of Civil Engineers, of which he was President in 1904. He was connected with the volunteer militia for a long period, and served in the Fenian Raid, and became Lieut.-Col. commanding the 43rd Regiment, in 1888, transferred to the active forces in recognition of services in encouraging rifle shooting, and commanded the Bisley team in 1904. He founded the Canada Militia Gazette, and edited it for two years. During his absence his duties are being discharged by B. H. Fraser, Assistant Chief Engineer.

Hon. C. C. Ballantyne, M.P., Minister of Marine and of the Naval Service, who has been absent from his office in Ottawa since Dec. 24, as stated in Canadian Railway and Marine world for February, is recovering slowly. In addition to being operated on Dec. 30 for appendicitis, which was followed by peritonitis, he developed typhoid fever. At the date of our last advice he was expected to be able to leave the Royal Victoria Hospital, Montreal, by the end of February, and it was stated that he would then probably go to some southern watering place for a few weeks, accompanied by Mrs. Ballantyne. It is expected that he will return to his departmental duties at Ottawa early in April, and also that he will be able to take his seat in the House of Commons.

C. A. Barnard, K.C., Montreal, and **M. J. Haney**, Toronto, directors and members of the executive committee, Canada Steamship Lines, Ltd., have been elected vice presidents.

W. E. Burke, Assistant Manager, Canada Steamship Lines, Ltd., who is also a director, has been appointed Director in charge of Transportation and a member of the executive committee.

E. L. Cousins, Chief Engineer and Manager, Toronto Harbor Commissioners, gave an address before the Hamilton branch of the Engineering Institute of Canada, Jan. 20, on harbor improvements.

H. W. Cowan, a director and Operating Manager, Canada Steamship Lines, Ltd., has been appointed Director in Charge of Operations and a member of the executive committee.

D. E. Eason, heretofore Principal Assistant Engineer, Trent Valley Canal, has been appointed Superintending Engineer, Trent Valley Canal, succeeding A. R. Grant, appointed Superintending Engineer, Welland Ship Canal.

M. J. Haney, director, and **W. E. Burke**, Director and Assistant Manager, Canada Steamship Lines, paid a brief visit to Bermuda during the latter part of January and early in February.

F. S. Isard, Comptroller, Canada Steamship Lines, Ltd., who is also a director and member of the executive committee, has been appointed Director of Finance.

Capt. G. McLeod, a Great Lakes mariner of about 50 years standing, died at Owen Sound, Ont., Feb. 2, after a long illness. For some 20 years, he was in service with the Pittsburg Steamship Co., and retired from active service, on a pension, about five years ago.

B. Myers, who is reported to have been appointed Superintendent of the Cholberg Ship Co.'s shipyard at Vancouver, B.C., has been connected with the shipbuilding industry for 26 years, and was with the Grays Harbor Motorship Corporation, and with the Standifer Construction Co., of Vancouver, Washin.

J. W. Norcross, heretofore Vice President and Managing Director, Canada Steamship Lines, Ltd., has been elected President, and also retains the title of Managing Director, Jas. Carruthers, President, having resigned.

J. F. Paige, General Manager, Port Arthur Shipbuilding Co., Port Arthur, Ont., is recovering from severe inflammation of the optic nerves. He was confined to his home for about three weeks.

S. I. Preston is reported to have been appointed Surveyor of Shipping for Lloyd's Register, at Quebec, Que. He is a native of Glasgow, Scotland, and served his apprenticeship with John Brown & Co., shipbuilders, there. He enlisted with the Campbell Highlanders, and was in the retreat from Mons, and at various other battles in Flanders. He was recalled to industrial life by the Ministry of Munitions, and was, subsequently, Manager, Rose Steel Foundry & Engineering Co., Inverness, Scotland, building drifters and patrol vessels for war purposes. He was appointed a Lloyd's surveyor in Aug., 1918.

W. G. Ross, President, Montreal Harbor Commissioners, gave an address on harbor development, to members of the Board of Trade and other similar organizations, at Vancouver, B.C., Feb. 3.

Thomas I. Thomson, President, Farrar Transportation Co., Ltd., Toronto, and formerly of Collingwood, Ont., died at his home at Owen Sound, Ont., Feb. 9, aged 64.

R. M. Wolvin, Vice President and Managing Director, Halifax Shipyards, Ltd., accompanied by Mrs. Wolvin, sailed from Halifax, N.S., early in February, on the s.s. Aquitania, for England.

British Shipyards Orders. — London cablegram, Feb. 10:—British shipyards have booked orders recently for well over 100 vessels, representing a very large tonnage. This is probably a record. The Ellerman-Bucknall line alone ordered over 50 steamships on the northeast coast. The British India Co. is building 9 large liners; the Cunard 8, the Anchor-Donaldson and Donaldson Bros. 6, Elder and Fyffe 4, Shaw-Savill & Albion 3, Union-Castle, Commonwealth and Dominion Companies 2 each. The shipbuilding outlook is of the brightest, provided labor settles down.

Marine Products, Limited, has been incorporated under the Dominion Companies' Act to carry on a variety of business throughout Canada, among them being power to operate steamship and railway terminals, transportation, warehouse storage and cold storage facilities, yards, freight sheds, freight and passenger stations, tramways and tracks on lands owned by the company, grain elevators, etc.; power to act as vessel agents, wharfingers, warehousemen, forwarders and carriers by land or sea. The company's office is to be in Toronto, the authorized capital is $500,000, and the provisional directors include E. W. Wright, barrister, Toronto.

The Dominion Shipbuilding Co., Ltd., Toronto, incorporated under the Dominion Companies Act, has, by supplementary letters patent, been turned into a public company.

Vessels Added to and Deducted From the Canadian Register During December, 1918.

	Steam.			Sailing.		
		—Tonnage—			—Tonnage—	
	No.	Gross.	Registered.	No.	Gross.	Registered.
Added.						
Built in Canada	17	10,091	10,091	23	7,942	6,353
Purchased from foreigners	2	122	66	1	53	53
New registers	4	1,586	1,331	..	.....	.....
Total	23	17,584	11,488	24	7,995	6,406
Deducted.						
Wrecked or otherwise lost	9	4,399	2,721	14	2,496	2,240
Unfit for use afloat	3	66	45	24	796	790
Used for lightships, etc.	4	5,291	3,109	6	2,615	2,541
Transferred to British possessions	3	6,990	4,284	8	1,997	1,759
New registers	..	......	.....	2	1,491	1,385
Other, sunk by submarine	..	......	.....	..	330	287
Total	19	16,746	10,159	29	9,725	9,002

Cargo Steamship Building in Canada for British Government.

Imperial Munitions Board Shipbuilding Department.—As stated in Canadian Railway and Marine World for February, this department's offices were removed from Ottawa, to Drummond Building, Montreal, in January, where the following officials are now located: W. I. Gear, Director of Steel Shipbuilding; W. Lambert, Assistant Director of Steel Shipbuilding; F. T. Green, Representative of British Ministry of Shipping, J. Livingston.

Steamships Under Construction.—The total orders placed by the Imperial Munitions Board for the British Government, covered 43 steel and 46 wooden steamships, and of these, at the time of writing, 13 steel and 1 wooden vessel remain to be launched. On the completion of these orders, which is expected in the spring, the operations of the Imperial Munitions Board, so far as vessel building is concerned, will cease.

Steel Cargo Steamship, War Badger, 3,500 tons d.w., for British Government, immediately after launching by British American Shipbuilding Co., Welland, Ont., Jan. 21.

Steamship Management.—As announced previously, the British Government has assigned all the steamships, which have been built, or are under construction in Canada for it, under orders from the Imperial Munitions Board, to various firms in Great Britain, who act as managing owners on the government's behalf. In our January issue, a list was given of the managing owners, to whom had been assigned the wooden steamships built in British Columbia. Following is a list of all the steamships, both steel and wood, which have been assigned to managing owners, and the names and addresses of the latter, for which we are indebted to the Director of Transports and Shipping, Ministry of Shipping, London, Eng.:—

Steel.

Joseph Chadwick & Sons, Liverpool—War Wasp.

J. Chambers & Co., Liverpool—War Dog, War Power, War Camp.

R. B. Chellew, Truro—War Isis, War Osiris, War Hathor.

E. C. Downing, Cardiff—War Wizard, War Fiend, War Magic, War Fury.

Furness Withy & Co., Halifax—War Karma, War Horus, War Witch.

Glover Bros., London—War Faith, War Joy.

Harris & Dixon, Ltd., London—War Fish, War Dance, War Earl, War Duchess.

Raeburn & Verel, Ltd., Glasgow—War Charger, War Chariot, War Chief, War Noble, War Storm, War Cavalry, War Convoy, War Column, War Company.

J. Robinson & Sons, North Shields—War Weasel, War Badger, War Leveret, War Vixen, War Wallaby, War Wombat, War Racoon.

Tyzack & Branfoot, Newcastle—War Bee, War Taurus, War Hydra, War Timiskaming, War Hamilton, War Algoma, War Halton.

Wood.

Anning Bros., Cardiff—War Mingan, War Radnor, War Quebec, War Sorel, War Sioux, War Nipigon

J. Cook & Sons, Aberdeen—War Sumas, War Cayuse, War Atlin, War Edensaw, War Kitimat, War Ewen.

Easton, Greig & Co., Glasgow—War Haida, War Skeena, War Stikine, War Masset, War Babine, War Camchin, War Nanoose.

H. Fernie & Sons, Liverpool—War Nootka, War Puget, War Yukon, War Songhee, War Selkirk, War Cariboo.

Glover Bros., London—War Huron, War Erie, War Ottawa, War Niagara, War Mohawk, War Seneca, War Gaspe, War Matane.

Hansen Shipping Co., Ltd., Cardiff—War Fundy, War Moncton, War Ontario, War Toronto, War Halifax.

J. Hardie & Co., Glasgow—War Nicola, War Suquash, War Tatla, War Casco, War Chileat, War Tanoo.

R. & J. H. Rea, London—War Tyee, War Comox.

Launchings of Steamships.—Following are particulars of cargo steamships ordered by the Imperial Munitions Board for the British Government, and which had been officially reported as launched up to Feb. 25, giving in each case the date of the launching, the name of the steamship, the name and address of the building company and the deadweight tonnage:—

Steel Steamships.

May 18, 1917	War Dog, Wallace Shipyards North Vancouver, B.C.	4,500
July 9, 1917	War Wasp, Nova Scotia Steel & Coal Co., New Glasgow, N.S.	1,800
Aug. 19, 1917	War Fish, Port Arthur Shipbuilding Co., Port Arthur, Ont.	4,300
Nov. 8, 1917	War Dance, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
Mar. 16, 1918	War Camp, J. Coughlan & Sons, Vancouver, B.C.	8,800
Mar. 23, 1918	War Power, Wallace Shipyards, North Vancouver, B.C.	4,600
Apr. 3, 1918	War Isis, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
May 8, 1918	War Wizard, Collingwood Shipbuilding Co., Collingwood, Ont.	2,900
May 21, 1918	War Bee, Nova Scotia Steel & Coal Co., New Glasgow, N.S.	2,400
May 27, 1918	War Osiris, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
June 8, 1918	War Earl, Canadian Vickers Ltd., Montreal	7,000
June 29, 1918	War Duchess, Canadian Vickers, Ltd., Montreal	7,000
July 20, 1918	War Hathor, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
July 29, 1918	War Charger, J. Coughlan & Sons, Vancouver, B.C.	8,800
Aug. 19, 1918	War Chief, J. Coughlin and Sons, Vancouver, B.C.	8,800
Aug. 21, 1918	War Weasel, British-American Shipbuilding Co., Welland, Ont.	3,500
Sept. 6, 1918	War Witch, Collingwood Shipbuilding Co., Collingwood, Ont.	2,900
Sept. 19, 1918	War Taurus, Polson Iron Works, Ltd., Toronto	3,500
Sept. 28, 1918	War Faith, Canadian Vickers Ltd., Montreal	7,000
Sept. 28, 1918	War Noble, J. Coughlan & Sons, Vancouver, B.C.	8,800
Sept. 28, 1918	War Storm, Wallace Shipyards, Ltd., Vancouver, B.C.	4,600
Oct. 5, 1918	War Horus, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
Oct. 15, 1918	War Hydra, Polson Iron Works, Ltd., Toronto	3,500
Oct. 24, 1918	War Fiend, Midland Shipbuilding Co., Midland, Ont.	3,400
Oct. 26, 1918	War Karma, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
Oct. 29, 1918	War Joy, Canadian Vickers, Ltd., Montreal	7,000
Dec. 18, 1918	War Convoy, J. Coughlan & Sons, Vancouver, B.C.	[illegible]
Dec. 22, 1918	War Hamilton, Polson Iron Works, Ltd., Toronto	[illegible]
Jan. 21, 1919	War Badger, British American Shipbuilding Co., Welland, Ont.	3,500
Feb. 8, 1919	War Timiskaming, Polson Iron Works, Ltd., Toronto	[illegible]
Total, 30 steel steamships		[illegible]

Wooden Steamships.

Dec. 28, 1917	War Songhee, Foundation Co., Victoria, B.C.	3,080
Jan. 4, 1918	War Nootka, Western Canada Shipyards, Vancouver, B.C.	3,080
Jan. 24, 1918	War Yukon, Cameron-Genoa Mills Shipbuilders, Ltd., Vic-	
Feb. 16, 1918	War Puget, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
Mar. 6, 1918	War Selkirk, Western Canada Shipyards, Vancouver, B.C.	3,080
Apr. 10, 1918	War Caribou, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
Apr. 11, 1918	War Comox, New Westminster Construction & Engineering Co., New Westminster, B.C.	3,080
Apr. 11, 1918	War Masset, Foundation Co., Victoria, B.C.	3,080
Apr. 13, 1918	War Tyee, Pacific Construction Co., Coquitlam, B.C.	3,080
Apr. 25, 1918	War Haida, Cameron-Genoa Mills, Victoria, B.C.	3,080
Apr. 27, 1918	War Cayuse, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
May 11, 1918	War Mohawk, Quinlan & Robertson, Ltd., Quebec, Que.	3,080
May 11, 1918	War Sumas, Port Arthur Dredging Co., Port Arthur, Ont.	3,080
May 21, 1918	War Atlin, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
May 23, 1918	War Tatla, Western Canada Shipyards, Ltd., Vancouver, B.C.	3,080
June 12, 1918	War Skeena, Cameron-Genoa Mills Shipbuilders, Ltd., Victoria, B.C.	3,080
[illegible]	War [illegible], Quinlan & Robertson, Quebec, Que.	3,080
June 14, 1918	War Edensaw, New Westminster Construction & Engineering Co., B.C.	3,080
June 15, 1918	War Babine, Foundation Co., Victoria, B.C.	3,080
June 24, 1918	War Nicola, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
June 28, 1918	War Quebec, Quebec Shipbuilding & Repairing Co., Quebec, Que.	3,080

Steel Cargo Steamship, War Timiskaming, 3,500 tons d.w., for British Government, launched by Polson Iron Works Co., Ltd., Toronto, Feb. 8.

June 29, 1918	War Ontario, Toronto Shipbuilding Co., Toronto	3,080
July 5, 1918	War Huron, Fraser, Brace & Co., Montreal	3,080
July 5, 1918	War Erie, Fraser, Brace & Co., Montreal	3,080
July 6, 1918	War Casco, Western Canada Shipyards, Ltd., Vancouver, B.C.	3,080
July 12, 1918	War Sumas, Pacific Construction Co., Port Coquitlam, B.C.	3,080
July 24, 1918	War Suquash, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
July 27, 1918	War Gaspe, Quinlan & Robertson, Quebec, Que.	3,080
July 27, 1918	War Ottawa, Fraser, Brace & Co., Montreal	3,080
Aug. 5, 1918	War Chilkat, Western Canada Shipyards, Vancouver, B.C.	3,080
July 29, 1918	War Stikine, Cameron-Genoa Mills Shipbuilders, Victoria, B.C.	3,080
Aug. 22, 1918	War Tanoo, Western Canada Shipyards, Vancouver, B.C.	3,080
Aug. 24, 1918	War Fundy, Grant & Horne, St. John, N.B.	3,080
Aug. 26, 1918	War Kitimat, New Westminster Construction & Engineering Co., New Westminster, B.C.	3,080
Aug. 31, 1918	War Camchin, Foundation Co., Victoria, B.C.	3,080
Sept. 7, 1918	War Sorel, Quebec Shipbuilding & Repair Co., Quebec	3,080
Sept. 8, 1918	War Nanoose, Foundation Co., Victoria, B.C.	3,080
Sept. 19, 1918	War Niagara, Fraser, Brace & Co., Montreal	3,080
Sept. 21, 1918	War Halifax, Southern Salvage Co., Liverpool, N.S.	3,080
Sept. 22, 1918	War Nipigon, Great Lakes Dredging Co., Port Arthur, Ont.	3,080
Sept. 23, 1918	War Matane, Quinlan & Robertson, Quebec, Que.	3,080
Sept. 26, 1918	War Ewen, New Westminster Construction & Engineering Co., New Westminster, B.C.	3,080
Oct. 15, 1918	War Mingan, Three Rivers Shipyards, Ltd., Three Rivers, Que.	3,080
Oct. 26, 1918	War Toronto, Toronto Shipbuilding Co., Toronto	3,080
Nov. 2, 1918	War Radnor, Three Rivers Shipyards, Ltd., Three Rivers, Que.	3,080
	Total, 45 wooden steamships	138,600

Aggregate deadweight tonnage of 30 steel and 45 wooden steamships launched, 283,400 tons.

Ogden Point Assembling Plant, Victoria, B.C.—It was expected that all the work at this plant would be completed by the end of February, and that the place would be closed down. The last steamship to be equipped with machinery was the War Suquash, which was expected to be ready for sailing during the last week of February. The assembling plant was opened in 1917 to equip the wooden hulls, which were being built in British Columbia, for the British Government under orders from the Imperial Munitions Board. During its operation, 18 of the 27 vessels built in this province were equipped at the plant, the balance being handled at private yards.

The s.s. War Charger, which was reported to have returned twice to Vancouver, B.C., when on her maiden trip across the Pacific, was announced to have arrived safely at Vladivostock, Jan. 27.

J. Coughlan & Sons, Vancouver, B.C.—The s.s. War Noble, 8,800 tons d.w., which was launched Sept. 28, was completed early in February, and sent through the bridges out of False Creek to the ocean, Feb. 13. She underwent her trial runs on Feb. 14. The hull of the s.s. War Company, a sister vessel, is expected to be launched about Mar. 6.

Grant & Horne, Ltd., St. John, N.B.—The s.s. War Fundy, the hull of which was launched from this company's yard Aug. 24, underwent her trial trips Feb. 17. This company has still one hull to launch, to complete the last of the orders for wooden hulls placed for the British Government by the Imperial Munitions Board.

Polson Iron Works, Ltd., Toronto.—The fourth of the 6 six steel cargo steamships of 3,500 tons each, which this company is building for the British Government, under orders from the Imperial Munitions Board, was launched Feb. 8, and named War Timiskaming, by Mrs. R. C. Taylor, Cobalt, Ont. The vessel has the following dimensions: length over all 261 ft., length between perpendiculars 251 ft., beam 43½ ft., depth moulded 22½ ft. She is being equipped with triple expansion, surface condensing engine of approximately 1,256 h.p.

Following the launch of the s.s. War Timiskaming, the sister vessel, which was launched Dec. 21, and named War Aquila, was renamed War Hamilton, by Mrs. H. L. Frost, Hamilton Ont. This change of name was noted in our last issue.

The Navy League is reported to have arranged to have a training ship placed on Thunder Bay, Lake Superior.

The Australian Government's Merchant Marine.

D. H. Ross, Canadian Trade Commissioner in Australia, has reported on the Australin Government's experiment in the ownership of cargo steamships as follows:—

In June, 1916, the Australian Government purchased 16 cargo steamships at a cost of approximately £2,080,000. The first year's operations of this fleet showed surplus earnings of £986,382. A cable was received recently from the General Manager in London that the original cost of the steamships has been paid and that over £16,000 remained to the credit of the vessels. Two of them were torpedoed.

The Australian Government has also controlled the operations of a large fleet of enemy steamships interned in Australian ports at the outbreak of the war, two of which have been torpedoed. While the ruling rates of freight have been demanded by the Australian line of steamships on goods shipped at oversea ports, it is emphasized that they carried exports of Australian wheat and products at considerably less than war rates.

Through submarine action, some of the largest passenger steamships, withdrawn from the Australian coastal trade for transport purposes, have been lost and the water carriage facilities of the Commonwealth are now much curtailed. Quite a fleet of steamships formerly employed in the Australian-New Zealand trade have also been destroyed. The new steamship Avenger, of 15,000 tons, built for the Canadian-Australian Royal Mail Line for the Vancouver trade, was sunk while acting as an auxiliary cruiser.

Australian shipping companies are endeavoring to place orders for a considerable number of passenger and cargo steamships which are urgently required to make the coastal fleet again normal.

Canadian Merchant Service Guild.—Application is being made to the Dominion Parliament, for the creation of a body corporate, under this title, with the object of uniting in one body, captains, pilots and mates, operating out of any port in Canada.

Steamships Built and Registered in Canada for the British Government.

Following is a list of steamships built in Canada, for the British Government, under orders from the Imperial Munitions Board, and which have been completed and placed on the Canadian register in the name of the Shipping Controller, London, Eng., and assigned by him to various managing owners, on government account. The letter following the name of each vessel indicates whether it is of wood or steel.

No.	Name	Port of Registry	Where Built	Length	Breadth	Depth	Gross tons	Registered tons	Engines and h.p.	Managing Owners
[illegible]	War Atlin (w)	North Vancouver, B.C.	North Vancouver, B.C.	249.7	43.5	22.8	2,338	1,434	Sc. 147	J. Cook & Sons, Aberdeen, Scotland
140939	War Camchin (w)	Victoria, B.C.	Victoria, B.C.	249.8	43.4	22.9	2,342	1,418	Sc. 147	Easton, Grieg & Co., Glasgow, Scotland
[illegible]	War Babine (w)	"	"	249.8	43.4	22.9	2,339	1,418	Sc. 147	" " "
[illegible]	War Cariboo (w)	North Vancouver, B.C.	North Vancouver, B.C.	249.6	43.4	22.8	2,330	1,429	Sc. 151	H. Fernie & Sons, Liverpool, Eng.
141118	War Casco (w)	Vancouver, B.C.	Vancouver, B.C.	249.7	43.3	22.9	2,319	1,425	Sc. 147	John Hardie & Co., Glasgow, Scotland
[illegible]	War Cayuse (w)	North Vancouver, B.C.	North Vancouver, B.C.	249.5	43.4	22.8	2,346	1,438	Sc. 147	J. Cook & Sons, Aberdeen, Scotland
[illegible]	War Charger (s)	Vancouver, B.C.	Vancouver, B.C.	410.5	54.1	27.5	5,703	4,145	Sc. 2650	Raeburn & Verel, Ltd., Glasgow, Scot.
141265	[illegible]	"	"	249.5	43.4	22.8	2,331	1,431	Sc. 147½	John Hardie & Co., Glasgow, Scotland
[illegible]	[illegible]	New Westminster, B.C.	New Westminster, B.C.	249.1	43.7	23.0	2,338	1,436	Sc. 148	R. & J. H. Rea, Liverpool, Eng.
[illegible]	[illegible]	" "	" "	249.6	43.5	22.8	2,336	1,424	Sc. 138	J. Cook & Sons, Aberdeen, Scotland
[illegible]	War Haida (w)	Victoria, B.C.	Victoria, B. C.	249.8	43.4	23.0	2,345	1,418	Sc. 151	Easton, Grieg & Co., Glasgow, Scotland
141172	War Kitimat (w)	New Westminster, B.C.	New Westminster, B.C.	249.4	43.6	22.8	2,336	1,434	Sc. 143	J. Cook & Sons, Aberdeen, Scotland
[illegible]	[illegible]	Victoria, B.C.	Victoria, B.C.	249.8	43.4	23.0	2,340	1,417	Sc. 147	Easton, Grieg & Co., Glasgow, Scotland
[illegible]	War Nanoose (w)	"	"	249.8	43.4	22.9	2,285	1,405	Sc. 146	" " "
141125	War [illegible]ola (w)	North Vancouver, B.C.	North Vancouver, B.C.	249.5	43.4	22.8	2,230	1,429	Sc. 111	John Hardie & Co., Glasgow, Scotland
[illegible]	War Puget (w)	" "	" "	249.7	43.5	23.2	2,328	1,429	Sc. 111	H. Fernie & Sons, Liverpool, Eng.
[illegible]	[illegible]	Vancouver, B.C.	Vancouver, B.C.	249.7	43.5	22.8	2,318	1,416	Sc. 151	" "
[illegible]	War Skeena (w)	Victoria, B.C.	Victoria, B.C.	249.8	43.4	23.0	2,342	1,417	Sc. 151	Easton, Grieg & Co., Glasgow, Scotland
140941	[illegible]	"	"	249.8	43.4	22.9	2,335	1,416	Sc. 151	" " "
[illegible]	War Sumas (w)	New Westminster, B.C.	Port Coquitlam, B.C.	249.4	43.6	22.5	2,305	1,415	Sc. 147	J. Cook & Sons, Aberdeen, Scotland
[illegible]	War Suquash (w)	Vancouver, B.C.	Vancouver, B.C.	249.7	43.4	22.9	2,334	1,430	Sc. 147	John Hardie & Co., Glasgow, Scotland
141208	War Tanoo (w)	"	"	249.7	43.5	22.9	2,326	1,429	Sc. 147½	" "
141113	War Tatla (w)	"	"	249.7	43.3	22.9	2,334	1,439	Sc. 148	" "
140981	War Tyee (w)	New Westminster, B.C.	Port Coquitlam, B.C.	249.8	43.4	22.6	2,302	1,413	Sc. 147	R. & J. H. Rea, Liverpool, Eng.

General Shipbuilding Notes Throughout Canada.

British Columbia Shipbuilding.—The approximate value of shipping launched in B.C. during 1918, is given as $25,000,000, making the total for 1917 and 1918 $32,500,000, and 186,700 tons. At the end of 1918 there were under construction, 5 wooden schooners, 16 wooden steamships and 6 steel steamships, totalling 87,000 tons, and valued at $15,300,000. The shipbuilding industry employed about 6,000 men directly. Further contracts are in hand for 33 wooden and 12 steel steamships, totalling 181,000 tons, and valued at $31,000,000.

Steel Cargo Steamship, General Currie, 3,500 tons, immediately after launching by Dominion Shipbuilding Co., Toronto, Jan. 25, 1919.

Shipbuilding Wages.—Representatives of the boilermakers' and shipbuilders' unions met in Toronto, Feb. 26, for the discussion of wage matters and the preparation of a new schedule, which it is intended to present to all shipbuilding companies on the Great Lakes, Apr. 1.

Royal Commission on Pacific Coast Shipbuilding Dispute. — The Dominion Government has appointed Mr. Justice D. Murphy, of the British Columbia Superior Court; H. H. Watson, financier, Vancouver; and F. W. Welch, Secretary Metal Trades Council, Vancouver, as commissioners to enquire into the differences between J. Coughlan & Sons, shipbuilders, and their employes, with a view to endeavoring to securing a satisfactory working agreement from Feb. 28.

Canadian Chicago Bridge & Iron Co.—It was reported some little time since that this company would establish a shipbuilding plant at Bridgeburg, Ont., and that coaling scows for the United States Navy would be built. It is now said that the U.S. Navy Department has cancelled all such contracts since the armistice was declared.

Canadian Vickers, Ltd., Montreal, is reported to have a contract from some French interests, for the construction of a steel cargo steamship of 8,300 tons d.w. capacity, for the coal and nitrate trade between France and Chili, the vessel to be ready for service in June.

Cholberg Ship Co., Victoria, B.C.—The first of the 9 auxiliary powered sailing vessels which this company is building for Norwegian interests, is expected to be launched during March, or early in April. This first vessel will probably be barquentine rigged, and named Washington. She is being built for H. F. Hansen, Porsgrund, Norway. A similar vessel is also under construction for the same party, and will be named Vancouver. A third vessel, schooner rigged, is to be named Gunn. All vessels are being built for classification in Lloyd's Register, and Det Norske Veritas. The deck machinery, comprising donkey boilers and cargo sail hoisting and anchor windlasses, has all been delivered.

Dominion Shipbuilding Co., Toronto.—The s.s. General Currie, the launching of which was announced in our last issue, is one of six similar vessels to be built by the company for private ownership.

Launching Steel Steam Trawler 13, by Port Arthur Shipbuilding Co., Feb. 8, 1919. Steel Steam Trawler 14, launched a few days previously, shown in background.

The ceremony was performed by Mrs. Edmund Bristol, on behalf of Mrs. Alex. Johnston, wife of the Deputy Minister of Marine. The vessel is of the single deck type, with poop, bridge and forecastle, with steel texas on bridge, with wing deckhouses, chart room and pilot house above, built on the transverse system of construction. There are three decks, main, bridge and boat, arranged on the three island type, and there are four cargo hatches, 22 x 18 ft. She is of the schooner rig, with two pole masts, with steel hull, and classed 100 A1 at Lloyd's for ocean service. The hull is divided by 4 watertight bulkheads and 1 screen bulkhead, and 2 holds, with grain capacity of 151,466 cub. ft. The propelling machinery, placed amidships, consists of triple expansion inverted engine, with cylinders 20, 33 and 54 in. diar. by 40 in. stroke, 1,300 i.h.p. at 87.5 r.p.m., and supplied with steam at 180 lb. by 2 Scotch boilers, each 14½ ft. diar. by 11 ft. long, under forced draft, supplied by John Inglis Co., Ltd., Toronto. The heating surface is 2,730 sq. ft. in each boiler, and there is approximately a consumption of 20 1 10 tons of coal per 24 hr., for a speed of 10.2 knots an hour. The bunkers are arranged to carry 526.75 tons of coal. The propeller is 13¼ ft. diar., and is of cast iron with 4 blades 12 ft. 8 in. pitch. Accommodation for a crew of 35 officers and men is arranged on the bridge and in the poop. The vessel is to be equipped with steam steering gear, 7 x 7 in., and 8 reversible single drum, 2 speed, 7 x 12 in., cargo winches, and anchor windlass 8 x 8 in. She was launched Jan. 25, and is expected to be ready for sea by April 15.

Foundation Co., Victoria, B.C.—It is anticipated that the launch of the first of the 20 wooden steamships under construction for the French Government will take place early in March. The construction of these vessels is divided between the company's two yards. According to the last advice, it was the company's expectation that 8 of the vessels would be launched by Apr. 1, and a second 8 by Aug. 1, and the balance about Nov. 1. The contract calls for the completion of the vessels, ready for sea, by Jan. 1, 1920.

A full description of these was given in our Dec., 1918, issue.

International Shipbuilding Corporation, Ltd., Newcastle, N.B.—As announced in our last issue, a petition for the winding up of this company was heard at St. John, N.B., recently, and an order made, the matter now being in the hands of the liquidators. Under the court's order, tenders are being received for the purchase of a partially constructed 4-masted schooner, 155 ft. keel, 37 ft. beam, 13 ft.

deep, estimated 535 net tons, lying at the company's yard at Nordin, near Newcastle. This vessel is in full frame, with keelsons, assistant keelsons, clamps and 10 strakes of ceiling in place fully fastened, and is also fitted with second stern post and shaft log. She is being built under the American Bureau of Shipping to be classed A1 for 12 years. Tenders are also being received for a quantity of shipbuilding material. The purchaser will have the right to a lease of the shipyard, mill and other buildings and lands, and of the machinery and tools connected with the plant, for the purpose of completing the vessel, at a rental of $200 a month.

Marine Construction Co. of Canada, Ltd., St. John, N.B.—The four-masted schooner Randfontein was launched at this yard, Feb. 4, and christened by Mrs. J. M. Densmore, wife of the designer and superintendent of construction. The keel was laid July 1. She is of similar type to the schooner Dornfontein, which was lost during a flying visit of German submarines to the coast. She is double decked, with a speed of about 8 knots, and is registered A1 for 13 years. Her dimensions are: length, keel, 204 ft.; length over all, 230 ft.; beam, 37½ ft.; depth of hold, 18 ft. She has a deadweight tonnage of 2,200. She is equipped with a 400 h.p. engine and Scotch boiler, which were in position at the time of launching.

Steamship Watuka, built by Nova Scotia Steel & Coal Co., for its coal and iron trade.

The National Shipbuilding Corporation, which took over Three Rivers Shipyards, Ltd., Three Rivers, Que., recently, has been authorized to carry on business in Quebec Province, with its chief place of business in Montreal, and A. H. Chave as its principal agent.

Nova Scotia Steel & Coal Co., Ltd., New Glasgow, N.S.—The s.s. Watuka, which was scheduled to sail with a general cargo for France, early in February, was built at this company's yard at Trenton, N.S., and launched early in December. Her dimensions are: length 248 ft., breadth 35 ft., depth 21 ft. The hull is of steel, and the holds are clear of all beams. The engines and auxiliary equipment have all been made by the company. She is 1,700 tons gross, 1,067 tons net, and has a deadweight capacity of 2,400 tons. Capt. J. B. Mackenzie has been appointed master, and John Somers chief engineer.

This vessel was built by the company for its own coal and iron ore trade. She loaded her first cargo of coal for Newfoundland, and then went to Halifax, taking on cargo for France, making the trip across the Atlantic in 15 days, a very good passage for a vessel of her size, especially during the winter. She is built to Lloyd's highest class, with raised quarter deck, and 4 large hatches serving 2 cargo holds, one forward and one aft, both clear of all stanchions. The propelling machinery consists of triple expansion engine with cylinders 17, 28 and 46 in. diar. by 33 in. stroke, and with uniflex surface condenser. Steam is supplied by 2 Scotch marine boilers 11¾ ft. diar. by 10¾ ft. long, with 2 corrugated furnaces 44 in. diar., for a working pressure of 185 lb. The engines were built by the Nova Scotia Steel & Coal Co., and the boilers by John Inglis Co., Toronto. The officers' and engineers' quarters are on the bridge deck amidships, and the crew are accommodated under the forecastle deck. The vessel is equipped with all cargo discharging appliances, electric lighting and wireless telegraphy.

Pacific Construction Co., Port Coquitlam, B.C.—The second of the 2 wooden steamships which this company is building for Grecian interests was launched Feb. 18, and named Erini. She was subsequently towed round to the company's plant at Industrial Island, where she will be equipped. The first of these vessels, named Antonios, has been equipped at False Creek, and was expected to undergo her trials towards the end of February. These vessels, which were ordered by N. Galanos, New York, are of 2,800 tons d.w. each.

The St. John Dry Dock & Shipbuilding Co., St. John, N.B., is applying to the St. John City Council for the acquisition of the Almshouse water lots. The council has appointed a special committee to deal with the matter.

The Quebec Shipbuilding & Repairing Co. is reported to have decided to build two more four-masted schooners in its shipyard at the Louise docks, Quebec. One of these vessels will be of 2,200 tons, similar to the M. P. Connolly, which was built at the Isle of Orleans plant, and wrecked on her maiden trip early in 1918; and the other will be of 1,240 tons, similar to the Edgewood, built at the Louise docks during 1918.

S. J. Soley, Fox River, N.S., launched the schooner Northcliffe recently, which has since been taken to St. John, N.B., to take cargo for Newfoundland, where she will be loaded with dried fish for Brazil. She is 291 tons net, and is operated for Newfoundland owners by Nagle & Wigmore, St. John, N.B.

Three Rivers Shipyards, Ltd., Three Rivers, Que., has laid keels for the ten 1,500-ton wooden steamships for which it has orders from the French Government.

Victoria Machinery Depot Co., Ltd., Victoria, B.C.—As stated in Canadian Railway and Marine World for February, a press report from Victoria stated that the Foundation Co. was negotiating for the purchase of the Victoria Machinery Depot Co.'s plant, etc. We were advised early in February that the negotiations did not result in any consummation.

Reported Transfer of Shipbuilding from Scotland to British Columbia.

The following cablegram from London, Feb. 3, was published by the Toronto Globe:—"Under the heading 'From the Clyde to Vancouver—Gradual Transfer by Messrs. Yarrow,' the Times announces that this widely known shipbuilding firm intends to diminish the output at its works in Scotstown, near Glasgow, and to increase the production of its smaller works at Vancouver. The main impelling reason appears to be the incessant labor troubles."

The mention of Vancouver was an obvious mistake, as Yarrows, Ltd., plant is at Victoria, B.C., not Vancouver.

A Victoria paper of Feb. 4 quoted Norman A. Yarrow as stating there that the report cabled was without foundation. On Feb. 10 Yarrows, Ltd., wrote Canadian Railway and Marine World from Victoria as follows: "We have no statement to make in this connection, and would also mention that we have made no plans regarding the extending of our plant."

Caution re Mines.—The British Admiralty has issued a general warning to navigators, that a certain number of mines have been sunk without exploding, and it is possible that some of these, lying on the bottom in shoal water may be dangerous. Mariners therefore should arrange, whenever possible, to have a clear depth of at least 6 ft. between the keels of their vessels and the bottom, when in the vicinity of shoal water, or in the approaches to ports and harbors which were subjected to mining operations during the war.

Transatlantic Steamship Co., Ltd., has been incorporated under the Dominion Companies Act, with $1,000,000 authorized capital and office at Montreal, to own and operate steam and other vessels, and other navigation facilities, and to carry on a general navigation and transportation business. C. A. Sara, Montreal, is interested in the project, which, it is said, is concerned with British interests.

Pacific Coast Piers Transferred to Canadian National Rys.—The Dominion Government has transferred its dock at Vancouver, between the extremities of Commercial and Salsbury Roads; and its piers 2 and 3, at Ogden Point, Victoria, to the Canadian National Rys., which will operate them in future.

Atlantic and Pacific Ocean Marine.

The Cunard, Anchor and Anchor-Donaldson Lines have opened an office at Washington, D.C., in charge of G. W. Moss and T. J. Stead.

The Canadian Pacific Ocean Services' s.s. Empress of Asia was handed over by the Admiralty, to her owners, at the end of January, after considerable service under war conditions. She is being overhauled and refitted by Wallace Shipyards, Ltd., Vancouver.

With reference to a press report that Canadian Pacific Ocean Services, Ltd., intends building a "palatial" steamship of large tonnage for its Pacific Ocean service with the Orient, we are advised that the vessel will not be completed for about two years.

A Vancouver press dispatch states that the Taiyo Kisen Kaisha has been organized in Japan to establish a steamship line between Japan and North American ports. This, it is stated, is the first independent steamship line to be organized in Japan, to establish a regular steamship service across the Pacific, without a government subsidy, such as is granted to the Nippon Yusen Kaisha, the Osaka Shosen Kaisha and the Toyo Kisen Kaisha.

Maritime Provinces and Newfoundland.

The name of the schooner Jessie L. Fauquier, owned by Fauquier & Porter, Halifax, N.S., has been changed to Avon Queen.

The Dominion Public Works Department will receive tenders to Mar. 18, for repairs to the breakwater pier at Cape Bald, N.B.

The Naval Service Department advises that the wreck of the s.s. John of St. John's, Nfld., is reported adrift in lat. n. 45 deg., long. w. 48 deg. 28', and is a menace to navigation.

The Dominion Steel Corporation is reported to have claims against the British Admiralty, approximating $20,000,000, arising out of the requisitioning of its coal vessels during the war.

The Eastern Steamship Corporation recommenced its Yarmouth-Boston service, Feb. 1, with the s.s. Aranmore, and it is expected that the s.s. Northland will be added to the service about Mar. 1. It is announced that, about Apr. 1, this service will be replaced with vessels plying between St. John, N.B., Eastport, Me., and Boston, Mass.

The s.s. Magdalen, owned by W. G. Leslie, Grindstone Island, Que., while on the marine slip at Dartmouth, N.S., for repairs, was gutted by fire, Feb. 13. She was built at Shelburne, N.S., in 1906, and was screw driven by engine of 28 n.h.p. Her dimensions were, length 98.6 ft., breadth 21.6 ft., depth 8.8 ft.; tonnage, 135 gross, 92 register.

The s.s. Julienne was offered for sale by public auction, as she lay at Campbells' wharf, Halifax, N.S., Feb. 22, by order of the sheriff, as a result of an action in the Exchequer Court, at the instance of John Mitchell. She was built at Southbank on Tees, Eng., in 1914, her dimensions being, length 202 ft., breadth 39 ft., depth 15 ft.; tonnage, 955 gross, 790 net.

A Halifax, N.S., press report states that the great scarcity of seamen that prevailed at that port for some time has disappeared, and that practically two men are offering for every one required, though there is a demand for seamen for sailing vessels for the West Indies and South American ports. It is also stated that the very high wages and the bonuses, paid during the war, have disappeared, the rate for seamen and firemen being about $55 to $60.

The St. John Dry Dock & Shipbuilding Co., which has the contract for harbor development work in Courtenay Bay, St. John, N.B., is stated to be preparing for the season's work, by overhauling a number of the vessels and other equipment, which the former contractors had been utilizing prior to their abandonment of the work. Most of this work is being undertaken at the Driscoll slip, where new boilers are being supplied to the large suction dredge, which the contractors have taken over.

Province of Quebec Marine.

The Public Works Department received tenders to Feb. 25 for the reconstruction of the wharf superstructure, and repairs to the wharf approach, at Vercheres.

Capt. Jos. Bernier, of the St. Lawrence Shipping & Trading Co., Quebec, is stated to have gone to Great Britain to buy steel vessels suitable for the Gulf of St. Lawrence service.

J. G. Scott, President, Quebec Board of Trade, wrote recently to Lord Pirrie, who was born in Quebec, and who is now the head of Harland & Wolff, Ltd., shipbuilders at Belfast, Ireland, and placed before him the possibilities of steel shipbuilding in Canada, and the natural advantages offered by the port of Quebec.

The Quebec Harbor Commissioners waited on the Dominion Government at Ottawa, Feb. 5, in connection with the proposed additional equipment to be provided at the Louise docks, and in the port generally. The chief matter dealt with was the provision of extensive cold storage capacity, to care for the expected increased export of provisions of all classes.

The Quebec Legislature has amended the City of Three Rivers' charter, confirming the city's bylaw respecting the purchase and transfer of certain land to favor the erection of dwelling houses by Canada Steamship Lines, Ltd. In connection with this project, which is being carried out by Tidewater Realties, Ltd., a subsidiary of Canada Steamship Lines, Ltd., the city is authorized to issue bonds for $80,000, bearing interest at 6%, redeemable in 30 years.

The Levis Maritime & Industrial Co., which operates a ferry service with its two steamboats, Champion and Frontenac, between Quebec and the Isle of Orleans, has advised the residents on the island that during the forthcoming season, the ferry service will be carried on by one vessel, the Champion, and that consequently the number of trips will be reduced. It is reported that a new company may be organized to handle the traffic, unless the present company continues the two-vessel service.

Ontario and the Great Lakes.

The Walkerville & Detroit Ferry Co., incorporated in Michgan, U.S., has been authorized, under the Ontario Act respecting mortmain, etc., to acquire and hold lands in mortmain in Ontario.

Canada Steamship Lines, Ltd., expect to reopen navigation on Lake Ontario, about Mar. 1, when it is hoped to sail the s.s. Macassa from Hamilton to Toronto.

The s.s. Compton, owned formerly by the Canada Shipping Co., and which ran on the rocks near the Crossover light, about 5 miles west of Brockville, and was abandoned to the underwriters, is reported to have been sold. It is stated to be the intention to release her as soon as weather and other conditions permit.

The Montreal Transportation Co. has closed its Kingston elevator temporarily. L. L. Henderson, Vice President and General Manager, is reported to have stated that the elevator has been operated at a loss for several years, chiefly owing to the large elevator capacity at Port Colborne. It is probable that the elevator will be reopened in the not distant future.

The United States Lake Survey reports the levels of the Great Lakes in feet above mean sea level for January, as follows:—Superior, 602.26; Michigan and Huron, 580.80; Erie, 572.19; Ontario, 246.09. Compared with the average January levels for the past ten years, Superior was 0.27 ft. above; Michigan and Huron, 0.95 ft. above; Erie, 0.63 ft. above, and Ontario, 0.81 ft. above.

Tenders will be received to Mar. 3 for the purchase of the Public Works Department's steam tug Fashion, as hauled out at the Victoria Island shipyard at Ottawa. She was built at West Bay City, Mich., in 1893, and is equipped with compound engine with cylinders 14 and 24 in. diar. by 13 in. stroke, 24 n.h.p., supplied with steam by a boiler 70 in. diar. by 105 in. long, jet condenser, duplex feed pump and 6 in. propeller. Her dimensions are: length 52 ft., beam 16 ft., draft 7½ ft.; tonnage, 43 gross, 27 register. The hull has been condemned.

Representations are being made to the Dominion Government by the town of Dunnville, the Dunnville Board of Trade and the Haldimand county council, urging the investigation of the advantages of utilizing Port Maitland as the Lake Erie entrance to the Welland Ship Canal, instead of Port Colborne. The canal feeder, whic hnow runs from Port Maitland to Welland, about 18 miles, could, it is claimed, be brought into use by deepening and widening, at a much less cost than the present channel between Port Colborne and Welland, 7 miles, the former channel being through a clay section, and the latter through rock. It is also claimed that the harbor at Port Maitland would be safer during a storm than that at Port Colborne.

British Columbia and Pacific Coast.

The Union Steamship Co. of British Columbia has been authorized to change the name of its steamship British Columbia, to Chilliwack.

The Dominion Public Works Department has awarded a contract for the reconstruction of the dockyard wharf at Esquimalt, to McDonald & Watson, Victoria, for $52,924.07.

The Canadian Robert Dollar Steamship Co. is reported to have purchased the San Francisco sailing vessel Jane L. Stanford, and to have placed her in the lumber trade between Vancouver and the Orient.

The C.P.R. appropriations for this year for the B. C. coast, lake and river steamship work cover maintenance and general repairs, as well as the purchase of a new tug for the coast service, and a transfer barge for lake service.

The enquiry into the loss of the C.P.R. s.s. Princess Sophia, with all passengers and crew, in the Lynn Canal, Oct. 24, 1918, was adjourned at Victoria, Feb. 11, to Feb. 26, when further evidence was to be taken at Juneau, Alaska.

In connection with the loss of the C.P.R. s.s. Princess Sophia in the Lynn Canal, Oct. 25, 1918, when all passengers and were also lost, two actions for damages through loss of life have been entered against the C.P.R., one for $50,000 and the other for $20,000.

The North Vancouver City Council has sold the ferry steamboat North Vancouver no. 1, to B. Gilbert, North Vancouver, for $2,100. It is said that she is to be used as a tugboat. She was built at Vancouver in 1900, and is screw driven by engine of 19 n.h.p. Her dimensions are: length 73.4 ft., breadth 20.1 ft., depth 6.7 ft.; tonnage, 104 gross, 71 register.

The C.P.R. s.s. Princess May, which was completely overhauled and repaired by Yarrows, Ltd., at Victoria, recently, is stated to have been laid up, and it is announced that she will not be operated, at least for several months, and that she is for sale. She was built at Newcastle, Eng., in 188, and was then named Hating. Since she was acquired by the C.P.R. and placed on the B.C. coast run, she has been almost continuously in service, and latterly has been used more or less as a relief vessel.

The steam yacht Stadacona, now at Halifax, N.S., is, according to a Victoria, B.C., report, to be sent to the Pacific coast, to replace the s.s. Galiano, lost recently, in the fishery patrol service. It is also stated that three steam trawlers, named Armentiers, Thiepval and Givenchy, which were used in Atlantic patrol service during the war, will, at the same time, be transferred to the Pacific coast fishery patrol service. It is said that the vessels will leave the Atlantic coast during March, and proceed to Esquimalt via the Panama Canal.

The Cunard Steamship Co. is reported to have made arrangements with the London & South Western Ry. (England), under which Southampton will be a port of call for the company's large passenger vessels plying between America and England.

The return of requisitioned steamships to their respective owners, it is announced, is expected to be completed by Mar. 1. In this connection, a prominent Montreal shipping man is reported to have stated that shipping rates will be considerably lowered immediately the vessels are returned for their owners' operation, and that there will be no difficulty in obtaining tonnage space.

The World's Shipbuilding in 1918.—A London, Eng., dispatch states that Lloyd's summary of mercantile shipbuilding throughout the world, in 1918, shows that the total mercantile tonnage turned out by allied and neutral countries, was 5,447,444 tons, this total never having been approached in any previous year. It is 62% higher than in 1913, the highest previous year, which also included figures from Germany and Austria-Hungary, which, if any, are not included in those for 1918. The United Kingdom launched 301 vessels, totalling 1,348,120 tons, which was about two-thirds of the tonnage launched in 1913. Outside the United Kingdom, 1,565 steamship were launched, totalling 4,099,324 tons, of which Canada, the United States and Japan were responsible for 92%.

Naval Service Qualifications for Masters and Mates.—We are officially advised that the Marine Department, in connection with the time to be served at sea by applicants for masters' and mates' certifigates, has made the following arrangement:—"As a general rule, service performed on naval ships will be accepted as sea service, as qualifying for examination, and will be estimated by the same rules as if performed on merchant vessels. As regards service on naval vesesls counting as officers' service, no fixed rule has been laid down, but every case will be dealt with on its own merits, and the department will be prepared to consider sympathetically the case of any certificated man who left the merchant service during the war, and joined the navy, to see, if possible, that he suffers no disadvantage by his service in the navy."

Vessels Registered in Canada During December, 1918.

In compiling the following lists of vessels registered, steamboats and motor boats, operated by engines of less than 10 n.h.p. are eliminated, as also are sailing vessels of less than 100 tons register.

STEAM.

No.	Name	Port of Registry	Where and when built	Length	Breadth	Depth	Gross Tons	Reg. Tons	Engines, Etc.	Owners or managing owners
1411[illegible]	Ma[illegible]	New Westminster, B.C.	New Westminster, B.C., 1918	115.1	23.5	12.5	245	91	Sc. 56	Imperial Munitions Board, Ottawa, Ont.
14117[illegible]	M[illegible]	"	" "	114.7	23.6	12.4	243	98	Sc. 31	" "
1412[illegible]	Prosperative II	Vancouver, B.C.	Vancouver, B.C., 1918	69.3	18.2	8.2	85	39	Sc. 13	Progressive Steamboat Co., Vancouver, B.C.
1411[illegible]	Prosperative (a)	"	Benicia, Cal., 1891	71.8	20.6	8.2	89	44	Sc. 16	" "
[illegible]	St. Miniel	Toronto	Toronto, 1918	251.0	43.7	26.0	2,742	1,670	Sc. 147	Maple Leaf Shipping Co., Toronto
1412[illegible]	War Chilkat	Vancouver, B.C.	Vancouver, B.C., 1918	249.5	43.5	22.8	2,331	1,431	Sc. 147½	Shipping Controller, London, Eng.
1411[illegible]	War Kitimat	New Westminster, B.C.	New Westminster, 1918	249.4	43.6	22.8	2,336	1,434	Sc. 143	" "
1411[illegible]	War Suquash	Vancouver, B.C.	Vancouver, B.C., 1918	249.7	43.4	22.9	2,334	1,430	Sc. 147	" "
1412[illegible]	War Ta[illegible]	"	" "	249.7	43.5	22.9	2,326	1,429	Sc. 147½	Imperial Munitions Board, Ottawa, Ont.

(a) Formerly R[illegible], U.S. register.

SAILING.

No.	Name	Port of Registry	Where and when built	Length	Breadth	Depth	Gross Tons	Reg. Tons	Owners or managing owners
141192	A. T. No. 1	Vancouver, B.C.	1911 Vancouver, B.C.	80.6	26.2	6.5	115	115	Hilda M. Hind, Vancouver, B.C.
[illegible]	Ada A. McIntyre	St. John, N.B.	1918 Moss Glen, N.B.	147.9	35.1	12.7	460	423	P. McIntyre, St. John, N.B.
[illegible]	Annie M. Nadeau	Paspebiac, Que.	1918 Port Daniel, Que.	104.6	25.6	9.1	148	148	C. H. Nadeau, Port Daniel, East Que., and C. R. Tyrer, Halifax, N.S.
[illegible]	Cape Race	Liverpool, N.S.	1918 Liverpool, N.S.	126.8	32.4	11.8	378	330	Cape Race Shipping Co., St. John's, Nfld.
[illegible]	Cambrai	Pictou, N.S.	1918 River John, N.S.	165.7	35.8	13.0	557	529	The Shipping Syndicate, Ltd., Halifax, N.S.
141132	E. L. Comeau	La Have, N.S.	1918 Meteghan River, N.S.	169.0	37.4	13.2	673	591	Fraser Gray, M.O., La Have, N.S.
[illegible]	Edgewood	Montreal	1918 Quebec, Que.	191.1	36.8	15.5	792	699	Edgewood Shipping Co., Montreal
141165	Eugenie Owen Mac[illegible]	Parrsboro, N.S.	1918 Diligent River, N.S.	67.0	36.0	13.0	601	560	W. N. Reinhardt, La Have, N.S.
141[illegible]	F[illegible]	Shelburne, N.S.	1918 Shelburne, N.S.	111.9	31.9	12.3	392	306	J. B. Patten, Grand Bank, Nfld.
[illegible]	George Melville Cochrane	Parrsboro, N.S.	1918 Fox River, N.S.	183.5	37.0	18.9	886	820	"A" Shipping Co., St. John's, Nfld.
[illegible]	M[illegible] A[illegible]	St. John, N.B.	1918 Harvey Bank, N.B.	86.2	27.8	8.1	124	112	C. W. Robinson, M.O., Moncton, N.B.
[illegible]	Marie L[illegible]	Quebec	1918 Grande Bergeronnes, Que.	87.0	26.2	8.3	172	157	J. Dumont, Levis, Que.
[illegible]	J. [illegible]	New Westminster, B.C.	1918 New Westminster, B.C.	68.8	28.0	6.7	111	111	J. Crane, New Westminster, B.C.
[illegible]	J. M[illegible]	Maitland, N.S.	1918 Noel, N.S.	140.3	34.4	11.8	390	357	E. A. O'Brien, Noel, N.S.
[illegible]	Martha Parsons	Windsor, N.S.	1918 Cheverie, N.S.	158.9	38.5	13.5	499	455	G. M. Parsons, Cheverie, N.S.
138762	M[illegible]	Halifax	1918 Port Greville, N.S.	146.3	33.5	12.0	403	366	J. T. Moulton, Burgeo, Nfld.
[illegible]	Whalen No. 1	Vancouver, B.C.	1913 Mill Creek, B.C.	80.1	28.0	7.2	297	297	Whalen Pulp & Paper Mills, Ltd., Vancouver, B.C.
1412[illegible]	Whalen No. [illegible]	"	1913 "	77.7	28.5	7.4	137	137	" "
1412[illegible]	Whalen No. 4	"	1912 Vancouver, B.C.	81.0	30.0	7.6	356	356	" "
1412[illegible]	Whalen No. [illegible]	"	1912 "	78.0	28.0	7.2	134	134	" "
1412[illegible]	Whalen No. 7	"	1912 "	80.4	28.1	7.9	141	141	" "

Dominion Marine Association and Canadian Lake Protective Association Annual Reports, Meetings, Etc.

The Dominion Marine Association's annual meeting was held in Montreal, Feb. 5, the Vice President, W. J. McCormack, Algoma Central Steamship Line, Sault Ste. Marie, Ont., occupying the chair, in the absence of the President, J. T. Mathews, Mathews Steamship Co., Toronto, owing to illness. A letter from the President, regretting his inability to attend, having been read, the representatives present passed a resolution of sympathy.

A letter was read from C. H. Nicholson, Manager, Grand Trunk Pacific Coast Steamship Co., Vancouver, inviting general support in a movement for relief from alleged unnecessarily onerous customs requirements in the matter of coastwise clearances and entries. After some discussion, it was decided to write Mr. Nicholson, reporting fairly general satisfaction with existing conditions on the Great Lakes, in respect to the matters mentioned, and asking for particulars of difficulties experienced on the Pacific Coast.

A letter was read from the National Association of Marine Engineers' Secretary, enclosing a proposed wage scale for 1919, and it was decided to reply that individual members had received similar communications, and that as the matter was one for individual action, the association could not deal with it.

Letters were read from the Grain Commission, declining to make any order as to the shovelling charge, on the ground that "shovelling" was not considered to be included in the meaning of the word "handling", as to which the Grain Act confers jurisdiction upon the commission, and also giving notice of intention to take over the trimming, and to hold a conference on that subject this winter. The Secretary was instructed to take the question up with the Lake Carriers' Association, to ascertain its views, and to arrange for a meeting of the new executive committee before the public hearing proposed by the commission.

A letter from N. W. Gowan, patentee of the Gowan safety device for lock gates, recalled previous representations on the same subject, and urged further support from the association. The discussion confirmed the urgent desirability of effective means to prevent lock gates being forced out of miter, and attention was also called to previous requests made by the association for protecting devices, such as spring buffers, at entrances to locks. A. E. Mathews, A. A. Wright and the association's counsel, F. King, were appointed to take these questions up again with the Railways and Canals Department at Ottawa.

A suggestion was made for exchange of circulars between the association and the Lake Carriers Association, and the Secretary was asked to endeavor to arrange for the same.

The executive committee's annual report, as printed farther on in this issue, was presented, and was generally discussed and approved. The Secretary reported verbally that he was in communication with a number of the Public Works Department's district engineers, and hoped to include in next year's report a complete series of statements from them, and from other officers, reviewing public works affecting navigation from the head of the lakes to Montreal.

It was recommended to the incoming executive committee that the next annual meeting be held in Ottawa, and that, as in pre-war days, an effort be made to have a general reunion and dinner, attended by interested cabinet ministers and departmental officers of the inside and outside service.

The following were appointed a committee on aids to navigation: W. J. Bassett, J. W. Greiner, A. E. Mathews, W. J. McCormack, H. N. McMaster, W. H. Smith, J. F. Sowards and Jno. Waller.

The four vacancies in the executive committee, occurring by the expiration of the terms of office of G. E. Fair, L. Henderson, J. F. M. Stewart and J. Waller, were filled by the re-election of Messrs. Henderson, Stewart and Waller and by the election of Lorne C. Webster, Webster Steamship Co., in place of G. E. Fair, retired. The vacancies caused by the retirement of C. B. Harris, W. J. Bassett and A. A. Wright, were filled by the election of W. H. Smith, A. L. Laroque and H. W. Cowan.

W. J. McCormack,
General Manager, Algoma Central Steamship Line, and President, Dominion Marine Association.

A. A. Wright was elected an honorary member of the committee, in recognition of his valuable services ever since the association's formation.

Notices of motion for amendment of the constitution were given as follows: by W. E. Burke, to give the executive committee power to add to its members, and to limit the voting power in general meetings to one vote for each member company; by A. A. Wright, to enable members of the committee to attend and vote by proxy.

The executive committee then met and elected the following officers:—President, W. J. McCormack; 1st Vice President, A. E. Mathews; 2nd Vice President, H. W. Cowan.

The other members of the executive committee for 1919 are:—W. E. Burke, Montreal; L. Henderson, Montreal; A. L. Laroque, Montreal; J. T. Mathews, Toronto; W. H. Smith, Montreal; John F. Sowards, Kingston; J. F. M. Stewart, Toronto; John Waller, Montreal; Lorne C. Webster, Montreal; A. A. Wright, Toronto.

Canadian Lake Protective Association's Annual Meeting.

The Canadian Lake Protective Association's annual meeting was held at Montreal, Feb. 5, after the Dominion Marine Association's annual meeting. The newly elected President of the Dominion Marine Association, W. J. McCormack, occupied the chair.

The Secretary reported verbally that no attempt had been made to compile statistics or prepare a printed report regarding the casualties of 1918, as only three casualty reports had been received since the last bulletin of 1918, issued in September, and because on account of the small number of reports, and particularly on account of the President's illness, no meeting had been called in December to review the year's work. It was considered that no comments of value could be made in a report based upon returns which appeared to be incomplete. Attention was called to the notices sent members in this connection, and particularly to the resolution of the last annual meeting circulated in the printed report of the proceedings of that meeting. Reference was also made to the action of the executive committee at its meeting which had just adjourned, and particularly to the recommendations to be mentioned in bulletin 1 of 1919, requiring members to procure the execution of agreements by masters and engineers on association forms, fresh supplies of which are to be furnished. After discussion and some comment on the general understanding that the season had been without many serious accidents, on resolution moved by Messrs. Henderson and Wright, the committee's action was approved.

W. E. Burke gave notice of motion for amendment of the constitution and bylaws to confer power on the executive committee to add to its numbers, and to enable members to attend and vote by proxy, and also to limit the voting power in meetings of the association to one vote for each member company.

The following were elected unanimously as the committee for 1919. W. J. McCormack, Chairman, Sault Ste. Marie; W. J. Bassett, Toronto; W. E. Burke, Montreal; H. W. Cowan, Montreal; J. W. Greiner, Montreal; L. Henderson, Montreal; A. E. Mathews, Toronto; J. T. Mathews, Toronto; H. N. McMaster, Kingston; W. H. Smith, Montreal; John Waller, Montreal; A. A. Wright, Toronto.

Dominion Marine Association's Executive Committee Report.

The report of the executive committee is once more presented as a brief summary of various items of work which have come directly under the attention of the committee during the year, without regard to the wide field of questions in which the association has been indirectly interested. It was suggested towards the close of the year that the report might properly include some general review of public works in the waters in which the association is interested, together with other matter of a similar nature relating to transportation. But at the late date at which the suggestion was made it was found impossible to arrange for the necessary reports from all the district engineers of the Dominion Public Works Department and it has therefore been determined to allow the report to issue this year in the usual brief form.

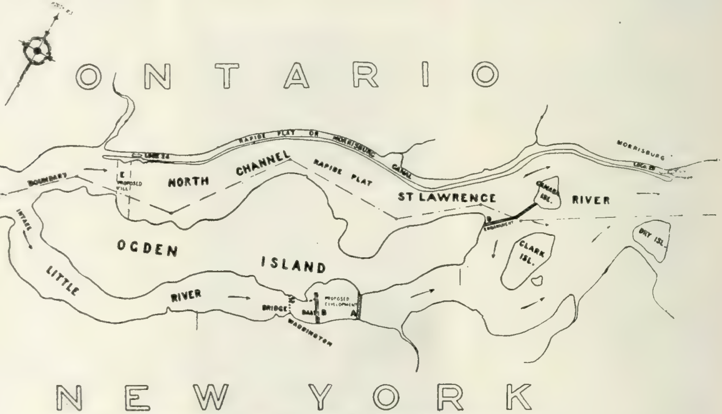
Legislation.—Once more, on account of the exigencies of the war, the Dominion Parliament has confined its attention to questions of pressing importance, excluding controversial matters as far as possible, and the session of 1918 saw no legislation of importance directly affecting shipping interests, other than certain amendments of minor importance to the Navigable Waters Protection Act.

Only two orders in council relating to the Marine Department and of interest to this association adopted in 1917 are published with the 1918 Dominion Statutes. One provides regulations and a tariff of tolls for the use of government wharves and the other prohibits transfer of registry of a British ship from a port of registry in Canada to a port of registry outside of Canada without the written consent of the Minister of Marine.

The bill designed to bring lake carriers under the jurisdiction of the Board of Railway Commissioners, defeated in 1917, was again introduced, in an amended form, by J. A. Armstrong, M.P. for East Lambton, but did not get beyond its first reading and a reference to committee. Leading commercial bodies again filed protests against the proposed legislation and your committee continued the association's opposition until the house adjourned. It is understood that this bill will be introduced again at the coming session and the subject will require further careful attention.

New York & Ontario Power Co.—The proposals of this company were briefly referred to in the report of your committee for 1917. In due course application was made by the company to the International Joint Commission for approval of its plans, and a preliminary hearing, at which this association was represented by counsel, took place at Atlantic City, Aug. 12, 1918. Counsel for the applicants presented some evidence at that session of the commission, and opposition was made by counsel for the Dominion Government, for the State of New York and for this association. The commission then adjourned, in order to examine the location of the proposed works in the River St. Lawrence, and on Oct. 1 met again at Ottawa for final hearing. Your association, with the approval of the Dominion Government, had in the meantime filed a separate answer to the company's application, and your counsel took part in all the proceedings, which at the final hearing lasted four days. Evidence of master mariners was adduced by him on behalf of the association, to substantiate certain contentions against the proposed works as prejudicial to the interests of navigation. The U.S. Government, through its counsel, Judge Koonce, expressed willingness to agree to the plans if the commission were satisfied. Counsel for the Dominion Government opposed, largely on the ground that the consent of the Public Works Department should have first been obtained, and that nothing should be done pending development of a more comprehensive scheme of improvement affecting the whole river; and counsel for the State of New York opposed on general grounds, but particularly with reference to the limitations imposed upon the rights of the applicants by the legislation of New York State under which they claimed title. Certain other public bodies, notably the Conservation Commission of Canada, also appeared in opposition to the scheme. The commission took the matter into consideration and has not yet rendered a decision. Since the hearing P. B. Mignault, K.C., of Montreal, one of the three members of the Canadian section, has been elevated to the Supreme Court of Canada.

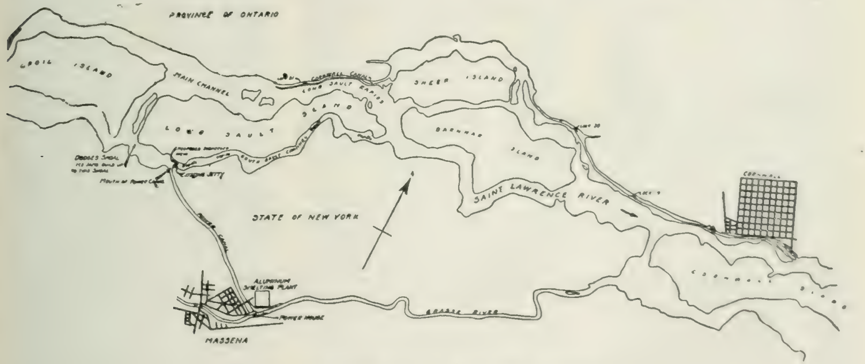
Briefly, the proposals of the company were for the improvement of the Little River and the building of a power house at Waddington, N.Y., with a view to withdrawing down that channel south of Odgen Island some 30,000 cu. ft. a second (alleged to be the natural flow) instead of a present flow of about 6,000 c.f.s. Compensating works to retain levels in the main channel were to consist of a dam from Ogden to Canada Island, the alleged effects of which would be to restrain the flow, and by its backwater effect to conserve or improve the levels in the Rapide Plat, while incidentally it would also do away with the cross current now running between the islands named; and also a submerged weir from Ogden Island under the main channel to a little below the head of the Morrisburg Canal, this weir being designed to maintain levels in the canal. A conflict of evidence arose as to the efficacy of the proposed compensating works and the principal objections raised for the association were: the increased current developed north of Canada Island, probably sufficient to bar upbound navigation; the doubtful results in the already difficult Rapide Plat, and the dangerous menace to present navigation and positive obstacle to future development which would be constituted by the submerged weir if built of a height and a width sufficient to serve its avowed purpose. The accompanying plan No. 1 shows the location of the works proposed.



Plan. 1. New York & Ontario Power Co.'s Proposed Development on St. Lawrence River.

The St. Lawrence River Power Co.—At the session of the International Joint Commission at Atlantic City on Aug. 12, 1918, counsel for the U.S. Government asked for an immediate hearing and special consideration of an application of St. Lawrence River Power Co. for approval of its undertaking in connection with its power plant at Massena, N.Y., alleging as a special reason the urgent desirability of securing an additional supply of aluminum for war purposes from the Aluminum Co. of America, which company would utilize the additional power the applicant company would be able to develop. Strong opposition was made to this request by counsel for the Dominion Government, for the State of New York, and for this association, but an order was ultimately made suspending rules and fixing an early date for hearing at Montreal. With the consent of the Dominion Government, an answer to the application was prepared and filed on behalf of this association and your counsel joined in the general opposition to the proposals at the hearing at Montreal at the end of Sept., 1918.

The plans included a dam or weir completely across the South Sault channel—nominally designed to improve winter ice conditions—and the dredging of the shoal in the St. Lawrence above the intake of the power canal to Massena. The dredging had already been done—with some adverse effect upon levels on the Canadian side; and it developed that the combined effect of the dredging and the dam, alleged to be intended to overcome winter ice conditions and maintain efficiency of the Massena plant throughout the year, would incidentally make about 114,000 h.p. available at the power house at Massena, in addition to the normal amount. The opposition to the undertaking was largely based upon the objection to damming the South Sault, which by the Ashburton treaty was to remain free and open for all time for the vessels of both countries; and the Canadian Solicitor-General argued that parliament alone had the power to act in view of the treaty.



Plan. 2. St. Lawrence River Power Co.'s Proposed Development.

He invited discussion between the two governments with a view to finding a solution that would preserve control of the river.

The commission reserved its decision, and subsequently made an order reserving the general question for later argument and consideration, but declaring the urgent need of the work as a war measure and permitting the building of the proposed dam or weir and its maintenance until the expiration of five years or the termination of the war, whichever should last occur; and providing also a right to apply to the commission within one year of the expiration of the period for an order approving the continuance of the weir on such terms as might then be deemed appropriate. The location of the weir and of the dredging are indicated by arrows in the accompanying plan 2.

Grain Trade: Regulations as to Outturns of Cargoes.—Correspondence early in the year developed the fact that loading elevators would renew their objections to the 1917 regulations. The commission was informed of the willingness of the members of this association to accept a renewal of these regulations, but a general agreement appearing impossible without conference, the commission met all interested parties at Montreal on Mar. 25. The whole question was then argued at length, but the terminal elevators strenuously objected to the agreement of the previous year. In the end the matter was left to the commission, on the general understanding that their decision would be accepted by all parties.

At a meeting of the grain section of this association in Toronto on May 10, on a report of the failure of the commission to take action it was agreed to bill freights in the same way as in 1917 and to make no further allowances than those provided in the regulations then in force, and also to advise the commission of this intention on the part of lake carriers. Notices were sent out accordingly. At another meeting in Toronto on June 12 conditions remained unchanged and members reported that settlements were held back until the announcement of a decision. Further correspondence followed and on June 27 the Grain Commission issued the following letter, signed by its Secretary: "I have to advise that definite arrangements have now been made whereby the Wheat Export Co., Ltd., has agreed to insure against shortage on grain cargoes shipped by them from Fort William and Port Arthur to Canadian ports, under a similar arrangement to that already in force at Buffalo. This arrangement, so far as Canadian ports is concerned, is to be effective as from June 11, 1918, and is intended to remain in force for the duration of the war. The Board of Grain Commissioners is taking the necessary steps towards adjustment of shortages which occurred between the opening of navigation and June 11."

The outturns of cargoes from Fort William and Port Arthur for several periods between June 1 and Nov. 20, 1918, as made up from returns received by the Grain Commission between those dates appear in the tabulated statement which appears as appendix to this report. Doubtless the question will again come before the commission for determination at or before the opening of navigation in 1919.

Allotment of tonnage and control of freights.—In July, 1918, upon invitation from the Lake Carriers' Association and upon instructions from this association, a delegation of three members attended a conference at Cleveland to discuss the subject. Mr. Barnes, representing the U.S. Grain Corporation, addressed the meeting, and Dr. Magill, Chairman of the Canadian Board of Grain Supervisors, also expressed his views. A proposal for complete mobilization of all tonnage, with general submission to the Lake Carriers' Mobilization Committee, received general support, but was declined by the Canadian delegates on the ground that separate mobilization with co-operation would be preferable, and as Canadian owners proposed to take prompt measures to submit their tonnage to proper control in their own country.

On July 30, Dr. Magill called a meeting of shippers, carriers, millers, and others in Toronto and by arrangement Canadian lake carriers met in a separate room at the same time in the same building. Acting independently of the general meeting the carriers discussed the situation fully and, after calling in, in turn, Mr. Stoddart of the Wheat Export Company, Mr. Young of the Lake Shippers Clearance Association and Dr. Magill, and discussing the matter with them separately, resumed discussion in private session and finally adopted the following resolution:

"That Canadian lake carriers, recognizing the obligation imposed on them of furnishing efficient aid to the transportation of the grain crops of Canada and the U.S.A., agree as follows:—That Lake Superior shall be served in preference to Lake Michigan and only surplus grain tonnage sent to Lake Michigan. That Lake Superior wheat shall be served in priority to any other grain. That all tonnage to Duluth-Superior shall be allotted through the U.S. Grain Corporation office there, all tonnage for Lake Michigan ports through the U.S. Grain Corporation office at Chicago, and tonnage to Fort William and Port Arthur through the Winnipeg Chartering Committee, under the same conditions as prevailed in the fall of 1917, but under such instructions as to allotments as may be acceptable to Wheat Export Co. and the Canadian Government, and subject to insurance by the shipper against any grain shortage on outturn, in accordance with the present arrangement in the Buffalo trade. That all unloading at Buffalo shall be directed by the U.S. Grain Corporation office at Buffalo. That the Canadian Lake Carriers will provide tonnage for the grain movement at rates not exceeding basic rates of wheat Lake Superior to Lake Erie, 4c a bush. until Sept. 1, and 4½c a bush. thereafter until Nov. 30, and wheat Lake Michigan to Lake Erie 3½c a bush. until Nov. 30, with alternative and relative rates as follows: To Georgian Bay and Goderich, ½c under Lake Erie rates; to Port Huron, ¼c under Lake Erie rates; to Collingwood, ½c under Lake Erie rate; but terms of discharge at Collingwood to be the same as hereafter provided for discharge at Lake Erie side ports; to side ports other than Buffalo and Port Colborne, including Detroit, same rates as Buffalo, but with special agreement as to discharge, allowing two working days free, but thereafter vessel to receive ⅛c a bush. additional on entire cargo for each running 8 hours or fraction thereof, until fully discharged; to ports of light draft, vessel to be allowed freight calculated on its Buffalo capacity. Other grains than wheat to net the vessel the equivalent of wheat cargo. Freight to Canadian vessels for carriage to U.S.A. ports shall be paid in funds current in U.S.A. and freight to Canadian vessels to Canadian ports shall be paid in funds current in Canada, and Canadian vessels, as much as possible, shall be employed in their customary fall trade routes.”

Appendix.—Summaries of statements issued by the Grain Commission showing outturns of cargoes loaded at Port Arthur and Fort William as shown by returns received during the periods named.

	Bills of Lading Bush.	Outturns Bush.	Over Bush.	Short Bush.	Damaged Bush.
June 1 to July 15, 1918.					
Wheat	5,124,611—30	122,298—10	879—20	3,192—40	320—00
Oats	878,154—05	877,431—06	121—08	844—07	27—00
Barley	443,402—45	440,849—26	....	2,553—19	13—00
Flax	405,326—40	405,139—24	20 54	208—14	12—00
Screenings	1820—0990 tons	1815—0400 tons	....	5—0590 tons	....
July 16 to Sept. 30, 1918.					
Wheat	1,308,445—10	1,305,932—30	24—40	2,537—20	222—50
Oats	3,127,479—09	1,126,771—10	1,960—01	2,668—00	210—00
Barley	91,896—02	91,953—24	87—20	29—46	15—00
Flax	325,115—49	324,929—04	59—20	246—09	1—28
Mixed Grain	1,291,100 lbs.	1,291,990 lbs.	890 lbs.	....	....
Screenings	3124 0816 tons	3124—0816 tons	....	12—1566 tons	....
Sept. 1 to Oct. 31, 1918.					
Wheat	7,838,189—50	7,835,234—50	2,397 30	5,352—30	378—20
Flax	15,972—55	15,713 32	....	79—23	75—00
Nov. 1 to Nov. 20, 1918.					
Wheat	9,036,738—50	9,033,145—50	2,247—20	5,840—20	2,382—10
Barley	176,463 46	176,259—22	....	204—24	30—00
Flax	103,717 29	103,545—30	25 47	197—46	69—06
Screenings	4571—1670 tons	4562 1960 tons	....	8 1710 tons	....

On the general question of mobilization the following resolution was adopted:—“That Canadian carriers have given careful consideration to the proposal for mobilization of all their tonnage, either jointly with that of the U.S. lake carriers, or separately, but after full discussion and after having heard the opinions of those interested in the trade from all points of view, have come to the conclusion that they can best serve the prime object of all such proposals, viz., the contribution of the most effective assistance in the present unfortunate situation due to the war, by supporting a continuance of the arrangement which prevailed during the fall of 1917, an arrangement which gave general satisfaction and effectively met all requirements. Canadian carriers are influenced to some extent by the fact that in Canada there is no centralization of vessel management in any one locality and, in consequence, an almost insuperable difficulty would be at once encountered in an attempt to manage the trade through a committee, yet, nevertheless, as already stated, this objection was subsidiary to the main question which was determined with reference to the general satisfaction expressed with the 1917 arrangement.”

Throughout the remainder of the session allotment of tonnage was made in accordance with these resolutions by the Winnipeg Chartering Committee and apparently to the satisfaction of all concerned.

Shovelling Charges at Grain Elevators.—At a meeting of the association's grain section in Toronto early in the summer instructions were given to call the attention of the Board of Grain Commissioners to the charges of $4.35 per 1,000 bush. which certain elevators were then making for shovelling; and to advise the commission of the association's opinion that in view of the limitation now imposed upon the lake freight rate any increase in fixed charges should not be permitted to fall upon the carrier. No action was taken by the commission during the summer, but this item was placed on the agenda paper at a session held at Toronto on Oct. 10, and after argument the board then intimated that the association had made out a good case for the retention of the $4.00 rate and asked elevator representatives to agree to that figure as a maximum at least until the end of the 1918 season. Thereafter certain elevators continued to bill charges at the increased rate, and the board when again appealed to by this association refused action, on the ground that doubt was thrown upon its jurisdiction, the claim being made that “shovelling” was not included in the word “handling”, which is one of the items expressly named in sec. 137-8-9 of the Grain Act, requiring approval of elevator tariffs. The board also suggested that shovelling may be looked upon as part of the duty of those in charge of the ship. This view is not shared by your committee, but if doubt is at all reasonable it would appear that amendment of the statute to expressly include the word “shovelling” should be brought about.

Trimming.—During the year correspondence regarding this subject, including a number of communications from the President of the International Longshoremen's Association, received consideration at meetings in Toronto and in Montreal. The longshoremen's union proposed a new trimming arrangement under their auspices and some investigation was made as to the degree of support their proposal was receiving in the U.S. Early in the season, however, it was decided by your committee to take no action upon this proposal, and when the question was revived at a later meeting it was decided to await developments. In Dec., 1918, the Grain Commission determined to take over the trimming and to make rules and regulations, and a notice of this intention has been sent out intimating that a conference of all interested parties will be called prior to the opening of navigation. The action of the Grain Commission accords with the recommendation of this association made some years ago.

Loading from Private Elevators.—Early in the season the Fort William and Port Arthur Grain Exchange asked the support of the Dominion Marine Association in its petition to the Board of Grain Supervisors for suspension of the rule prohibiting the mixing of grain from a private elevator with any other grain in the same hold of a vessel. A lengthy correspondence developed differences of opinion as to the advisability of the change proposed and at a meeting of the association's grain section in May it was resolved to take no action.

Licenses for Bunker Coal and Supplies.—After the promulgation of regulations by the U.S. War Trade Board requiring ships to procure licenses before taking coal or supplies, an appeal was made on behalf of this association for recognition of its enrolled tonnage on the same basis as that of the Lake Carriers' Association and for their inclusion in a special system providing for a general license for the season to obviate need of constantly repeated application to the U.S. authorities. Correspondence took place with various parties and organizations and early in July the Director of Transportation advised the association of the acceptance of the above proposal. Forms were circulated accordingly and licenses for specified terms were issued to members upon application and proof as required.

Passes for Men at U.S. Lake Ports.—At the opening of navigation in 1918 the U.S. Department of Justice, in pursuance of a proclamation from the President, required that no alien enemies should be permitted to approach within 100 yards of any dock or other water front facility on the Great Lakes, and with the approval of the department the Lake Carriers' Association and the U.S. dock companies worked out a system of identification of officers and sailors. An opportunity being offered, the Dominion Marine Association availed itself of the same system. Copies of forms were secured and circulated, and later, forms of permanent and shore-leave passes, with appropriate application forms were prepared, printed and circulated by this association among its members and were used by ships trading to U.S. ports. In this connection correspondence was also carried on with the U.S. Commissioner of Immigration at Montreal regarding the regulations devised in his department, and local officers of immigration were also consulted in order to co-ordinate the requirements of the Immigration and Justice Departments. The system adopted greatly facilitated the movement of officers and men to and from their ships while in port.

The Military Service Act, 1917, generally and cordially approved in principle and application, was found to press heavily upon shipping interests in many instances, and early in the season an effort was made by your committee to secure some special recognition of the business of lake and river transportation, so that ships might be manned with their full crews without serious delays and might be freed from the risk of losing certificated officers or men on short notice. Interviews were held at Ottawa with the assistants of the Central Appeal Judge and with the Central Public Representative, and much correspondence also took place, in all of which the needs of various classes of vessels were explained and a general ruling was sought that would bring certain officers and men definitely within the exemption clauses of the statute by declaring their services in transportation to be in the national interest.

Later, on resolution of the committee, a request was made for application of the rule adopted in the U.S. whereby all bona fide members of crews received certificates that exempted them from other service so long as they continued to sail. It was pointed out, however, that the statute and its method of operation differed materially in the U.S. and that no fair comparison could be made, and it was determined by the Central Appeal Judge that each case must be dealt with on its own merits. Accordingly a great number of appeals accumulated on the files in the offices at Ottawa; and the justice of the claims in a great majority of these cases was apparently recognized. The mere withholding of a decision served the required purpose and left the men in the work of transportation. No doubt if the war had continued some other arrangement might have been required, but fortunately for everyone a happy solution of the difficulty has arrived. In this connection representations were made to the Department of Commerce and Labor at Washington as to the difficulty experienced in manning ships and the association received cordial assurance that the greatest possible leniency would be exercised in enforcing the U.S. Seamen's Act and that instructions were being issued accordingly.

Pure Water on Ships.—Pursuant to the arrangement made in 1917, the Department of Marine was reminded in Mar., 1918, of its intention to formulate Canadian regulations as to drinking water, compliance with which would satisfy officials in U.S. ports. A committee interviewed officers of the department at Ottawa and it was then agreed that no general regulations were required, as most of the ships affected by the U.S. law had already been equipped with efficient apparatus. It was decided that ships having steam available should adopt one of the approved plants mentioned in association circular 62 of 1917 and that ships without steam, such as many of the river tow barges, would probably have to adopt the alternative course permitted and take water on board from an approved source. The department undertook to prepare and supply forms of certificate for use by local medical health officers proving the water so procured to be satisfactory. These forms, procurable from any collector of customs, after proper signature would be accepted by U.S. port authorities. All this was intimated to members of the association by circular letters and in due course the forms mentioned were made available and were used.

Boiler Inspection.—At the annual meeting in 1918 it was resolved to ask for a less rigid enforcement of the Canadian regulations for computing permissible steam pressure for boilers brought in from the U.S. which were not open for inspection during the whole period of construction. At the first opportunity the subject was discussed with the Chairman of the Inspection Board at Ottawa and it was arranged that the practice of meeting special petitions by granting a reduction of the factor 1.65 in sec. 25 (a) under letter Y of the rules to a figure as low as 0.5 should be made more general, and that steamboat inspectors would receive instructions to make their computations accordingly in cases where no circumstances appeared to exist which would render a more rigid application of the rule advisable. The use of the lower factor gives the desired result.

New Life Jackets.—By circular S. I. 7 issued by the Chairman of the Inspection Board, it was announced that after April 1, 1918, all life jackets must be of special nature and have the board's approval in accordance with the terms of the circular. A committee of this association took the first opportunity to examine the various styles of jackets and witnessed a practical demonstration of their advantages over the form previously in use. The requirements of the board were communicated to all members. The new regulations proved a hardship to owners recently equipped with a new stock of the old style jackets, and it is understood that permission was given later in special cases for installation of enough of the new jackets to supply the crews and the average number of passengers rather than the full complement, on the understanding that further replacements later would be from the approved styles.

Navigation of the Kaministikwia River.—At the annual meeting in 1918 correspondence was read with regard to the regulations governing turning of vessels in this river, fully referred to in the executive committee's printed report for 1917, and after discussion it was resolved that inasmuch as the principle adopted by the government in consultation with this association had now apparently been abandoned in favor of a new and discriminatory plan, application should be made to have the privileges which were now allowed only to package freighters extended to all ships of the same length and to have all ships up to 330 ft. in length permitted to turn with a tug in the portions of the river named. A committee was appointed to interview the authorities at Ottawa and endeavor to have a fair regulation adopted as above. At a later date the committee met at Ottawa and interviewed the proper authorities, explaining the various changes which had taken place and the unfairness of the last regulation, which had been made without consultation with the association and apparently on the recommendation of some individual interest. The committee was favorably received and on the recommendation of the Minister of Marine, an order in council was adopted on Mar. 14, 1918, as follows:—

"Sec. 15 of the special regulations for the government of the harbor of Fort William, Ont., established by order in council of Nov. 7, 1917, is hereby cancelled and the following section is substituted in lieu thereof:—

"Sec. 15. Steam vessels not exceeding 200 tons gross may turn in any part of the Kaministikwia River, McKellar Channel, or the Mission Channel, under their own power, excepting in the immediate vicinity of any bridge crossing said river or channels. Steam vessels exceeding 200 tons gross are prohibited from turning in the local harbor, excepting at the turning basins constructed for that purpose at West Fort above the G.T.P. Ry. bridge, at the confluence of the Kaministikwia River with Mission Channel, at the confluence of the Kaministikwia River with McKellar Channel and at the G.T.P. Ry. turning basin near the mouth of Mission Channel, provided, however, that steam vessels exceeding 200 tons gross, but not exceeding 330 ft. in length, may turn in that section of the Kaministikwia River lying between the bend above the C.P.R. elevator D and the westerly limit of the G.T.P. Ry. dock and in that section of said river lying between C.P.R. slip 1 and elevator C, but the turning of such vessels in the said sections of this river shall not take place without the use of a tug, unless sanctioned by the harbor master."

Customs Clearances at Port Arthur and Fort William.—Considerable correspondence took place with regard to the requirements for double clearances at these ports, and certain complaints were reported on the part of U.S. tonnage. Correspondence followed with the retiring Minister of Railways and Canals, but at the general meeting in February last a modus operandi was reported which seemed to give general satisfaction and no further action was taken.

Shipping Registry at Toronto.—Upon request from the Upper Canada Tract Society for a further grant, and after consideration of reports regarding the use made of the registry established by the society at Toronto, $200 was voted by the general meeting of the association in February last and was paid.

Patrol Service Above Sault Ste. Marie.—Early in the season, with a view to facilitating the passage of vessels through the locks at Sault Ste. Marie, by avoiding congestion at any lock, the U.S. Lake Carriers' Association arranged for a patrol tug, and members of that association agreed that their ships should act upon directions to be given them from this tug. The co-operation of the Dominion Marine Association was sought in this arrangement and at a meeting in Toronto on May 10, 1918, the proposal was approved and it was resolved that Canadian vessels should pay on the same basis as the U.S. lake carriers for the service given. It was also resolved to suggest the distribution of mail by the same boat. Various objections were said to stand in the way of the proposed system of mail delivery, but the patrol tug has performed the duties originally assigned to it with general satisfaction to both associations.

Double Courses in St. Marys River.—A proposal came from the Lake Carriers' Association for adoption of certain double courses in the section of the St. Marys River between Sweets Point and Watsons Reef, and after consideration, your committee determined to ask owners to comply with the request for uniform action. It was arranged to await notice of general agreement on the subject in the Lake Carriers' Association's bulletins, but after further consideration that association advised letting the proposal stand, and no further action has been taken.

Canadian Lock at Sault Ste. Marie.—Considerable correspondence has taken place with reference to the landing facilities for vessels both above and below this lock. Arrangement has been made for additional help in taking lines. Special consideration has been given to the difficulties arising from the new currents developed above the lock, by the opening of the new power canal belonging to the Great Lakes Power Co. and the closing of the compensating dam above the rapids. A number of vessels grounded just west of the north pier, because the current which formerly flowed around the south pier now flowed around that on the northern side of the entrance, nearer the canal and where the approach is narrower. Improvements were suggested by dredging the approach above the power canal so as to reduce the side current and by placing detached buffer-cribs in proper locations. In the meantime the association advised owners by circular how all masters might best avoid danger.

Mullen Coal Dock at Sandwich.—An injunction order having been obtained by certain Sandwich residents against the continued use of the Mullen Coal Dock, an appeal was made by this association to the Marine Department for intervention as a war measure, with a view of making continued operation of the dock permissible. Colonel Anderson, Chief Engineer of the department, visited the locality, and reported upon the situation and before the close of April the Deputy Minister of Marine advised this association that it had now been arranged, as a war measure, to keep the dock in commission.

Aids to Navigation.—On account of the general reduction of expenditures for all purposes other than those connected with the war, it has been impossible for some time to obtain provision for additional aids to navigation except in very urgent cases. The committee having these questions in charge has, for this reason, made no formal list of recommendations to the Lighthouse Board during the past year. Only two meetings of the board have been held, and these have been attended by A. E. Mathews, representing the President. An appendix to this report in its first part mentions the various items affecting the eastern inland division with which the board has dealt during 1918, and it may be noted that the votes for this division amount altogether to only $1,015, of which $750 was for the range in the St. Marys River asked for by this association. The second part of the appendix sets out the other changes effected departmentally, or as the result of the above mentioned decisions of the board or of decisions in previous years.

Several items came directly before your committee and received special attention; notably the change in the position of Snake Island light to Simcoe Island, Lake Ontario—now confirmed by the authorities for various reasons expressly stated, and the dredging of the cross-over cut at the foot of Wolfe Island, delayed for want of a suction dredge, but now promised for the season of 1919. The range lights in the St. Marys River mentioned above were considered at a meeting of your committee in Toronto on May 10, when it was resolved to ask for the establishment of a range on the Canadian shore above Sault Ste. Marie, to mark the turning point for vessels leaving the main channel upbound to make the Algoma Steel Co.'s docks. The U.S. lighthouse inspector had already recommended two spar buoys on that side to mark a shoal in the vicinity. The improvement would obviate need of proceeding above the Vidal shoals to make the turn. This request was considered by the Lighthouse Board at Ottawa on Oct. 31, and after consideration of all the facts the board agreed to establish the range.

As usual, matters requiring immediate attention, including complaints of unlit lights or misplaced buoys, have been dealt with promptly by your officers as occasion arose.

Transportation Under War Conditions.—Under another heading in this report special reference is made to the voluntary submission of all Canadian lake tonnage in the grain trade to control as to allotment by authority acceptable to the Dominion Government and the Wheat Export Co., and to the voluntary fixing of a maximum freight rate in this trade. The purpose and the result of this action was to facilitate to the greatest extent possible the movement of grain for the allies. The Military Service Act bore heavily upon shipping interests and the association was compelled to take action to satisfy the officials in charge of the enforcement of the statute that ships could not be run without certain certificated officers and a certain minimum crew and that transportation was of prime importance in the national interests. A good deal of inconvenience also arose by reason of the pressure of stringent regulations affecting shipping and crews in port, but in all directions there was loyal submission to the requirements of laws designed primarily to further the one great cause, and traffic continued to move with surprising freedom from unusual accidents or delays.

General Business, Membership and Tonnage.—In addition to the special items set out above, the work of the association during 1918 included the usual general correspondence with representatives of various branches of the Governments of Canada and the U.S. and of sister organizations, as well as with members of the association and other parties.

The steam tonnage enrolled in 1918 was 138,458 net registered tons, against 160,417 in 1917; and the barge or sailing tonnage 21,710 net registered tons, against 25,808 in 1917; a total of 160,167 tons, to compare with 186,226 tons in the previous year. This continued decrease appears to be due to the war conditions which removed vessels from inland waters. The understanding is that members have continued to enroll their ships, irrespective of location, but losses and sales have been continuous, and wooden barges of Canada Steamship Lines, Limited, have not been enrolled. A fair comparison with tonnage of previous years is therefore impossible.

Projected Harbor Work for Toronto in 1919.

The Toronto Harbor Commissioners' budget for this year contemplates an expenditure of $3,300,000. It does not, however, mean that all the work covered by this amount will be carried on through the year, but it is anticipated that work will be done involving an expenditure of approximately $2,000,000. Much will depend on general financial conditions, and the opportunities offered for placing the commissioners' bonds on the market. It is intended to continue what is known as the industrial harbor development, in an easterly direction from the point where it now ends between John St. and Spadina Ave., through to York St., and also to reclaim about 90 acres of additional land for industrial purposes, and possibly some park reclamation work in addition. It is also the intention, providing the city's approval is obtained, to top dress and complete the park and amusement areas between Sunnyside and the Humber River, but this cannot be completed for the present, owing to the unfinished condition of the Dominion Government breakwater. Provision will also be made for roadways and sidewalk construction, sewers, etc.

So far as the Dominion Government work in the harbor is concerned, it is expected that some 4,400 ft. of crib work on the western breakwater will be completed, and also the turning basin in the eastern section, thus providing for about 4,000 ft. of dock wall, with concrete superstructure. The circulating channel will also be completed, providing for dockage construction for another 1,800 ft. of wall.

Submarines for Canada.—The British Admiralty has offered, as a gift to the Canadian Naval Service, two submarines, now at Bermuda, and Sir Robert Borden has accepted the offer on behalf of the Dominion Government.

Wireless Telegraph Restriction Modified.

The Naval Service Department announces that all censorship regulations restricting the use of wireless telegraphy to and from ships in the West Atlantic and in the Pacific are now completely removed. All ships will now be permitted to exchange wireless messages anywhere in the Pacific and west of 40° west in the Atlantic; messages may also be exchanged with Canadian commercial coast stations. The previous restrictions forbidding code and cypher message to ships at sea are also eliminated and the wireless service will henceforth resume its pre-war freedom. All restrictions regarding inter-station messages, that is, messages between wireless stations on shore, are also removed.

The regulations limiting the trans-Atlantic wireless service to press and government messages are still in effect, This service will not be thrown open for private messages until the British Government restrictions on this class of business have been removed.

The restrictions regarding amateur wireless stations are still in effect. The Naval Service Department advises that no licenses are being issued for this class of station as yet. It is probable, however, that this regulation will be modified in the near future. In the meantime, any persons desirous of then operating an amateur station should file their application for license with the Naval Service Department. Application forms can be had on application to the Deputy Minister of the Naval Service, Ottawa. Licenses can only be issued to British subjects.

Telegraph, Telephone and Cable Matters.

The C.P.R. will, it is stated, complete the stringing of an additional copper telegraph wire between Halifax and Montreal, during March.

The hearing by the Board of Railway Commissioners of the Bell Telephone Co.'s application for increased rates for telephone service, was concluded at Ottawa, Feb. 21, after 8 days sittings.

Judgment in the Newfoundland Government's claim against the Commercial Cable Co. for taxation for the landing of four cables in the colony, has been given in favor of the Government, by the Newfoundland Supreme Court. The amount to be paid is $112,000 with interest and costs, and is made up by the charges on four cables at $4,000 each per annum from July 1, 1910.

A bill providing for the taxation of certain companies, which has passed the Saskatchewan Legislature, includes every telegraph company and every railway or other company which owns, leases or operates telegraph lines, and carries on a general commercial telegraph business in the province. The tax is fixed at 1% of the gross earnings for the preceding year in case such percentage does not exceed $2,000, but, if on such a basis the tax collectible should exceed $2,000, the maximum tax shall be $2,000. Companies are required to make a return to the Provincial Treasurer, for the purpose of levying the tax.

Charts of the River St. Lawrence, from Pointe des Monts to Father Point, and of Sydney Harbor, have been issued by the Hydrographic Survey, Department of Naval Service.

Canadian Railway and Marine World

April, 1919

Broad Gauge Steel Coal Hopper Cars Built in Canada for Bengal-Nagpur Railway.

The accompanying illustrations show one of 70 steel coal hopper cars for the Bengal-Nagpur Railway, India, which have the following general dimensions:

Length over buffers	41 ft. 3 in.
Length over end sill	37 ft. 1 in.
Length of body inside	35 ft. 0 in.
Truck centers	27 ft. 8 in.
Width over side sill	9 ft. 10½ in.
Height from rail to top of sides	9 ft. 9 in.
Size of hopper door openings	6 ft. 2¾ in. x 3 ft. 3 in.
Buffer height (unloaded)	3 ft. 7½ in.
Wheelbase of truck	5 ft. 8 in.
Journals	5½ ft. x 10 in.
Capacity	100,000 lb.

The center sills are 21 in. deep, and built up of plates and angles, to shape approximating a girder of uniform strength, commonly known as the fish belly type of car center sill. There are web stiffeners as shown in the accompanying illustrations. Heavy cast steel center fillers are placed between these center sills, and bolster, and are riveted thereto through the draft sill and bolster flanges. A heavy bottom cover plate is applied under the bolster extending from side sill to side sill of car.

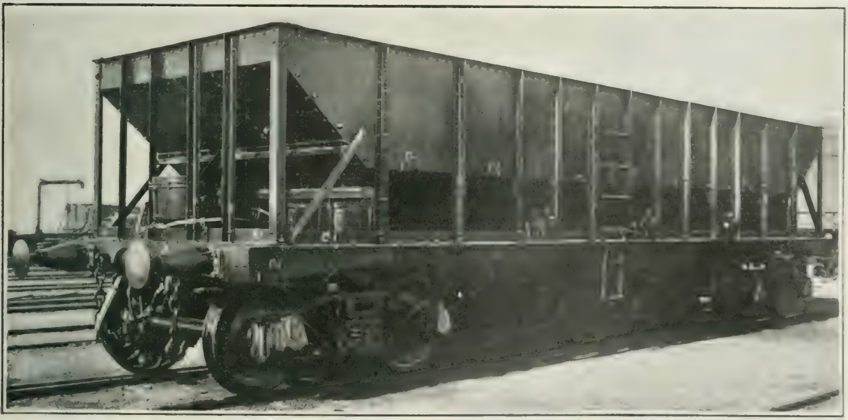
The sides are ¼ in. steel plate, built up into sections, and reinforced by 3 x 3 in. angle side stakes. Sections are spliced together with narrow plates, or bars, on inside of car, and in addition the side stake angle outstanding legs are riveted together as shown in the illustration. This building up into sections is done to facilitate knocking down into convenient sizes for ocean shipment. Side sheets or

The cross ridges are built up of ¼ in. plates, spaced apart and sloped and riveted together at the top by upstanding flanges. The space between the cross ridge plates contains the device for operating the hopper doors.

Transverse bracing and side slope sheet supports are built up with 5 x 3 and 3 x 3 in. rolled steel angles, spaced apart and secured to center and side sills, and side stakes, by structural knees and gussets, all as shown in photograph.

The inside cross diaphragms or girders are located midway between the cross ridges and are built up of plates and angles.

The hopper doors are built up of plates and angles and are operated with



Steel coal hopper car for Bengal-Nagpur Railway.

two center sills per car, extending the length of car between bolsters, each center sill consisting of ⅜ in. web plate, with single flange angles, 4 x 3½ x ½ in.

The draft sills are 15 in. standard rolled steel channels, extending from inside of bolster to end sill. The draft sills are securely attached to the bolster and end sill.

The end sills are 10 in. standard rolled steel channel, secured to draft sills, side sills and buffer diagonal brace, or structural knees and gussets. The end sills are reinforced on top for the side buffers by ¾ in. thick cover plates, and 5 x 3 x ⅜ in. standard rolled steel flange angles.

The buffer diagonal braces are 8 in. rolled steel ship channel, extending from behind the buffers to the bolster and center sill construction.

The body bolsters are built up of heavy flanged plates, reinforced by angles and girder webs are reinforced at the top with 3½ x 3½ in. angles, and at the bottom by the flanged side slope sheet for as much as can be gathered in by rivets spaced as shown in the illustration. Side sills are 5 x 3½ in. angles. Sub side sills are built up of plates and angles, and extend from end sill to bolster, and are connected thereto.

The end construction consists of corner posts of 3½ x 3½ in. angles and end posts of 3 x 3 in. angles, all securely riveted to end of car and end sill construction.

The flooring is built up of ¼ in. plates, and slopes towards the center hoppers at an angle of about 40° from the horizontal. Side slope sheets are inclined from the top of the center hoppers to a point about half way the height of the sides, at an inclination of about 35° from horizontal.

the ordinary chain lifting device.

The side bearings are the latest rocker type.

The forged draw hooks have the shank drawn out to extend beyond bolsters, through railway standard draw bar volute spring, and are secured thereto with 2 in. standard nut and split cotter.

The buffers are the Bengal-Nagpur Ry.'s standard.

The safety chains are of the usual European type.

The screw couplings are made from nickel chrome steel, with an ultimate strength from 145,600 to 168,000 lb. per square inch, and with an elongation in 2 in. of 1[illegible]% minimum to 23% maximum.

The brake equipment consists of the usual vacuum brake quite common with cars on the continent. The system includes two 21 in. detached cylinders, with suitable reservoirs and all necessary fit-

[illegible] so forth. Each [illegible] 2 speed action [illegible].

The trucks are M.C.B. arch bar type [illegible] capacity for 5½ ft. gauge of track, which is the Bengal-Nagpur Ry. standard.

The journal boxes and contained parts and axles are the usual 5½ x 10 in., except for the wide gauge as mentioned above.

The wheels are chilled iron, 37 in. in diameter, and were specially designed for the Bengal-Nagpur Ry.

The bolsters are cast steel, with center plates, side bearing pad and brake adjuster brackets cast integral. The bolsters are M.C.B. design throughout, except they are stronger on account of the wide gauge used by the Bengal-Nagpur Ry.

The cars were designed so as to be readily knocked down into convenient sections for packing and ocean shipment. They were built by the National Steel Car Co., Hamilton, Ont.

Birthdays of Transportation Men in April.

F. G. Adams, Commercial Agent, G.T.R., and Division Freight Agent, Grand Trunk Pacific Ry., Winnipeg, born at St. John's, Nfld., April 6, 1878.

S. S. Anderson, General Manager, Sandwich, Windsor and Amherstburg Ry., Windsor, Ont., born there April 14, [illegible].

W. H. Ardley, Comptroller, G.T.R., and Grand Trunk Pacific Ry., Montreal, born at London, Eng., April 24, 1858.

Jas. Black, Freight Claim Agent, C.P.R., Vancouver, B.C., born near Seaforth, Ont., April 19, 1858.

C. G. Bowker, General Superintendent, Ontario Lines, G.T.R., Toronto, born at Medford, N.J., April 21, 1871.

G. C. Briggs, Supervisor of Buildings, Eastern Lines, Canadian National Rys., Toronto, born at Cockermouth, Eng., April 23, 1886.

A. V. Collins, Travelling Auditor, Canada Steamship Lines, Ltd., Toronto, born at Island Pond, Vt., April 21, 1868.

R. J. Collins, Chief Dispatcher, Edmonton Division, Alberta District, C.P.R., Edmonton, born at Winnipeg, April [illegible].

Sir Henry L. Drayton, K.C., Chief Railway Commissioner for Canada, Ottawa, Ont., born at Kingston, Ont., April 27, [illegible].

W. A. Duff, Assistant Chief Engineer, Canadian National Rys., Moncton, N.B., born at Hamilton, Ont., April 20, 1877.

A. Gaboury, Superintendent, Montreal Tramways Co., Montreal, born there, April 6, 1875.

Lt.-Col. F. A. Gascoigne, D.S.O., Secretary-Treasurer, Canadian Pacific Ocean Services Ltd., Montreal, born at Gosport, Hants, Eng., April 2, 1866.

[illegible] Moncton, N.B., formerly Air Brake Inspector, I.R.C., now Eastern Sales Agent, Galena-Signal Oil Co., born [illegible] N.S., April 23, 1859.

J. Murray Gibbon, General Publicity Agent, C.P.R., Montreal, born at Ude[illegible], Ceylon, April 12, 1875.

V. A. Harshaw, Manager, Fredericton & Grand Lake Coal & Ry., Co., and New Brunswick Coal & Ry. Co., Fredericton, N. B., born at Mono, Ont., April 26, 1865.

J. M. Horn, General Freight Agent, Western Lines, Canadian National Rys., Winnipeg, born at [illegible] Mills, Lanarkshire, Scotland, April 12, 1880.

J. H. Johnston, Superintendent of Bridges and Buildings, Eastern Lines, G.T.R., Montreal, born at Uxbridge, Ont., April 22, 1866.

G. W. Lee, Commissioner, Timiskaming & Northern Ontario Ry., North Bay, Ont., born at Renfrew, Ont., April 15, 1871.

W. E. McGill, Assistant Superintendent, Montreal Terminals Division, Quebec District, C.P.R., Montreal, born at Toronto, April 5, 1884.

J. A. Macgregor, Superintendent, Edmonton Division, Alberta District, C.P.R., Edmonton, born at Dufftown, Scotland, April 5, 1873.

B. R. Marsales, District Freight Agent, Canadian National Rys., Saskatoon, Sask., born at Guelph, Ont., April 13, 1887.

P. Mooney, Assistant General Freight Agent, Eastern Lines, Canadian National Rys., Quebec, Que., born at St. Catherines, Que., April 19, 1871.

Paul J. Myler, President, Canadian Westinghouse Co., Ltd., Hamilton, Ont., born at Pittsburg, Pa., April 24, 1869.

J. H. Norton, Division Freight Agent, Canadian National Rys., Halifax, N.S., born at Shaftesbury, Eng., April 21, 1884.

G. D. Perry, General Manager, Great North Western Telegraph Co. Toronto, born at Whitby, Ont., April 19, 1858.

R. A. Pyne, Superintendent of Motive Power and Car Department, Eastern Lines, C.P.R., Montreal, born at Toronto, April 10, 1874.

Lieut. R. S. Richardson, formerly Superintendent, District 3, Transcontinental Division, Canadian Government Railways, Fort William, Ont., now of No. 13 Light Railway Company, Royal Engineers, British Expeditionary Force, born at Napanee, Ont., April 9, 1865.

E. W. Smith, Superintendent, Dining and Parlor Car Service, G.T.R., Toronto, born at North Bridge, Mass., April 21, 1869.

David A. Starr, M.I.E.E., General Manager, Clyde Valley Electrical Power Co., Glasgow, Scotland, born at Halifax, N.S., April 11, 1858.

J. A. Sutton, District Fuel Agent, Canadian National Rys., Cochrane, Ont., born at Moncton, N.B., April 12, 1894.

J. J. Sullivan, Roadmaster, C.P.R., Lauder, Man., born at Fishers, N.Y., April 29, 1866.

G. M. Thomas, District Freight Agent, Canadian National Rys., Hamilton, Ont., born at Dundas, Ont., April 21, 1876.

W. S. Tilston, Chief of Montreal Board of Trade Transportation Bureau, born at Manchester, Eng., April 14, 1877.

C. H. Towle, Assistant Superintendent, Smiths Falls Division, Quebec District, C.P.R., Smiths Falls, Ont., born at Enfield, Me., April 13, 1878.

W. H. Winterrowd, Chief Mechanical Engineer, C.P.R., Montreal, born at Hope, Ind., April 2, 1884.

W. Woollatt, Vice-President and General Manager, Essex Terminal Ry., Walkerville, Ont., born at Weedon, Hertfordshire, Eng., April 2, 1855.

Canadian Pacific Railway Honor Roll 41.

Anning, Harry	Tuber	Montreal	Died while prisoner
Armit, John W.	Driver	Lethbridge	Wounded
Austen, Charles A	Yard foreman	Kenora	Wounded
Avery, Albert	Car cleaner	Winnipeg	Died of wounds
Axford, William Clyde	Switchman	Brandon	Wounded
Bailey, Joseph	Clerk	Montreal	Killed in action
Baillie, George I.	Apprentice	Montreal	Killed in action
Battle, Albert F.	Helper	Ogden	Killed in action
Beatty, Henry E.	Cashier	Fredericton	Wounded
Beresford, Arthur M.	Clerk	Vancouver	Wounded
Betton, John Richard	Wiper	Kenora	Died of wounds
Booth, Arthur	Wiper	Moose Jaw	Killed in action
Blundell, John	Agent	Two Creeks	Died of wounds
Boyle, Ebenezer A.	Operator	Revelstoke	Died of wounds
Brick, Daniel	Car heater and iceman	Toronto	Wounded
Brown, Andrew Lindsay	Clerk	Broadview	Wounded
Brown, Walter E.	Clerk	Calgary	Wounded
Bufton, Francis Henry	Car Inspector	Toronto	Wounded
Bulger, Richard E.	Apprentice	Ogden	Wounded
Buck, George	Cook	Montreal	Wounded
Busted, Holger	Trainman	Minnedosa	Wounded
Cameron, Wellington	Ass't agent	Alliston	Wounded
Cameron, William J.	Laborer	Owen Sound	Wounded
Campbell, James	Ass't foreman	West Toronto	Died of wounds
Charles, James	Helper	West Toronto	Wounded
Cobb, John	Laborer	Toronto	Wounded
Cochrane, William Kr.	Patternmaker	Winnipeg	Killed in action
Conners, Charles W	Loco. Fireman	Brandon	Presumed dead
Cook, Frederick	Checker	Fort William	Wounded
Copp, William Robert	Agent and operator	West Moncton	Wounded
Cottrell, William D.	Ass't agent	Strassburg	Killed in action
Crawford, William E.	Apprentice	Brandon	Presumed dead
Creffield, Charles S.	Steward	B.C. Coast Service	Wounded
Daley, Dennis	Clerk	West St. John	Wounded
[illegible], Albert J	Car repairer	Toronto	Killed in action
Dowd, Joseph Williard	Agent	Airdrie	Wounded
Dresner, Julius M.	Clerk	Winnipeg	Wounded
Elliott, Willliam	Apprentice	Kenora	Wounded
Emmett, John Edward	Helper	Ogden	Wounded
Fallon, Bartholomew J.	Clerk	Montreal	Wounded
Farley, Ralph Dearborn	Agent	Scotstown	Wounded
[illegible], George E	Instrumentman	Golden	Wounded
Fitzsimmons, Frank	Machinist	Ogden	Wounded
Ganter, Wilfred C	Loco. fireman	MacLeod	Wounded
Garvin, George I	Brakeman	Laurentian Div'n	Wounded
Gilbert, Thomas	Trimmer	Cartier	Shell shock
Gilpin, Joseph E.	Wheelborer	North Bay	Wounded
Grant, John	Bridgeman	Nelson Div'n	Killed in action
Griffin, Arthur	Apprentice	Ogden	Wounded
Griffiths, Vincent S.	Loco. fireman	Calgary	Wounded
Hadley, William J	Machinist	Montreal	Killed in action
[illegible] P.	Baggageman	Webbwood	Wounded
[illegible] G.	Apprentice	Winnipeg	Wounded
[illegible], Jas. W	Laborer	Winnifred	Wounded
Hastings, Albert H	Stenographer	Prince Rupert	Killed in action
Hayes, Arthur Bruce	Brakeman	Assiniboia	Wounded
Hemenway, [illegible]	Car checker	Outloook	Wounded
Henry, William John	Car cleaner	Winnipeg	Killed in action
Hollett, Alfred W.	Waiter	Montreal	Wounded
Holmes, Harold F	Clerk	Montreal	Wounded
Honeychurch, Wm. H.	Cleaner	Ogden	Killed in action
Hooser, William S.	Clerk	Woodstock, N.B.	Wounded
[illegible], Harry	Car washer	Montreal	Wounded

Hourd, Wesley	Clerk	Winnipeg	Died of wounds
Howard, John A.	Loco. fireman	Moose Jaw	Wounded
Howard, Norman Scott	Car checker	Toronto	Killed in action
Hoyle, John G. R.	Heavy punch hand	Montreal	Died of wounds
Hudson, George Arthur	Loco. fireman	Mooose Jaw	Wounded
Hughes, Joseph S.	Clerk	Ottawa	Wounded
Hunter, Thomas	Clerk	Montreal	Wounded
Hurst, William Albert	Transferman	North Bay	Wounded
Irvine, Gordon	Trainman	Winnipeg	Died of wounds
Jacobsen, Serge	Clerk	Winnipeg	Died of wounds
Jackson, William J.	Agent	Limerick	Killed in action
Jenkinson, Thomas	Constable	Toronto	Died of wounds
Jones, Robert Bolton	Draftman	Montreal	Wounded
Jordan, Ernest Forfar	Third officer	B.C. Coast Service	Wounded
Kaufman, Arthur	Assistant	Espanola	Wounded
Kershaw, Joseph	Helper	Winnipeg	Wounded
Kirby, John	Laborer	Lambton	Killed in action
Kosko, Michael	Machinist	Ogden	Wounded
Landry, Charles	Carpenter	Farnham	Wounded
Lewis, Charles	Cleaner	MacLeod	Wounded
Lord, John Emanuel	Clerk	Winnipeg	Wounded
Lowing, Bertram	Loco. fireman	Brandon	Wounded
McCarthy, Leo	Yardman	Windsor, Ont.	Wounded
McCaskie, Arthur A.	Stenographer	Calgary	Wounded
McCullough, John R.	Agent	Brockville	Wounded
MacDonald, Robert A.	Storekeeper	Quebec	Killed in action
MacFarlane, Walter A.	Chief clerk	Toronto	Wounded
McGowan, James	Blacksmith	Chapleau	Wounded
McGregor, Wilfred Leo	Brakeman	Cranbrook	Killed in action
McIntosh, John	Apprentice	Winnipeg	Wounded
McLean, John A.	Ass't agent	Erin	Wounded
McRobert, Paul Redvers	Ass't agent	Hartney	Wounded
Manwood, Herbert	Clerk	Vancouver	Wounded
Miquielon, Philip A.	Freight checker	Innisfail	Wounded
Moore, Stanley G.	Operator	Esquimalt	Killed in action
Morrow, Robert	Timekeeper	Kenora	Died of wounds
Moss, Fred	Flanger	Montreal	Died of wounds
Much, Frnak Llewellyn	Clerk	Montreal	Died of wounds
Muedeking, Henry W.	Wiper	Sutherland	Wounded
Murray, Charles Harry	Ass't checker	Kamloops	Gassed
Neale, Arnold Selwyn	Section foreman	Markinch	Killed in action
Newton, Frank	Accountant	Bankhead	Wounded
Nicholson, Edward H.	Loco. fireman	West Toronto	Wounded
Nixon, Frank Stroner	Clerk	Vancouver	Died of wounds
Oldfield, William	Trucker	Toronto	Presumed dead
Osborne, David	Bridgeman	B.C. District	Wounded
Ouellette, Lionel	Checker	Sudbury	Wounded
Parkins, Frank A.	Brakeman	Quebec District	Wounded
Patterson, David	Laborer	Farnham	Wounded
Penfield, Hetley	Car repairer	Outlook	Wounded
Perry, Wilfrid	Bridgeman	Souris	Wounded
Phillimore, Alfred	Car inspector	Winnipeg	Killed in action
Phillips, Edward S.	Loco. fireman	Moose Jaw	Wounded
Pickering, Tom Haydn	Clerk	Winnipeg	Killed in action
Pover, Edward	Car oiler	Vancouver	Wounded
Puncher, Leonard G.	Transfer foreman	North Bay	Wounded
Quilty, Charles Barnard	Yardman	West St. John	Killed in action
Quinn, Robert	B. & B. foreman	Cranbrook	Wounded
Reeve, Henry	Porter	Calgary	Died of wounds
Robbins, James John	Night chargeman	Goderich	Wounded
Roberts, William Henry	Clerk	Edmonton	Wounded
Robertson, Robert T.	Clerk	Montreal	Wounded
Robson, Albert George	Boilerwasher	Moose Jaw	Wounded
Rowlands, Benjamin	Clerk	Sault Ste. Marie, Ont.	Died while prisoner
Rutter, Arthur Murray	Operator	Fredericton	Died of wounds
St. Quintin, George W.	Cook	Vancouver	Wounded
Saddington, William	Loco. fireman	Kenora	Wounded
Scott, Gordon Maurice	Caretaker	Qualicum Beach	Wounded
Scott, Leslie	Section foreman	Portage Div'n	Killed in action
Scurfield, Ralph	Operator	Souris Div'n	Gassed
Selwood, Albert P.	Clerk	B.C. Lake Strs.	Killed in action
Sharpe, Charles	Clerk	Winnipeg	Died of wounds
Shaw, John	Clerk	Winnipeg	Killed in action
Shields, Percy W.	Boilermaker	Winnipeg	Killed in action
Slattery, Edward	Car cleaner	Montreal	Killed in action
Sloman, Herbert	Apprentice	Montreal	Died of wounds
Smith, Frank Vincent	Carpenter	Winnipeg	Gassed
Smith, John	Trucker	Ottawa	Wounded
Stacey, James	Trucker	Ottawa	Gassed
Stoddard, Stuart G.	Clerk	Fort William	Wounded
Stokell, Thomas W.	Carpenter	Winnipeg	Wounded
Stoneley, Joseph	Car repairer	Medicine Hat	Wounded
Street, Percy	Constable	Toronto	Killed in action
Surbeck, Theodore A.	Rodman	Weyburn West	Killed in action
Tait, Robert Baird	Clerk	Winnipeg	Wounded
Thomas, William P.	Apprentice	Ogden	Killed in action
Thompson, Arthur O.	Brakeman	Alberta District	Killed in action
Thornton, Vinal T.	Trainman	Woodstock Div'n	Wounded
Thorpe, Thomas	Loco. fireman	Kenora	Wounded
Tomes, Edward	Loco. fireman	Brandon	Wounded
Towle, Robert Sidney	Loco. fireman	Brandon	Died of wounds
Trumble, Marshal	Hostler	Swift Current	Wounded
Turner, Arthur	Clerk	Fort William	Wounded
Wade, Robert	Apprentice	Winnipeg	Wounded
Wadlow, Arthur G.	Yardman	Calgary	Wounded
Walnick, Alex	Waiter	Montreal	Wounded
Walker, William	Loco. fireman	Kenora	Died of wounds
Weist, Archibald M.	Loco. fireman	Bredenbury	Wounded
Watson, William	Fitter's helper	Schreiber	Died of wounds
Whyte, Joseph James	Brakeman	MacLeod	Believed killed
Wilkins, A.	Tel. groundsman	Calgary	Killed in action
Williams, Charles C.	Acting Agent	Kinsella	Wounded
Williamson, James	Checker	Saskatoon	Wounded
Wilson, Arthur Bird	Clerk	Toronto	Shell shock
Wilson, Charles H.	Sectionman	Wawota	Wounded
Wood, Albert Edward	Loco. fireman	Regina	Presumed dead
Woods, William Lucas	Laborer	Strathmore	Wounded
Woodman, Frederick J. H.	Clerk	Montreal	Wounded
Woodridge, Henry	Helper	West Toronto	Wounded
Wootton, Francis E.	Conductor	Brandon	Wounded
Wright, Albert Edward	Car inspector	Ignace	Wounded

Casualties to Members of European Staff.

Chandler, Arthur E.	Clerk	London	Died of wounds
Rankin, Colin	Clerk	Glasgow	Killed in action
Vevey, Alfred E.	Chief Ass't to European Manager	London	Killed in action

Shown on Honor Lists to date:- Killed, 867; Wounded, 1,870; total, 2,737

Manitoba Railway Mileage, Government Guarantees, Etc.

The Manitoba Railway Commissioner's report gives the following as the railway mileage in the province at the close of the financial year:—

	Miles
Canadian Northern Ry.	[illegible]
Canadian Pacific Ry.	[illegible]
Grand Trunk Pacific Ry.	[illegible]
Great Northern Ry. system	[illegible]
Canadian Government Rys.	[illegible]
Winnipeg Joint Terminals	[illegible]
Greater Winnipeg Water District Ry.	[illegible]
Total	[illegible]

The report expresses gratification that the province was not called upon to make any outlay during the year respecting guarantees of the province regarding the Canadian Northern Ry. securities, which total $25,502,878.33. Construction in the province by the C.N.R. up to the close of the last fiscal year, as the result of the above guarantees, was 1,875.61 miles. The report further points out that the Dominion having become the owner of the common stock of this company, the financial position of the province in this regard had become considerably improved.

Locomotive Deliveries in the United States.

The U.S. Railroad Administration has announced that 2,622 locomotives were shipped to railways under federal control during 1918. Of these 744 were built under orders of the Railroad Administration, while 1,410 were contracted for prior to the government's operation of the railways.

In the total were 200 decapods, built for the Russian government, but which were never delivered, the situation which arose in that country necessitating a change in plans.

For the calendar year 1918 there were 700 passenger cars delivered to class I railways and for the same period [illegible] freight cars were delivered. Of freight cars built during the year, [illegible] were classified as standard Railroad Administration cars. Of the total number of freight cars delivered, 8,663 were built in railway shops.

Quebec & Saguenay Ry. Construction Suit.—In May, 1918, the Quebec Superior Court gave judgment in favor of O'Brien & Doheny, contractors, for [illegible] balance due for work done and materials supplied for the construction of the Quebec & Saguenay Ry., up to the time construction was suspended in the autumn of 1912. An appeal from that judgment came before the Court of Review at Montreal recently. The contractors claim that construction was suspended by the company's failure to pay for the work as it progressed to the amount of [illegible] the estimates as certified by the company's engineer. In fixing the amount of their claim, the contractors took advantage of a clause in the contract setting out that in the event of suspension of the work, through no fault of the contractors, the engineer should proceed to make a final estimate of the work done, which [illegible] at once become due, together with all the 10% retained out of former estimates. The main question raised in the appeal is whether the contractors are entitled to a privilege upon the railway to the extent of the plus value given by their work to secure payment of the amount of their claim.

Amalgamation of Railway Associations as the American Railroad Association.

The Director General of United States Railroads issued the following circular [illegible] to provide, during the period of Federal control, a responsible channel through which the Director General may obtain recommendations for the advancement of railway practice, the American Railway Association has revised its articles of organization and by-laws and will change its name to the American Railroad Association. The scope of the association has been enlarged and will cover the former activities of the American Railway Association, American Railway Master Mechanics' Association, Association of Railway Telegraph Superintendents, Association of Transportation and Car Accounting Officers, Freight Claim Association, Master Car Builders' Association, Railway Signal Association, Railway Storekeepers' Association, and will consist of five sections, viz.: 1—Operating, 2—Engineering, 3—Mechanical, 4—Traffic, 5—Transportation. Railways under Federal control are members of the association and are directed to be represented and participate in the activities of each section through their proper officers.

The accompanying diagram shows the plan of the new organization. In referring to the change of circular used the American Railroad Association says:

"The membership of the railways now members of The American Railway Association is not affected and their status is not changed. It is desirable that all railways now members of any of the organizations to be amalgamated with the American Railway Association, if membership is not now held therein, should assume membership in the American Railroad Association, which will afford mutual discussion and consideration, by the railways under Federal control and those which are not, of methods for the scientific and economical construction, maintenance and operation of American railways."

Tentative rules of order for each of the five sections of the American Railroad Association have been approved by the executive committee. The executive committee has also appointed the following temporary general committees for each of the sections:

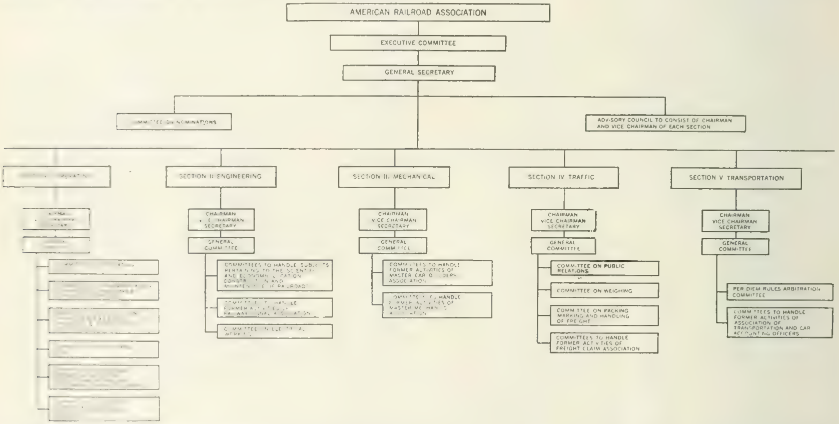
Section 1.—Operating.—W. J. Fripp, General Manager, New York Central Rd. (Chairman); J. H. Young, Senior Assistant Director, Division of Operation, U.S. Railroad Administration; C. G. Burnham, Federal Manager, Chicago, Burlington & Quincy Rd.; **A. D. MacTier**, Vice President, Eastern Lines, Canadian Pacific Ry.; R. E. McCarty, General Manager, Pennsylvania System, Lines West of Pittsburg; C. L. Bardo, General Manager, New York, New Haven & Hartford Rd.; M. H. Clapp, Manager, Telegraph Section, U. S. Railroad Administration; J. F. Caskey, Superintendent of Telegraph, Lehigh Valley Rd.; G. G. Yeomans, Member, Advisory Committee, Purchasing Section, Division of Finance and Purchases; E. J. Roth, Manager, Stores Section, Division of Finance and Purchases, U.S. Railroad Administration.

Section 2—Engineering.—Earl Stimance of Way and Structures, Baltimore & Ohio Rd. (Chairman); C. A. Morse, Assistant Director, Engineering and Maintenance Department, Division of Operation, U.S. Railroad Administration; H. R. Safford, Engineering Assistant, Central Western Region, U.S. Railroad Administration; C. F. W. Felt, Chief Engineer System, Atchison, Topeka & Santa Re Rd.; R. S. Parsons, Chief Engineer, Erie Rd.; J. A. Atwood, Chief Engineer, Pittsburg & Lake Erie Rd.; Geo. Gibbs, Chief Engineer of Electric Traction, Long Island Rd.; E. B. Katte, Chief Engineer of Electric Traction, New York Central Rd.; R. E. Trout, Signal Engineer, St. Louis-San Francisco Rd.; W. H. Elliott, Signal Engineer, New York Central Rd.; F. P. Patenall, Signal Engineer, Baltimore & Ohio Rd.

Section 3.—Mechanical. C. E. Chambers, Mechanical Assistant to Regional Director, Allegheny Region, U.S. Railroad Administration (Chairman); Frank McManamy, Assistant Director, Mechanical Director, Mechanical Department, Division of Operation, U.S. Railroad Administration; C. B. Young, Manager, Inspection and Test Section, Division of Operation, U.S. Railroad Administration; F. F. Gaines, Chairman, Board of Railroad Wages and Working Conditions, U.S. Railroad Administration; T. H. Goodnow, Superintendent Car Department, Chicago and North Western Rd.; H. R. Warnock, General Superintendent Motive Power, Chicago, Milwaukee and St. Paul Rd.; J. E. O'Brien, Mechanical Superintendent, Missouri Pacific Rd.; A. P. Prendergast, Mechanical Superintendent, Texas and Pacific Rd.; J. W. Small, Mechanical Assistant, Regional Director, Southern Region, U.S. Railroad Administration; C. F. Giles, Superintendent of Machinery, Louisville and Nashville Rd.; W. J. Tollerton, General Mechanical Superintendent, Chicago, Rock Island and Pacific Rd.; C. E. Fuller, Superintendent Motive Power and Machinery, Union Pacific Rd.; I. S. Downing, General Master Car Builder, Cleveland, Cincinnati, Chicago and St. Louis Rd.; J. S. Lentz, Master Car Builder, Lehigh Valley Rd.; J. R. Gould, Superintendent Motive Power, Chesapeake and Ohio Rd.; A. Kearney, Superintendent Motive Power, Norfolk and Western Rd.; M. K. Barnum, Assistant to General Superintendent Maintenance of Equipment, Baltimore and Ohio Rd.; **Jas. Coleman**, Superintendent Car Department, Grand Trunk Rd.; **W. H. Winterrowd**, Chief Mechanical Engineer, Canadian Pacific Ry.

Section 4.—Traffic. R. C. Wright, Assistant Director, Division of Traffic, U.S. Railroad Administration, Chairman); Traffic Assistants of the seven regional directors of the U.S. Railroad Administration; J. H. Howard, Manager, Claims and Property Protection Section, Division of Law, U.S. Railroad Administration; H. C. Pribble, General Claim Agent, Atchison, Topeka and Santa Fe Rd.; H. C. Howe, Freight Claim Agent, Chicago and North Western Rd.

Section 5.—Transportation. George Hodges, Chairman; C. M. Sheaffer, General Supt. Transportation, Penn-


AMERICAN RAILROAD ASSOCIATION
EXECUTIVE COMMITTEE
GENERAL SECRETARY
COMMITTEE ON NOMINATIONS
ADVISORY COUNCIL TO CONSIST OF CHAIRMAN AND VICE CHAIRMAN OF EACH SECTION
SECTION II ENGINEERING
SECTION III MECHANICAL
SECTION IV TRAFFIC
SECTION V TRANSPORTATION
CHAIRMAN VICE CHAIRMAN SECRETARY
GENERAL COMMITTEE
COMMITTEES TO HANDLE SUBJECTS PERTAINING TO THE SCIENTIFIC AND ECONOMICAL LOCATION CONSTRUCTION AND MAINTENANCE OF RAILROADS
COMMITTEES TO HANDLE FORMER ACTIVITIES OF RAILWAY SIGNAL ASSOCIATION
COMMITTEE ON ELECTRICAL WORK
COMMITTEES TO HANDLE FORMER ACTIVITIES OF MASTER CAR BUILDERS ASSOCIATION
COMMITTEES TO HANDLE FORMER ACTIVITIES OF MASTER MECHANICS ASSOCIATION
COMMITTEE ON PUBLIC RELATIONS
COMMITTEE ON WEIGHING
COMMITTEE ON PACKING MARKING AND HANDLING OF FREIGHT
COMMITTEES TO HANDLE FORMER ACTIVITIES OF FREIGHT CLAIM ASSOCIATION
PER DIEM RULES ARBITRATION COMMITTEE
COMMITTEES TO HANDLE FORMER ACTIVITIES OF ASSOCIATION OF TRANSPORTATION AND CAR ACCOUNTING OFFICERS

nsylvania Rd., Eastern Lines; H. G. Kelley, President Grand Trunk Ry.; E. J. Pearson, Federal Manager, New York, New Haven and Hartford Rd.; E. H. Coapman, Federal Manager, Southern Rd.; J. J. Bernet, Federal Manager, New York, Chicago and St. Louis Rd.; G. E. Evans, Staff Officer, Operation, Louisville and Nashville Rd.; W. L. Park, Federal Manager, Chicago Great Western Rd.; G. E. Simpson, General Supervisor Transportation, Chicago, Milwaukee and St. Paul Rd.; W. C. Kendall, Manager, Car Service Section Division of Operation, U.S. Railroad Administration; J. W. Roberts, Superintendent Freight Transportation, Pennsylvania System, Lines West of Pittsburg; J. W. Nowers, Car Accountant, Atchison, Topeka and Santa Fe Rd.; J. A. Wagner, General Manager, Des Moines Union Rd.

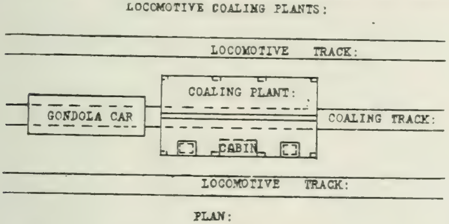
These committees will organize their respective sections and serve until their successors are elected.

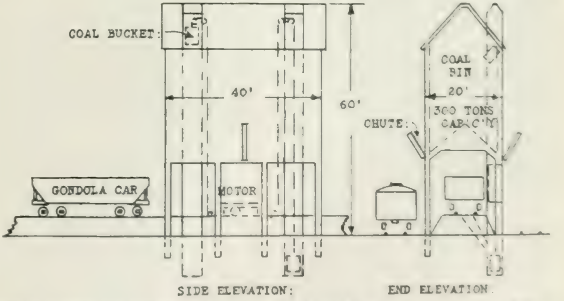
Locomotive Coaling Plants.

By J. A. Burnett, A.M.E.I.C., Consulting Engineer, Montreal.

The subject of coal handling for locomotives is one of considerable importance, and as improvements have been introduced within the last few years, it is thought that the subject may be of interest.

Formerly the ramp or gravity system was in use. This comprised a long ramp, or incline, of about 5% grade; then a series of bins or pockets. These bins were furnished with side chutes, to allow the coal to be dumped into the locomotive tenders. However, the Holman type of coaling plant was introduced, using the balanced bucket system and with a storage bin overhead. The advantages were many, among them being: saving in land area, less fire risk, and inasmuch as it frequently happened that a locomotive ran out over the end of the coal shed, it was a safer arrangement. It was also found that only light weight locomotives were able to climb the ramp, and these often had to be brought on from a distance, adding to the expense. It would be safe to say, therefore, that no more gravity coaling plants will be installed on our railways.





The balanced bucket type has been found easier to maintain than any hoist using the continuous bucket or conveyor system, and, where electric power is available, the electric driven hoist is preferred, and in most cases the cost for electric power does not come very high. The accompanying illustration shows plan and side elevations of the structure.

In general, it is found that the hoisting is done during the day time, and about three hours are needed to dump the gondola cars and hoist the coal to the bin overhead. The maximum load on the motor is about 10 to 12 h.p., the speed of hoisting being 70 ft. a minute. The buckets are designed to hoist 2,000 lb. a lift, but at times the weight runs to 3,000 lb.

The motor, if electric, is of the wound rotor type, and controlled by reversing drum controller, and solenoid brake. A powerful hand brake is also provided, operated by a lever in the cabin, and applying by a band to the end of the cable drum. This is seldom used, and is merely a precautionary measure. The cabin should be quite small, about 5 x 9 ft., to save heating in winter, and should be well boarded in, with well fitted door and windows. The roof of this cabin should be well waterproofed, as water drips in quantity from the coal bin above.

The buckets are prevented from overrunning, by means of a limit switch, installed at top of each bucket shaft, and are actuated by means of a steel ear, rivetted to the bucket. The motor is at once cut off, and the solenoid brake holds the mechanism at a stop; meanwhile the coal is dumped and fills the bin overhead.

The night attendant has only to keep guard, there being no hoisting of coal at night. At times, in severe winter weather, the night attendant will be obliged to trim the coal in the bin, to permit it to flow into the chutes, and thence into the locomotive tender.

The bucket pits should be waterproofed below the ground line, and all pitches, for the flow of coal, should be steep enough so that the coal shall flow freely. Sixty degrees from the horizontal is recommended. Where fleeting sheaves are used, they should be of C.I., bronze bushed and equipped with grease cups. Where sheaves are running idle, they should be securely keyed to the shaft, and the shaft should turn in its bearings, in preference to the sheave turning in the shaft, as is sometimes done.

The electrical equipment should comprise an ammeter of rugged design, and main switch, mounted with fuses on a panel about 18 x 24 in. As the prevailing voltage throughout Canada is 550 for 3 phase service, the slate used must be carefully selected, otherwise metallic veins will result in burning and damage to parts. In connecting the limit switches, the wire used should not be smaller than no. 10 B. & S. gauge, as there is considerable vibration to the structure and a lighter wire will break.

The roof of the coaling plant should be covered with asbestos shingle, so as to fireproof the structure.

Costs relative to 300 ton coaling plant, operating at 80% capacity, or 240 tons daily, are as follows:

First cost	$15,000
Interest per year, $15,000, at 6%	[illegible]
Electric power, 10 h.p. at $60 per h.p.	600
1 day attendant, partly skilled, at 75c	[illegible]
2 day helpers at 60c	1,440
1 night attendant, unskilled	720
Maintenance, 5% on $15,000	750
Insurance, 2% on $15,000	300
Locomotive service in spotting 3 cars a day, $5 a day (365 days)	1,825
Total cost per year	[illegible]

Coal handled per day	240 tons.
Coal handled per year	87,600 tons
Cost per ton for hoisting and handling per ton of 2,000 lb.	[illegible]

In general, this type of coaling plant has been found to be safe, economical, and of pleasing appearance, and it can be operated by electric, steam or gasoline power.

The foregoing paper was read before the Engineering Institute of Canada in Montreal recently.

Railway Supplies for South Africa.—Lloyd Harris, Chairman, Canadian Trade Commission, London, Eng., states that big railway development is pending in South Africa, which should give Canadians an opportunity of getting a market for rails, cars, etc.

The Preservation of Railway Ties.

By H. K. Wicksteed, B.A.Sc., C.E.

The question of a future tie supply for railways has, for a decade or more, been a serious one in the United States, owing to the rapid depletion of the forests, and within the past five years the anxiety has spread to Canada.

Nearly five years ago the writer became, in the course of other business, acquainted with Geo. W. McMullen, of Picton, Ont., a man who had made the conservation of waste a life study and who had made wonderfully successful studies in other fields. The conversation turned on one occasion to the subject of the preservation of timber, and in the course of it some facts and theories of extraordinary interest were developed. Mr. McMullen had, in the course of other investigations, become possessed of a fairly complete laboratory and was in close touch with modern bacteriology and practical chemistry. As a result of the acquaintance, experiments of great interest have been made, involving an entirely new process of drying timber, and more especially with reference to railway ties, the supply of which has become, within the last few years, a most momentous question with the railways. More particularly has this become so in Canada, owing to the depletion of the forests and the great increase in railway mileage during the past half decade.

Average Life of Railway Ties.—Assuming the average life of ties, for instance, at six years, the Canadian Northern Ry. alone will need over 4,000,000 a year and the other two trunk roads something more than this, or say from 12,000,000 to 15,000,000 in all. Our northern forests cannot stand this drain for any length of time, much less can we hope by any reasonable efforts in reforestation to keep abreast of the demand. The timbers used are slow-growing ones, with the exception of jack pine, and even this takes 30 or 40 years to attain sufficient size.

There are two means by which we can stave off the impending famine, one by increasing the life of the timber tie, and the other by using some other material, such as steel or concrete. Such experiments as have been made in the latter expedient have not been altogether satisfactory from the point of view of economy, even where they were so physically.

The first expedient is the only one which has come into any considerable use on this continent and it has usually taken the form of injection of creosote into the pores of the wood. This acts as an antiseptic, preventing the bacterial growth which results in decay through what we are accustomed to call "rot." The creosoting process, while a great advance on the use of raw woods, is by no means a perfect cure; first. because it is expensive, nearly doubling the cost of the tie; second, the timber is somewhat weakened in the process, owing principally to the high temperatures to which the wood is subjected; third, to be at all effective the timber should be thoroughly seasoned or dried. and this is hardly practicable by existing means, except by the consumption of a large amount of time and space and the locking up of a considerable amount of capital for that time. The Germans stack and air-dry their ties for 18 months or more before treatment, and even then do not get a dry tie or perfect product, and in America it seems to be seldom that more than one-third to one-half of this time is allowed.

Dry Woods Almost Indestructible.—According to notable chemists, dry woods or cellulose are almost indestructible by any ordinary agency such as the tie is exposed to. The bacterial growth requires moisture and oxygen for its development. It would appear, therefore, that if we thoroughly dry a piece of timber, and keep it dry, it will last indefinitely. We know from actual experience that this is so. Everyone has used or seen old timber in the form of beams and joists taken from buildings two or three centuries old and perfectly sound. In these cases moisture has been excluded. Again, every one has seen, or at any rate read, of piles and foundation timbers many centuries old in a perfect state of preservation. In these cases oxygen has been excluded. We all know that exposed timber will generally last longer when coated with paint or tar or some waterproofing material. The exceptions are where the timber has been waterproofed before it was seasoned, with the effect of retaining the moisture already in the stick and preventing its evaporation. Timber, even when air-dried for a considerable length of time, still contains 15% or more of moisture, the percentage varying with the nature of the material and the size of the stick.

Seasoning Timber Increases Strength.—Another point not so well recognized or understood is that seasoning timber increases its strength by as much as 80 to 100% in some cases, over that of the green stick. It will be seen at once that, consistently with reasonable expense and loss of time, it is well worth while to dry not only ties, but timber of any kind used as a beam or strut, where strength is necessary. If we increase the strength by even 60%, we require only 62% of the amount of material, and, as this percentage is dry, while the other contains a very large amount of moisture, the saving in freight is very much more than the apparent 38%. In Eastern Canada, at any rate, transportation is a very large item in the cost of our timber and is compelling us, as a matter of expediency, to use steel and concrete where we should use timber if it were readily available.

It being granted that drying or seasoning is extremely desirable, the question is as to the means. In the case of ordinary lumber, air-drying supplemented by a few hours in a kiln is fairly satisfactory. In that of dimension timber it is not so. First, because the air-drying in the case of large sticks takes years to accomplish, because the temperatures used in the ordinary kiln are so high as to injure the strength of the timber; third, because, even when carried on with the greatest care and deliberation, the outside laminae dry first and shrink before the heart of the stick has any chance, and this shrinkage causes checks and cracks which, for many purposes, render the stick useless.

When the "wooden walls of England" were a reality, the seasoning of large sticks was carried on by immersion in sea water for three years, more or less, the saps and resins were dissolved and washed out, and the pores of the wood left open and filled only by water. The subsequent drying was then easily, quickly, and uniformly carried on throughout the stick, and the resultant deposits of salt acted as antiseptics, just as the creosote does in the modern process. This was perhaps the most perfect seasoning possible, or ever accomplished. The process was very likely suggested to the English shipbuilder by his observation of the condition of logs and driftwood which, after years of immersion, had been cast upon his shores by the Gulf Stream and local winds and currents. The Eskimo knows no other process than this and his woods are very perfect and lasting; but, in these days of rush and hurry, it cannot be expected that anyone will prepare his material three or four years in advance. Probably the excellent reputation which Canadian white pine had with the British Admiralty was largely due to its long immersion in the waters of the Ottawa and the St. Lawrence before it was finally loaded on shipboard.

Wash Out Sap and Other Liquids.—In the experiments made in the last two years, as above mentioned, an effort was made to use the same process that nature does, and dissolve, neutralize or wash out the sap and other liquids or semi-liquids which obstruct and close the pores, and to do this within a reasonable time, much faster than nature unassisted can accomplish the work. Hot water is more effective than cold water, and hot vapor of water is, in some cases, still more so. In the new process, which is simplicity itself in theory, although the best form of mechanical application took much time and thought to study out, warm vapor, or in other words, warm air, saturated with moisture, is circulated among the ties. This opens and cleans the pores of the wood just as a Turkish bath does in the case of a man. The liquid components of the saps and resins, filling the vesicles themselves, expand with the heat, and force their way out, to be diluted and carried away by the warm vapor. After some hours of this treatment, the amount of moisture is reduced by very slow degrees, until, at the end, it is practically dry and the timber is removed with not more than 5% of moisture left in it. The rapidity with which this is done depends upon the size of the sticks and the nature of the timber, just as it does in other methods, but no subject has yet been found which did not, in the end, yield to treatment. Care is taken not to let the temperature of the kiln get above 160° F. so that no injury may be done to the fibre of the wood.

Coating to Exclude Moisture.—Timber so treated is, I believe, indestructible, except by fire, so long as it is kept dry. Even without further treatment, it will undoubtedly long outlast unseasoned material. It is, in this shape, in pre-eminently good condition to receive creosote, but we believe that creosote is absolutely unnecessary and that the elements of decay being altogether removed from the inside, all that is necessary is to keep them from entering from the outside. Some waterproofing coating is desirable, and in the case of ties a cheap one is the only one which can be economically used. In the experiments so far conducted a heavy oil tar was found, which answered the purpose perfectly, and which is an almost worthless by-product of the refineries. The ties are merely dipped in a hot bath of this material for a few minutes and, on coming out, are sanded by a sand blast, to absorb any superfluous stickiness and make them easier to handle, just in the same way as an asphalt road is sanded. Timber for building, where neat joints and carpentry are required, would probably be better treated with some pigment mixed with oil or varnish, but for rough work the asphalt or mineral tar seem to be all-sufficient and very inexpensive. The estimated cost of the drying process is 7c to 8c; of the protective coating 3c or 4c a tie. Taking the higher figures and adding a margin, it would appear that 15c will cover the total cost.

Increases Supply of Tie Timber.—The prespect which is opened up by this process is something more than merely getting the equivalent of the process-creosoted tie at a less cost. It is, besides, the potentiality of using for ties, timbers which are now useless for the purpose, or nearly so. The northern birch, for instance, is a strong, reliable wood, used by the Indians for every purpose requiring a hard wood, but unavailable for ties or bridge timber on account of its superabundant sap and its consequent tendency to rot rapidly. The poplar and the balsam are others for which there is at present practically no demand. These timbers are particularly interesting to us just now, on account of the recent opening up by the railways of thousands of square miles of northern forests, of which, with spruce and jack pine, these are the main constituents. The use of these woods for commercial purposes means not only millions of dollars to the railways in reduced cost of ties and in freight, but more millions to the people of Canada who have been burning up and wasting this forest growth as something not only worthless, but as actually impeding settlement.

Conserve the Northern Forests.—It is quite conceivable—I think we may say probable—that the settler in New Ontario, or Northern Saskatchewan, or Alberta, will find it profitable to conserve the forest on a considerable portion of his land, cutting from year to year only the mature timber, so as to encourage the young growth. Aside from the question of ties and pulp wood, what a large potential value there is in poplar, balsam and spruce! In Winnipeg's early days, poplar lumber was the principal material in house building, and there was no fault to be found with it, except its shrinkage, which drying would have prevented.

Balsam is to this day the principal cut of the little country mills in northern Nova Scotia for home use, and is an excellent material for inside carpentry. Spruce is the finest material for spars, probably, of any known; and only its perishability prevents it from making a cleaner, straighter, and stronger telegraph pole than the crooked, twisted cedars we are using. Birch is already coming to its own in the manufacture of furniture. Our northern settler has been in the habit of burning up most of these timbers as almost worthless, in order to grow potatoes in their stead. A century ago the settlers in Southwestern Ontario thought much the same about the white pine and the black walnut, and some of the wealthiest residents in that portion of the country today are those whose fathers, either by accident or design, left some of the original forest standing.

The foregoing portion of this paper was written two years ago, and there is practically no change in it except in respect to one or two details, as a result of more testing which has been carried on, and as to the figures of costs which would be considerably higher than those quoted.

A number of ties have been put in the Canadian Northern track, and while the times have been somewhat too strenuous of late for experimenting, and changes in staff have led to the neglect of the examination of these from time to time, some of them have been taken up and tested for absorption of moisture and for signs of rot.

I have one sample of a tie dug up only a few days ago which had been under the track in the Trenton yard for over three years; and I have also another sample of a birch tie, which has never been under the track at all, but which shows how absolutely perfect the drying part of the process is and what available timber birch is, though absolutely a worthless timber if it is used in outside work without seasoning, and the reason is unquestionably the amount of sap which it contains. If this is dried out and the wood sterilized, it is as strong and lasting as most other hardwoods, and better than some. It is incidentally the only hardwood in Northern Ontario and Quebec.

As a result of our experiments with these ties, we concluded that they were in the right direction in the main, but that the asphaltic waterproofings were imperfect. They melted and ran under a strong hot sun; and when abraded, as was inevitable in the case of ties, the waterproofing was gone. Some of the more tarry products which penetrated the grain of the wood were much better, and we believe them to be very good indeed.

Except for the expense, creosoting after the seasoning process has been carried out would be perfect; but I for one am extremely doubtful of the efficacy of creosoting for an unseasoned stick of timber. It always seems to me like putting a coat of paint or varnish on green wood. This merely closes up the outside pores of the wood and prevents the evaporation and oxidation of the juices and saps of the interior.

I have already alluded to the care which the Germans take with their drying and seasoning, but we are too impatient in this country to wait for this and we give at most 8 or 9 months, which is not enough. Most people probably have seen standing timber after a bush fire. For a year or so the seasoning goes on all right, and then the borers get to work. They bore through the hard seasoned outside shell, so as to get at the juices of the interior; which shows that the juices are there, although the stick has been seasoned under almost ideal conditions standing straight on end, and nearly always with the bark on to shed rain and snow.

Creosoting, I understand, costs now some 10 cents per tie; so that the treated tie costs us considerably over $1.00 and is heavier and harder to handle than the untreated tie. One of the advantages claimed for the seasoning is that it very greatly reduces the weight instead of increasing it, and that as a result we have less to pay for transportation and for trackwork. The seasoning can be accomplished in a month or less (the time varies with the character of the timber), so that even if we resort to creosoting we save time and interest on money invested in green ties, and we save room in our piling yard and drying sheds.

I have dealt in the above practically altogether with ties, because it is one problem which is bothering us railway men a great deal. Even before the war and the recent enormous advances in prices, we had become so impressed with the growing scarcity and increasing cost of timber ties that we had been making all kinds of experiments with metal and concrete ties—not in order to cheapen the first cost, but to lengthen the life of the tie and so make its annual cost less.

If we go into concrete at all, it has always seemed to me that we should alter our whole system of support to a longitudinal instead of a transverse bearing, and this again would alter the most economical form of rail to be used. Possibly we might, with a long stringer of concrete giving us the necessary stiffness and rigidity, dispense with enough steel to pay for part of the increased price to the bearing; but imagine what we should get in the way of drainage and precautions against frost heaving in our climate! I have seen reinforced concrete ties doing very excellent work in the tropics, but our frost conditions alter the whole aspect of the matter. Shimming upon the top of a concrete tie would be a very different matter from drawing the spikes out of a wooden tie and putting longer ones in; or, as we have to do sometimes, putting a complete new tie on top of the old one.

I am afraid that for many years to come we must continue to use wooden ties, at any rate on all but the most perfect and most heavily congested parts of our railways; and this being the case, and the supply diminishing while the demand increases, it behooves us to make them as long-lived as possible.

There are, besides the item of ties, a great many other utilities about a railway which we have hitherto been accustomed to build of wood, but for which latterly we have been substituting structures of steel, concrete and other materials; and the reasons for the substitution have been the same—increased life and lower maintenance charges, and also, in the case of timber trestles, water tanks and buildings, danger from fire.

On our own Canadian Northern at any rate we have had numerous cases of bridge decks catching fire, and in many cases the fires have spread from the decks to the body of the structure; but in how many cases have we found that the commencement of the fire was where some little punkiness and rot had started, and that a smouldering fire had been fanned by a strong wind into a blaze! Ballast decks have been introduced to obviate these fires, but they don't seem to have come into general use; and the tie, aside from fire risk, certainly does not last so long as if freely ventilated. Prevent the rot and I think you will find that the risk of fire is greatly diminished. Season the timber thoroughly, and apply a fireproofing coating of tar and sand, similar to what we have put on our building roofs at times, and the risk will disappear almost entirely. In this case, the question of abrasion, of the rubbing off of the protective coating, does not come in at all, but the protective coating, whatever it may be, should not be put on unseasoned timber.

We all know of old bridges and other structures which have been protected from the weather and have stood up for a generation or more, and been replaced only because too small or too weak for modern loads; and in many cases where wooden bridges have been replaced by steel and concrete, it is questionable whether the change was economical in the fullest sense of the word, and whether it would not have been better policy, as an intermediate step, to take more care in preserving the timber and to put concrete abutments and piers under it.

One of the main reasons for much of

[illegible] steel [illegible] the [illegible] past has seen the growing scarcity of [illegible] and the cheapness of the [illegible] and still more recently the conditions have been reversed, and steel has become very difficult to obtain, while timber has not increased in price in the same ratio. These of course, are largely temporary conditions, brought about by the exigencies of war, but they are not going to readjust themselves in a few months.

Practically all of our dimension timber has come of late years from British Columbia or the Southern States, and the cost to us here is largely a matter of freight rates. Freight rates are based on weight. If we can remove the 30 or 40% of moisture which many of our timbers contain and at the same time increase its strength by proper treatment before it starts on its journey, it follows that smaller quantities will often answer our purpose and that these quantities will be lighter in weight and cost us less per cubic foot, so that there is a double gain, and I believe that in the aggregate it is a very important gain indeed.

There are mnay advantages in the use of timber structures in certain situations; and if we could increase their life and lessen the risks from fire, I think we should all feel much less inclined to rush into massive structures of steel and concrete. Permanent work which will last through the centuries is all very well, in its proper place, in connection with great undertakings which will themselves be useful for centuries. Railways, in this country at any rate, are not always of this character, and I have known several cases (I have at this moment in mind some very expensive and well constructed works) which have been a stumbling block and deterrent to improvement, because they were built in the wrong place and the authorities did not want to throw them away. How many of our railways are located in the wrong place to suit modern conditions of traffic, not so much because of blunders or shortsightedness on the part of the original builders, but because the financial and economic conditions of the present day are entirely different from those of a generation ago —and who can say to what extent these conditions may be changed another generation hence!

Take the case of the Canadian Pacific across the western plains, for instance. It has been relocated and rebuilt for miles; but who shall say that the original location and construction were wrong? Is not the financial success of the C.P.R. direct evidence to the contrary, and that the light grading and cheap timber trestles and bridges were absolutely right and good policy?

Take the opposite case of the Grand Trunk, built two generations ago to the high standards of the English roads. Not only was the road handicapped from the start by enormously high capitalization, but it was deterred from making desirable changes in location by the existence of such expensive works. I have myself been told that a certain location was [illegible] because it would "scrap" a $50,000 structure. The Canadian Pacific [illegible] built on that identical location and is hauling nearly double the Grand Trunk loads.

Consider the ever developing railway situation in Canada. Two transcontinental roads have been built across the continent, with the avowed intention of competing [illegible] with [illegible] and [illegible] conditions [illegible] brought it about that these two lines have come under the same ownership and management. One of these has cost about double what the other has. Without asking the question whether one might have been dispensed with altogether, it is safe to say that the money which has gone into expensive construction could be put to very much better use today if it were available.

Because we have just made a great effort and surprised ourselves by borrowing nearly a billion dollars from our own people, there is no reason why we should rush into indiscriminate expenditures. There is an enormous amount of work to be done to bring our railways to the highest standing of efficiency, and it behooves us to be sure that our money is spent judiciously. There will be none too much to go round, and anything in the way of economy which can be effected consistent, of course, with due respect for the safety of the public—(don't let us confuse economy with parsimony)—will be well worth doing.

I must confess that I have nothing to teach anybody and am quite incompetent to do so. The development of railways has gone on so fast that I have become somewhat taxed in changing old ideas and convictions for new ones fast enough to keep up with the times; but I have thought much about the fundamental reasons for things and have watched with with concern a growing tendency towards extravagance and luxury among railways as well as individuals.

If a timber structure will answer its purpose as well as a steel one and save money for a much needed improvement elsewhere, by all means let us use the timber. If ties can be treated with or without creosote, so that they will last so much longer than untreated ones, so that the annual charge against the railways will be less even thought the initial expense is greater, by all means let us investigate the treatment.

What I want to do is to give for discussion a subject worth discussing. My friend, Mr. McMullen, died while he was pursuing his investigations—literally so, for he passed away on a train out of Chicago, where he had been attending a convention of the American Railway Engineering Association. His son, Barrett McMullen, has carried on his work. Whether the final outcome will be that the seasoning will be merely a preliminary to creosoting, or whether other and cheaper preservatives may be found, I cannot say. I am firmly convinced of one thing only and that is, that the proper seasoning of timber preliminary to treatment or use has never received proper attention; that Mr. McMullen's process accomplishes it perfectly; and that if it is used freely, the use of timber for ties or otherwise will be much more justifiable and truly economical than it has been in the recent past.

The foregoing paper was read before the Canadian Railway Club recently.

Transportation Statistics.—The Statistics Act, 1918, required every transportation company to make returns, by August 1 in each year, to the Dominion Bureau of Statistics, the same to be made up to June 30. A bill introduced in the House of Commons, by the acting Minister of Trade and Commerce, proposes to amend the act, by providing that the returns shall be made annually by Mar. 1, and for the year ending Dec. 31.

Alaska Railway Service Maintained Despite Icy Rails.

Difficulties of railway operation in Alaska are apparent from the Alaskan Engineering Commission's official publication, which describes conditions between mile 57 and mile 68 early in December. Despite these adverse conditions service was not discontinued. This section of the line is low and flat and is affected by the adjoining glaciers. Warm rains, followed by sudden cold weather, made about an inch of ice on the rails in this section and, there being no machinery to remove it, gangs of laborers at a temperature 12 deg. F., worked continuously in relays Saturday, Saturday night, Sunday and Sunday night, picking the ice off the rails ahead of the trains. According to a later issue of the Alaska Railway Record the operating department was not discouraged by this and other troubles along the line, through service being maintained even when dog teams had to be used to transfer mail and passengers across snow-filled gaps.

Imperial Munitions Board's Appreciation of Railway Services. The Board's work at Ottawa having been completed, the members of the staff necessary for the completion of the liquidation of the assets have moved to the Imperial Oil Building, Toronto, except a few of the Records Department officers, who are remaining in Ottawa temporarily. Before leaving Ottawa, the Chairman, Sir Joseph Flavelle, wrote E. W. Beatty, President, C.P.R.; D. B. Hanna, President, Canadian Northern Ry.; J. E. Dalrymple, Vice-President, Traffic, G.T.R.; and F. P. Brady, as General Manager, "Eastern Lines, Intercolonial Ry Co." expressing his great appreciation of the assistance given the board by the different railways' entire operating staffs, and stating that on many occasions during the last three years the board had asked officers of the different companies to give special consideration to the movement of traffic and in all cases had met with generous response.

Grade crossing elimination at Detroit, Mich., is viewed as a single problem by a city engineering commission which has just reported. The needs of the city for the next 15 years have been carefully studied, and a progressive programme has been laid out for the completion of all the necessary work in that time. Other important factors of the problem discussed are the relative advantages of full and partial elevation, the clearance and design of subways, the relation to industry facilities, the relation to streets in outlying districts of the present and future, the city planning aspect and the apportionment of cost.

Intercolonial & P.E.I. Ry's Employes Provident Fund. F. P. Brady, Chairman, Provident Fund Board, announces that the committee of tellers, appointed by him to count the ballots cast for the election of two members of the board to be elected by the employes, have reported that W. P. Hutchinson and B. A. Bourgois received the highest number of votes, and were therefore elected.

Railway Materials for India.—The Canadian mission in London advised the Canadian Trade Commission in Ottawa recently of the Indian Government's desire to get in touch with Canadian rail, angle, splice and bolt manufacturers, with a view to placing orders.

Transportation Appointments Throughout Canada.

The information under this head, which is gathered almost entirely from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Canadian National Rys. — S. R. CAIRNS, whose appointment as Inspector, Sleeping, Dining and Parlor Cars, Eastern Lines, Ottawa, Ont., was announced in our last issue, has been appointed Sleeping Car Agent, Montreal.

L. E. CROWDER, heretofore machinist helper, Radville, Sask., has been appointed Locomotive Foreman, Gravelbourg, Sask. This is a new position.

G. ERICKSON has been appointed Roadmaster, Oba Subdivision, Ontario District, vice R. Ferguson transferred.

R. FERGUSON, heretofore Roadmaster, Hornepayne, Ont., is reported to have been appointed Roadmaster, Atikokan-Rainy River Division, Fort Frances, Ont.

M. L. FLETT has been appointed Commissary Purchasing Agent, Sleeping, Dining and Parlor Car and Hotel Department, Office, Toronto.

D. McK. FORD, heretofore chief clerk, Eastern Lands Department, Canadian Northern Ry., Toronto, has been appointed chief clerk, President's office, Canadian National Rys., Toronto.

E. L. MacDOUGALL has been appointed Sleeping and Dining Car Agent, Rosedale, Toronto.

C. R. MacKENZIE, formerly Assistant to General Manager, Western Lines, Canadian Government Rys., Winnipeg, has been appointed Assistant to General Manager, Eastern Lines, Canadian National Rys., at Montreal.

Y. MOODY has been appointed Assistant Superintendent, Sleeping, Dining and Parlor Cars, Toronto.

S. J. POTTER, heretofore Assistant Paymaster, Eastern Lines, Canadian Northern Rys., has been appointed Paymaster, Lines east of Port Arthur, Ont., Canadian Northern Ry System, Offiice, Toronto.

JAMES ROBB has been appointed Inspector, Sleeping, Dining and Parlor Cars, Eastern Lines, Toronto.

W. L. STITT has been appointed Sleeping and Dining Car agent, Ottawa, Ont.

REGINALD H. M. TEMPLE, General Solicitor, Canadian National Rys., Toronto, has been transferred to Winnipeg, and given charge of the Legal Department there. The position of Western Counsel, Canadian Northern Ry., Winnipeg, held formerly by O. H. CLARK, has been abolished. W. W. EVANS, heretofore Solicitor, Canadian Northern Ry., Winnipeg, and T. H. GILMOUR, heretofore Solicitor and Claims Agent, Canadian Government Rys., Western Lines, Winnipeg, have resigned.

JOHN WARDROP has been appointed General Agent, Industrial and Resources Department, Western Lines. Office, Winnipeg.

D. O. WOOD, heretofore Assistant Export and Import Agent, C.P.R., Toronto, and for a time, Superintendent of Inland Transportation, British Ministry of Shipping (Canada), Montreal, has been appointed Traffic Manager, Export and Import Department, Canadian National Rys., with general supervision of export and import traffic, and of arrangements made for the transportation of such by the C.N.R., via Atlantic and Pacific coast ports. Office, Toronto.

Canadian Pacific Ocean Services Ltd. A. H. ALLAN, formerly General Assistant, H. & A. Allan, Agents, Allan Line Steamship Co., and latterly on active service, has been appointed Freight Manager, Great Britain and European Continent, C.P.O.S. Ltd. Office, London, Eng.

H. S. CARMICHAEL, heretofore Passenger and Freight Manager, London, Eng., has been appointed Passenger Manager there.

G. C. DEW, heretofore Assistant Freight Agent, C.P.R., Montreal, has been appointed Asiatic Freight Agent, C.P.O.S. Ltd. Office, Montreal.

R. S. ELWORTHY, heretofore General Agent, Passenger Department, C.P.R., Minneapolis, Minn., has been appointed General Agent, C.P.O.S. Ltd., Chicago, Ill. Owing to a typographical error in the spelling of his name, the announcement in our last issue, this appointment is repeated correctly.

J. J. Horn.
Superintendent, Kenora Division, Manitoba District, Canadian Pacific Ry.

R. W. GREENE, heretofore in city ticket office, Grand Trunk Pacific Ry., Winnipeg, has been appointed Travelling Passenger Agent, C.P.O.S. Ltd., there.

W. T. MARLOW, formerly Import Freight Agent, C.P.R., and latterly Deputy Director General, British Ministry of Shipping (Canada), Montreal, has been appointed General Freight Agent, in charge of freight traffic, Atlantic and Pacific services, C.P.O.S. Ltd. Office, Montreal.

G. D. ROBINSON, formerly Export Freight Agent, C.P.R., and latterly Director, Ocean Steamship Department, British Ministry of Shipping (Canada), Montreal, has been appointed European Freight Agent, C.P.O.S. Ltd. Office, Montreal.

Canadian Pacific Ry.—W. T. BENNET, heretofore chief clerk, Auditor of Pay Rolls Department, has been appointed Auditor of Pay Rolls, vice R. F. Gauld deceased. Office, Montreal.

JOHN BURNS, heretofore Assistant Works Manager, Angus shops, Montreal, has been appointed Works Manager, Angus shops, Montreal, vice H. Osborne, who has retired after long and faithful service.

T. J. CALLARY has been appointed Claims Investigator for Auditor of Claims, Montreal.

R. A. DART, heretofore General Yardmaster, Calgary, Alta., has been appointed Assistant General Yardmaster there.

W. H. GORDON, heretofore Trainmaster, Lethbridge, Alta., has been appointed Trainmaster, Field, B.C.

C. S. GOWANS, heretofore acting Import Freight Agent, Montreal, has been appointed Import Freight Agent, Montreal.

D. J. GOWANS has been appointed Inspector of Hotels. Office, Montreal.

S. C. GRAHAM, heretofore Local Freight Agent, Edmonton, Alta., has been appointed General Yardmaster, Calgary, Alta., vice R. A. Dart.

G. HIAM, formerly District Freight Agent, Fort William, Ont., and recently returned from active service overseas, has been appointed District Freight Agent, Cleveland, Ohio, vice M. S. Thorne promoted.

R. E. LARMOUR, heretofore General Agent, Freight Department, New York, N.Y., has been appointed General Freight Agent, Eastern Lines, vice E. N. Todd transferred. Office, Montreal.

P. J. MELVIN, heretofore acting Export Freight Agent, has been appointed Export Freight Agent. Office, Montreal.

J. A. MORICE, heretofore Contracting Agent, Foreign Freight Department, Toronto, has been appointed Agent, Foreign Freight Department there.

F. H. SPROULE, heretofore agent, Gull Lake, Sask., has been appointed Local Freight Agent, Medicine Hat, Alta., vice D. Patterson.

M. S. THORNE, heretofore District Freight Agent, Cleveland, Ohio, has been appointed General Agent, Freight Department, New York, N.Y., vice R. E. Larmour promoted.

E. N. TODD, heretofore General Freight Agent, Eastern Lines, Montreal, has been appointed General Foreign Freight Agent, in charge of export and import traffic, via both Atlantic and Pacific seaboards. Office, Montreal. This is a new position.

D. W. DONAHUE, heretofore Division Superintendent, Michigan Central Rd., Chicago, Ill., has been appointed Division Superintendent, Canadian Division, vice Jas. Balkwill, deceased. Office, St Thomas, Ont.

Michigan Central Rd.—F. G. THOMAS has been appointed ticket agent, St. Thomas, Ont., vice C. I. Singer, promoted.

Grand Trunk Ry.—P. A. CLEWS, Grand Trunk Ry., heretofore City Agent, London, Eng., has been appointed General Agent, Freight Department, G.T.R., and Canadian Express Co., there, vice F. G. English, killed in action.

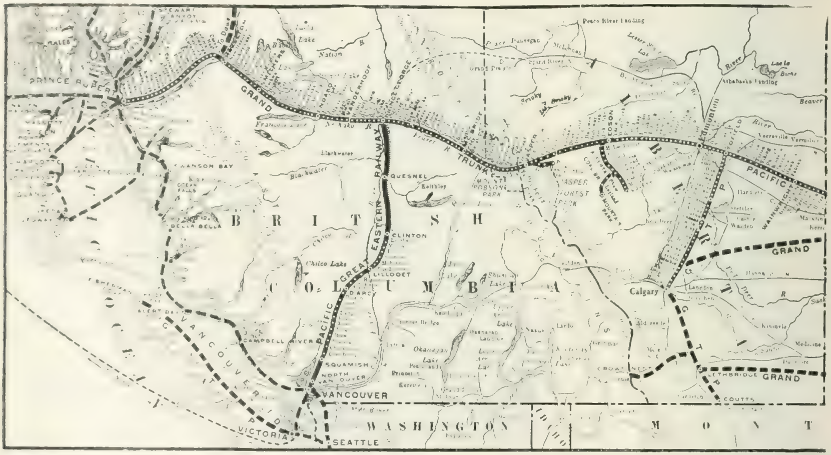
Grand Trunk Pacific Ry.—G. H. BARTLEY, heretofore dispatcher, Grand Trunk Pacific Ry., has been appointed Chief Dispatcher, Biggar, Sask., vice J. H. Groat, whose appointment as Superintendent there, was announced in our last issue.

The Grand Trunk Pacific Railway System Placed in the Hands of the Minister of Railways, as Receiver.

While the serious condition of the G.T.P.R. finances has been well known for several years, the announcement made on Mar. 8, that the Dominion Government had appointed the Minister of Railways, Hon. J. D. Reid, as receiver for the system, including all subsidiary companies, came with dramatic suddenness, and was probably as great a surprise to the company's officials as to the public. The correspondence which led up to this action, the order in council appointing the receiver, and subsequent correspondence, are given in the order of their dates as follows:

G.T.R. Says it Will Be Unable to Pay Interest.

Frank Scott, Vice President and Treasurer, G.T.P.R., wrote the Finance Minister, and acting Prime Minister, Sir Thomas White, Feb. 25, as follows:



"Referring to our recent conversations, I am in receipt of a cable from Mr. Smithers stating that in the anticipation of receiving the balance of the appropriation of $7,500,000, viz., $951,911, to apply for interest on Grand Trunk debenture stock due Mar. 1, payment was duly advertised. In consequence, however, of the remittance being coupled with the condition that it is to be used only for operating obligations, the company will be unable to meet the interest due on Mar. 1, and a serious situation will result. I respectfully beg to draw your attention to the matter, in order that the actual position, and possible consequences may be fully appreciated."

The Acting Prime Minister's Reply.

Sir Thomas White replied to Mr. Scott Feb. 26 as follows: "I beg to formally acknowledge receipt of your letter of Feb. 25, which you personally handed to me at my office here. I note what Mr. Smithers states in his cable as to the G.T.P.R. Co. being unable to meet the interest due upon its securities on Mar. 1. With reference to the balance of the appropriation of the vote of $7,500,000 by parliament, $923,311 was paid to your company on your certificate no. 10, dated Jan. 28, 1918, approved by the acting Deputy Minister of Railways. This certificate expressly states that this sum is 'on account of cash deficit in the operations of the company from April 1, to Nov. 30, 1918, inclusive,' and 'is required to enable the company to meet its operating obligations.' The small balance of the vote amounting to about $28,000, will, I understand, be required for the same purpose. There seems no doubt that the deficit in operation should have priority over all other charges.

"I have already informed Mr. Kelley, President of the company, and yourself, that it is not the intention of the government to ask parliament to provide a further vote for the G.T.P. while our negotiations with the G.T.R. remain in their present unsatisfactory condition. As I indicated to you, it will be for the G.T.R. directors to determine the question of their responsibility in respect of the interest maturing tomorrow upon securities guaranteed by their company."

The interest on the G.T.P. debenture stock was, however, paid when due, viz: Mar. 1.

G.T.P.R. Gives Notice of Cessation of Operation.

Frank Scott wrote Sir Thos. White Mar. 4 as follows: "I am instructed to inform the government that in view of the fact that the increased rates applicable to the G.T.P.R. have not been sufficient to meet the increased operating expenses, it will not be possible for that company to continue its operations when the present funds have been exhausted, which will be about Mar. 10. May I ask you to be so good as to acknowledge the receipt of this letter?"

Sir Thos. White wrote Frank Scott, Mar. 5, simply acknowledging his letter of Mar. 4, stating the company's intention to discontinue operations after Mar. 10.

Order in Council Appointing the Minister of Railways as Receiver.

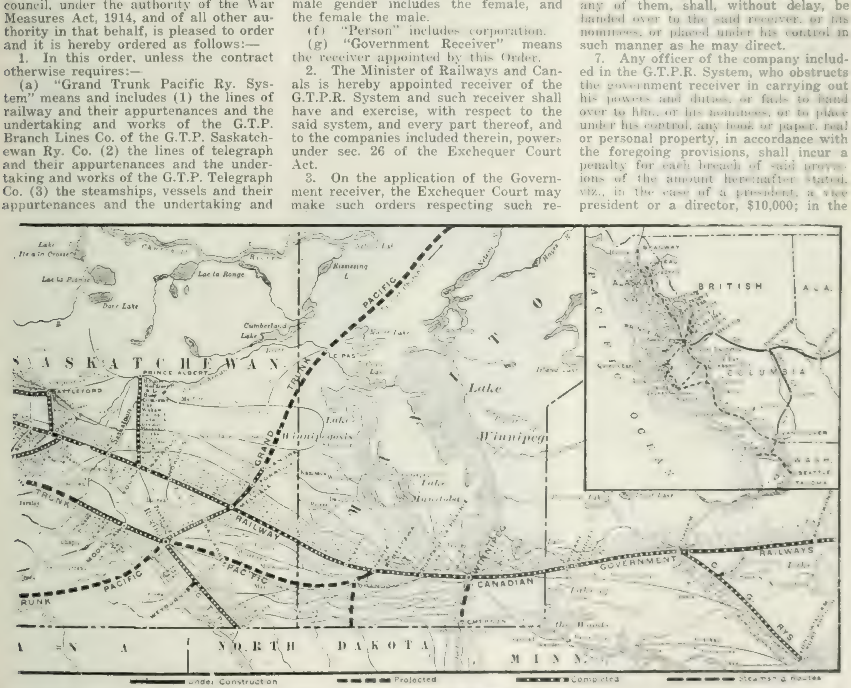
The following order in council was passed at Ottawa, Mar. 7.:—

Whereas under the authority of The Appropriation Act no. 2, 1918, the Governor in council advanced $7,471,399.93, or thereabouts, to the Grand Trunk Pacific Ry. Co., for certain purposes in said act defined, including the meeting of deficit in operation of the G.T.P.R. System, such sum being in addition to other large sums previously advanced under previous authority for similar purposes.

And whereas a letter dated Mar. 4, 1919, from the Vice President of said company was received by the Minister of Finance, as follows:—

"I am instructed to inform the government, that in view of the fact that the increased rates applicable to the G.T.P.R. have not been sufficient to meet the increased operating expenses, it will not be possible for that company to continue its operation when the present funds have been exhausted, which will be about Mar. 10. May I ask you to be so good as to acknowledge receipt of this letter."

And whereas should the operation of the G.T.P.R. System be discontinued, great detriment to the public interests would ensue, and the intention of parliament in authorizing the said advances would be defeated. And whereas the continued operation of said system is essential in the present position of Canada, resulting from the war, which has not yet been terminated by peace, especially in connection with the transport of returning Canadian troops and of supplies and equipment and freight, and other services made necessary by the war. And whereas for the protection of the public interests and for the purposes aforesaid, it is essential that the opera-



tion of said system should be continued without interruption. And whereas the duty of continuing such operation is thrown upon the Government of Canada, inasmuch as there are no effective provisions in existing laws whereby such continued operation could be otherwise secured.

And whereas immediate action by the government is impossible, therefore His Excellency the Governor General in council, under the authority of the War Measures Act, 1914, and of all other authority in that behalf, is pleased to order and it is hereby ordered as follows:—

1. In this order, unless the contract otherwise requires:—

(a) "Grand Trunk Pacific Ry. System" means and includes (1) the lines of railway and their appurtenances and the undertaking and works of the G.T.P. Branch Lines Co. of the G.T.P. Saskatchewan Ry. Co. (2) the lines of telegraph and their appurtenances and the undertaking and works of the G.T.P. Telegraph Co. (3) the steamships, vessels and their appurtenances and the undertaking and works of the G.T.P. Steamships Co. (4) the properties, hotels, and appurtenances and the undertaking and works of the G.T.P. Development Co.

[Editor's Note.—Another order in council, passed Mar. 13, states that through inadvertence there were omitted from the definition of "G.T.P. Ry. System" in sec. 1 of the order passed Mar. 7, the necessary words relating to G.T.P. Terminal Elevator Co. Ltd., and it was therefore ordered that the following be inserted at the end of the definition of "G.T.P. Ry. System" in sec. 1, vis: "(5) The properties, elevators, terminals, and appurtenances and the undertaking and works of G.T.P. Terminal Elevator Co. Ltd."]

(b) "Officers" means and includes directors, President, vice presidents, managers, Secretary, Treasurer, clerks, servants and employes.

(c) "Books and papers" means and includes books of accounts, or of entries, relating to the business, or operation, or maintenance, of the said lines of railway or telegraph or steamships, vessels, hotels, properties or works, or any of them, or any part thereof, also records, statements, and documents relating to such business, operation, or maintenance or any part thereof.

(d) "Exchequer Court" means the Exchequer Court of Canada.

(e) The singular number includes the plural, and the plural the singular; the male gender includes the female, and the female the male.

(f) "Person" includes corporation.

(g) "Government Receiver" means the receiver appointed by this Order.

2. The Minister of Railways and Canals is hereby appointed receiver of the G.T.P.R. System and such receiver shall have and exercise, with respect to the said system, and every part thereof, and to the companies included therein, powers under sec. 26 of the Exchequer Court Act.

3. On the application of the Government receiver, the Exchequer Court may make such orders respecting such receiver, and his powers and duties, and the carrying out thereof, including the issue of receiver's certificates, as the court may deem necessary, or expedient, in the public interest.

4. Subsec. 5 and 6 of sec. 26 of the said act shall apply to the government receiver, and to the G.T.P.R. System and every part thereof and to the companies included therein, except that no remuneration of the receiver shall be fixed by the court.

5. The Government receiver may, on or after Mar. 10, 1919, or on such earlier day as the G.T.P.R. Co., or any company included in the G.T.P. System may cease to operate efficiently, its undertaking and works, or any portion thereof, take possession of such undertaking and works, or any portion thereof, and the Exchequer Court may, from time to time, make and enforce such orders in aid of the Government receiver, with respect to taking of such possession or otherwise as the court may deem expedient for the carrying out of the provisions of this order, according to their true spirit and meaning.

6. Each company included in the G.T.P.R. System, and its officers, shall facilitate the carrying out of the powers and duties of the government receiver and all books and papers, real or personal property, of each of the said companies, in its possession, or under its control, or the control of its officers, or any of them, shall, without delay, be handed over to the said receiver, or his nominees, or placed under his control in such manner as he may direct.

7. Any officer of the company included in the G.T.P.R. System, who obstructs the government receiver in carrying out his powers and duties, or fails to hand over to him, or his nominees, or to place under his control, any book or paper, real or personal property, in accordance with the foregoing provisions, shall incur a penalty for each breach of said provisions of the amount hereinafter stated, viz., in the case of a president, a vice president or a director, $10,000; in the case of a manager, with the authority of or similar to that of a general manager, or of one acting for or assisting a general manager, $5,000; in the case of a secretary or of a treasurer, or of one acting for or assisting a secretary or treasurer, $2,500; in the case of any clerk, servant or employe, $1,000.

8. Any penalty incurred under the foregoing provisions may be sued for and recovered, with costs, in the Exchequer Court, by suit or proceeding in such court instituted by the Attorney General of Canada.

9. Nothing in this order contained, and nothing done or to be done under the authority hereof, shall render the Government of Canada or the government receiver, or anyone acting under the authority of the government receiver, or of the Exchequer Court, liable to the Grand Trunk Ry. Co. of Canada, or to any company included in the G.T.P.R. System, or to any creditor, or holder of any bonds, debentures, debenture stock or other se-

curities of the said companies, or any of them, for any claim by reason of the making of this order, or of anything done or to be done under the authority hereof, or under the authority of the government receiver or of the Exchequer Court, nor shall afford any defence to, nor shall prejudice any claim, action, or proceeding of the Government of Canada which the government might lawfully make or take, had this order not been made.

10. All officers, except the board of directors, of any company included in the G.T.P.R. System, shall continue to discharge for the government receiver, till further orders, or directions, by him, duties in connection with the operation and management of the undertakings and works of any company included in the G.T.P.R. System, similar to their present duties, so that no interruption in the operation and management thereof may occur.

11. Nothing herein contained, or done, or to be done, hereunder, shall prejudice the exercise by the Exchequer Court or by any court of any province of Canada, of its present jurisdiction under the Exchequer Court Act, or under any other law or jurisdiction, to appoint a receiver or to order or decree a sale or foreclosure of any railway, or section thereof, or other property affected by this order, provided that before any such sale or foreclosure is ordered or decreed or any receiver is appointed by any such court, notice of the application shall be given to the Minister of Railways and Canals of Canada, and he, or counsel for him, shall be heard upon the application, and the court in granting, or refusing, or postponing, the application, shall take into consideration the public interests involved, and shall make such order as shall in the opinion of the court protect the public interests.

12. The Minister of Railways and Canals, mentioned in this order, means the minister for the time being, and upon a vacancy occurring his successor shall become the government receiver. The powers and duties of the government receiver may be exercised by such member of the government as may from time to time be the acting Minister of Railways and Canals.

13. Should it be made to appear to the government receiver that any book or paper is or has been used for the purpose of the operations of the Grand Trunk Ry. Co. of Canada, as well, as the operations of any company included in the G.T.P.R. System, and that for such reason the same should not be handed over to the receiver, or placed under his exclusive control, the government receiver may, on such terms and conditions as he may deem necessary, allow the joint use of same to be continued. The government receiver may open such books and accounts as in his opinion may be necessary, to separate and transfer from any such book or paper, jointly used, accounts and entries relating to any of the companies included in the G.T.P.R. System, and may so separate and transfer the same and the said receiver shall keep the accounts of his receipts, expenses and disbursements in connection with each of the companies included in the said system, and their works, undertakings and properties, or parts thereof, in such manner that one may be distinguished from another, and that the interests of the various parties interested therein may be ascertained.

14. The Governor in council may, from time to time, under the order of the Exchequer Court, and upon the security of receiver's certificates, or otherwise, advance to the government receiver such sums as may be required to enable him to exercise his powers, and to perform his duties as receiver; the sums so advanced shall be paid out of any unappropriated monies in the Consolidated Revenue Fund of Canada.

15. No transfer of any shares in the capital stock of any company included in the G.T.P.R. System shall, after the appointment of the government receiver, be made, and no such transfer shall be entered on any register or transfer book. Any transfer contrary to this provision shall be null and void, provided that the government receiver may, on the application of any person interested, or of his own motion, permit any transfer to be made or completed.

Chairman Smithers Cables.

Frank Scott wrote Sir Thos. White Mar. 7 as follows: "I have been instructed by Mr. Smithers to forward the following cable message to you, as from him:

W. P. Hinton,
Vice President and General Manager, Grand Trunk Pacific Railway.

" 'H. G. Kelley has handed me cable message, from Frank Scott, containing extract from your letter saying that it is not the intention of the government to ask parliament to provide further vote for G.T.P.R. while negotiations with the G.T. remain in their present unsatisfactory condition. I beg to recall that when ministers came over last summer, it was stated in parliament negotiations would be resumed in London. I accordingly saw ministers with members of board several times, and at last was told that the ministers could make no advance in their original offer without the consent of the full cabinet in Ottawa. In these circumstances progress in negotiations was impossible, but with a view to facilitating matters, just before the Prime Minister left for Canada, a committee of the board and myself saw him with two of his colleagues, and made a fresh proposal, involving a very big reduction on our first offer. This offer was not accepted, but on Nov. 5 the High Commissioner for Canada sent for me and said he had a message from the Prime Minister asking me if we wished to continue negotiations, and if so, he thought I should go to Canada. I told the High Commissioner that, looking to the fact that the government had given no sign of any intention of departing from their original offer, I thought it was useless going out, unless I had some further explanation or assurance as to the government's intentions. To this we have had no reply, and I really fail to see how the company can be held responsible for the unsatisfactory condition of our negotiations. Mr. Kelley is returning in a few days and I think it would be advisable if you could cable any reply you may wish to make to this communication before he leaves.' "

Sir Thomas White Cables Chairman Smithers.

Sir Thos. White cabled A. W. Smithers, Mar. 8 as follows: "Replying to your cable received through Scott, government considers unsatisfactory condition of negotiations due to board of directors of G.T.R. Co. entirely failing to appreciate its responsibilities to the G.T.P.R. undertaking, and the bearing of its liabilities in respect thereto upon the question of the net earning power and value of the G.T.R. System. In November last the Prime Minister cabled to Sir George Perley to suggest to you that if your company desired further negotiations the government would be glad to see you in Canada as soon as convenient. He pointed out that it did not seem useful to continue discussion by correspondence. He also suggested that if you came you should be invested with ample powers to conclude an arrangement if one could be reached. Your attitude towards the reasonable suggestion contained in the Prime Minister's communication seemed clearly to indicate indifference towards the continuance of negotiations. Confirmatory of this is the peremptory notification on Thursday last to the government, without previous intimation or discussion, that the G.T.P.R. would on Mar. 10 discontinue operations entirely, regardless of consequences to Canada through interruption of traffic over a system so extensive and important."

Official Annnouncement of Receivership.

On Mar. 8 Sir Thos. White made the following announcement: "Hon J. D. Reid, Minister of Railways, has been appointed receiver of the G.T.P.R. System. The appointment follows an official notification which Sir Thomas White received on Mar. 6 from the Vice President of the G.T.P.R. Co., notification that, in view of the fact that the increased rates applicable to the G.T.P.R. have not been sufficient to meet the increased operating expenses, it would not be possible for the company, owing to lack of funds, to continue its operation beyond Mar. 10. In view of this notification, it became necessary that the government should, in the public interest, immediately take steps to ensure the continued operation of the system. Under existing legislation this could not be accomplished by an application to the courts for the appointment of a receiver. The War Measures Act, however, was found to provide adequate authority for action by the government, and consequently an order in council was passed appointing the

Minister of Railways receiver of the G.T.P.R. System, which includes the branch lines, telegraph, steamships, hotel and development and other companies. W. P. Hinton, Vice President and General Manager of the G.T.P.R. System, has agreed to conform to the requirements of the order, and to facilitate the carrying out of the powers and duties required of the minister as receiver. The immediate object of the order, viz, to prevent interruption in the operation and management of the system, has therefore been already attained. An important feature of the order in council, is that which preserves to the government any other and ultimate remedies which it possesses under the provisions of trust mortgages securing issues which it has guaranteed or otherwise as creditors of the system. Similarly, the rights and remedies of other parties are not interfered with by the order."

G.T.P.R. Operation Carried On.

The Minister of Railways commenced to act as receiver on Mar. 10, W. P. Hinton, Vice President and General Manager, G.T.P.R., and other company officials having signified their willingness to obey the order in council, they have been retained in their respective positions and no changes of titles have been announced. The Minister of Railways is acting as receiver in his individual capacity, as though appointed by the Exchequer Court and not by the government.

Finance Minister's First Statement in House of Commons.

Sir Thos. White, in speaking in the House of Commons, Mar. 10, said that he wished to make a statement as to important action taken by the government respecting the G.T.P.R. System, upon which he thought it desirable the house should have immediate information. The facts were fully set forth in correspondence which he would read, and in an order in council which he had laid on the table and which, as it was somewhat lengthy, he would summarize. He then read a lettter from Frank Scott, Vice President and Treasurer, G.T.P.R., dated Feb. 25, and his reply of Feb. 28, also letters from Frank Scott, dated Mar. 4, and his reply of Mar. 5, all of which are given in earlier portions of this article. The minister then said, "Under existing legislation, it is not possible, except under proceedings for foreclosure, or sale, to have a receiver appointed for a system such as the G.T.P.R. The government, therefore, was confronted with what it regarded as the imperative necessity, in the national interest, of providing for the uninterrupted operation of the system. It was found that the War Measures Act gave the government complete jurisdiction for the action which it took, viz: by order in council to appoint the Minister of Railways as receiver for the system. Sir Thomas then read a summary of the order in council of Mar. 7, the full text of which is given in an earlier portion of this article. The minister continued, "While, under the War Measures Act, the order in council has the full effect of a statute, as parliament is sitting, it is manifestly desirable that the government should introduce legislation validating and confirming the order in council, and sanctioning what the government has done. Within a day or two I shall introduce the necessary resolution to that end. I received on the 8th inst. a letter from the Vice President of the G.T.P.R., containing a cable from the Chairman of the G.T.R. board, A. W. Smithers, which refers to a statement made in one of the letters I have read to the house." He then read a letter from Frank Scott, dated Mar. 7, and his reply of Mar. 8, both of which are given in earlier parts of this article.

F. S. Cahill, M.P. for Pontiac, Ont., asked if it was the government's intention to continue governing by orders in council. Sir Thos. White replied that if the government had not the powers under the War Measures Act, and the G.T.P.R. had carried out its expressed intention of discontinuing operation, the entire system, embracing all the subsidiary companies, would have been at a standstill, with serious consequences.

R. L. Richardson, M.P. for Springfield, Man., asked if the G.T.P.R. was actually in default. Sir Thos. White replied that it was not, but the notification received was that it would discontinue operation.

Legislation Confirming Appointment of Receiver.

Sir Thos. White, on Mar. 20, moved in the House of Commons that the house go into committee to consider a resolution that it was expedient to brnig in a measure to ratify and confirm the order in council of Mar. 7 appointing a receiver and which is given in an earlier part of that article. D. D. Mackenzie, leader of the opposition, expressed the opinion that the War Measure Act was never intended to be used for purposes of this kind, and there was only sec. 6 that could possibly be used for such an action. As the war had ended there was no occasion for using the measure, and the regular course of applying through the Exchequer Court should have been adopted. The resolution was passed, and the house went into committee thereon.

Sir Thomas White there reviewed the whole enterprise from its foundation until the present situation arose, and contended that the G.T.R. had apparently come to the conclusion that it would not continue to be responsible for the payment of the interest upon the G.T. Pacific Ry. securities, that it would not be responsible for the deficit in its operation, but would cast the entire burden upon the Dominion Government. He then discussed the Drayton-Acworth report; and the negotiations which had since taken place with the G.T. Ry. directors, with regard to purchase. The terms of an offer made on behalf of the government to take over the G.T.R. and the G.T. Pacific Ry. and to assume all the obligations of both companies, were an annual payment of $2,500,000 a year for three years, $3,000,000 a year for the next four years and $3,600,000 annually thereafter, the G.T.R. to distribute these sums as it might determine among the holders of 4% and other stock. An alternative proposal was to submit the matter to a board of arbitration, the award to be by way of annual rental for 99 years. The company made a counter offer in Aug. 1918, by asking for an annual payment of £977,000, an amount equal to the net earnings of 1913. The government was carrying on the line with the Minister of Railways as receiver, and he was maintaining the service. What would be done later had not been determined, but unless a satisfactory situation ensues, the government would be obliged to have recourse to whatever legal remedies it might have, and it had many.

A long discussion followed, many members taking part., and the resolution was concurred in. A bill giving effect to the resolution was then introduced by Sir Thomas White and read a first time.

The Inception of the G.T.P.R. Project, Legislation, Etc.

The idea of the extension of the G.T.R. to Western Canada was brought prominently into notice in 1903, was not a new one, as years before the construction of the C.P.R. to Sault Ste. Marie, the G.T.R. had a charter to build from some point on its line terminating at North Bay through Algoma westerly. An understanding was reached between the two companies, and the G.T.R. project was abandoned for the time. It was revived again in 1902, but the first public announcement was not made until the beginning of 1903, when simultaneously with the appearance of notices to the effect that the G.T.R. would apply to the Dominion Parliament at its then forthcoming session, for the incorporation of the Grand Trunk Pacific Ry. Co., with power to build a line from Gravenhurst, or North Bay, to the Pacific Coast, announcement was made that F. W. Morse, then Third Vice President, G.T.P., and the late W. Wainwright, were then General Assistant and Comptroller, had left Montreal in Mar., 1902, on a trip to the Pacific coast in connection with the project.

At this time there was another transcontinental project in the field, apart from the Canadian Northern Ry. enterprise, which were then taking final form, viz: the Trans Canada Ry., promoted by J. G. Scott, then President Quebec and Lake St. John Ry., and connected with other projects having for their object the development of Quebec. Mr. Scott was at that time engaged in endeavoring to create public interest in his project for the building of a line from Quebec to Port Simpson, having an estimated length of 2,830 miles, or from Chicoutimi, the Q. and L. St. J. Ry. terminus, on the Saguenay Ry., to Port Simpson, with an estimated length of 2,700 miles.

At the half-yearly meeting of the G.T.R. in London, Eng., May, 1903, the 30th anniversary of the incorporation of the company, Sir Charles Rivers Wilson, the President, in referring to the G.T.P. Ry. project, said: "To such a company the G.T.R., without engaging the credit of its own shareholders, would bring as a valuable contribution, its influence, experience and established connections. The bill has been introduced and the form and extent of the government assistance are under discussion with Sir Wilfrid Laurier and his colleagues. As a result of the discussions with the government the plans took a new form, the agreement between the promoters of the G.T.P.Ry. and the government was made public July 30, and the measure providing for the construction of a national transcontinental railway was introduced. The agreement, which was dated July 29, was ratified by chap. 71 of the Dominion statutes for that year.

Then the late C. M. Hays, then President G.T.R., proposed an extension of this span to the Pacific coast, his idea was to start from North Bay, Ont. He never contemplated an easterly extension to Quebec and the Maritime Provinces, which were promised a line by the then government.

At the half yearly meeting of the G.T.R. shareholders the President said: "At the wish of the Dominion Government and of popular opinion there ha-been grafted upon the original idea a much larger scheme, contemplating the construction of a road straight across the continent from New Brunswick in the east, to the Pacific coast in the west. The government will themselves be the owners of the line from New Brunswick to Winnipeg, and the G.T.P. Ry. will be restricted in its ownership to the road west of Winnipeg. It would be inopportune for me to allude to any future connection which the G.T.R. may have with the scheme, only bearing in mind. of course, that nothing will be done without the shareholders' consent."

The agreement provided for the construction by the Dominion Government of a railway to be built entirely within Canada from Moncton, N.B., to Winnipeg, Man., and to be leased upon completion by the G.T.P.Ry. for 50 years, for the first seven years on the basis of paying the working expenditures, and for the remainder of the term at a rental of 3% a year upon the ascertained cost of construction, such lease to be renewable. The G.T.R. undertook to build a line from Winnipeg to the navigable waters of the Pacific Ocean, at or near Port Simpson, or such other point on the Pacific coast as might be agreed upon. The line was to be built to a standard equal to that of the G.T.R. main line between Montreal and Toronto, and as to gradient, etc., was to conform to the standard of the eastern section, to be built by the Dominion Government. By way of assistance to the company in the construction of the line, the act provided that the Dominion should guarantee payment of the principal and interest of an issue of bonds for an amount sufficient to produce a sum equal to 75% of the cost of its construction, such amount not to exceed $13,000 a mile in respect of the prairie section from Winnipeg to the eastern limit of the Rocky Mountains, such limit to be fixed by the Chief Engineer for the company and the Chief Engineer for the government, and $30,000 a mile for the mountain section,. Although 75% of the cost of each section might be exceeded by the respective sums a mile. The company was to pay the interest on the bonds issued in respect of the prairie section from the date of issue, the government only having to pay to prevent default, such payment to be a debt due by the company to the government. For the first seven years after issue of the bonds for the mountain section, the government was to pay the interest, and for the next three years the company was to be primarily liable for the interest, the government amount paid to be a debt due by the company to the government. During this three years the government was not to exercise its right of foreclosure under the mortgage. After the 10 year period the government would be in a position to exercise its full rights under the mortgage. The company agreed that the G.T.R. Co. should guarantee the payment of the remainder of the bonds required to be issued in respect of the line from Winnipeg to the Pacific coast, such bonds to be a second charge, subordinate to those issued under the Dominion guarantee. The G.T.P.R. was to provide rolling stock and equipment for the operation of both divisions at a minimum cost of $20,000,000.

The G.T.P.R. Co. was incorporated by chap. 122 of the Statutes of 1903, with an authorized capital of $45,000,000, of which not exceeding $20,000,000 could be issued as preferred stock. The company was authorized to build a line from Moncton to the Pacific coast; a branch line from the main line southerly to North Bay or Nipissing Jct., on the G.T.R., a branch from the main line southerly to Montreal, a branch line to Port Arthur, Fort William, or other port on Lake Superior as might be approved by the government, and branches to Brandon, Regina, Prince Albert, Calgary, and to Dawson. The company was authorized to issue bonds for $30,000 a mile on the line from Moncton to Winnipeg; $20,000 a mile on the prairie section, and $50,000 on the mountain section, and bonds on the branch lines to the same amount as authorized for the section of main line which they might join. The Dominion Government was given the right to nominate one of the directors.

While these measures were before arliament, the late Hon. A. G. Blair, then Minister of Railways, objected to the terms of the contract and resigned his office.

An amending act, passed in 1904, confirmed an agreement made between the government and the company, providing among other matters, for the leasing to the company of any completed sections of the Transcontinental Ry., before the completion of the whole line; declaring that the government would implement its guarantee of the bonds of the prairie and mountain sections of the western division, providing that in the event of the government deciding to operate the eastern division, the company should for 50 years have such haulage rights over it as might be necessary for the conducting of operations of the western division, and giving the government power in such a case, of acquiring any branch lines which might have been constructed connecting with the eastern division.

The G.T.P. Branch Lines Co. was incorporated by the Dominion Parliament in 1906, with an authorized capital of $50,000,000, of which $20,000,000 could be issued as preferred stock to build 18 branch lines in New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, and Yukon. These lines included those mentioned in the charter of the G.T.P.R., with the exception of the line to Port Arthur or Fort William.

The Saskatchewan Legislature in 1909 authorized the guaranteeing of the G.T.P. Branch Lines Co's. bonds, providing for the construction of 195 miles of branch lines, and in 1910 the mileage to be built under provincial guarantee of bonds was increased to 670. These branch lines have practically all been built. Subsequently the legislature authorized the guaranteeing of $3,800,000 of bonds for terminal construction at Regina, Saskatoon, Moose Jaw, Prince Albert, Swift Current, and Battleford, to which was added in 1912, a guarantee of bonds for $1,300,000 for bridge construction. The Saskatchewan Legislature also passed an act incorporating the G.T.P. Saskatchewan Ry, which entered into an agreement with the Saskatchewan Government for the construction under a guarantee of bonds, of 205 miles of branch lines, which was increased by 270 miles in the following year. These branch lines were partly in extension of the branches already built, or of branch lines therefrom.

The Alberta Legislature in 1909 authorized the guararteeing of the G.T.P. Branch Lines Co's. bonds in respect of 491 miles of branch lines, and in 1912 guaranteed the company's bonds for an additional 58 miles.

Construction of the Lines.

The surveys for the line were proceeded with at once, the starting point being Portage la Prairie, Man., and work had been so far completed that an Sept. 1, 1906, the government had approved of plans for the line almost to Edmonton, Alta., 720 miles, and contracts had been let for grading. The location was through a fine farming country and gave a line with easy curvature, and gradients not exceeding 0.4% against eastbound traffic, and 0.5% against westbound traffic. The preliminary location to the Pacific coast, where the terminus had been located, and which was subsequently named Prince Rupert, was practically completed in 1907, and the fund the following year, when it was announced by the late Sir Collingwood Schreiber, Chief Engineer for the government, that the Prairie Division would extend from Winnipeg to Wolfe Creek, approximately 916 miles, and the Mountain Division from Wolfe Creek, viz, the Yellowhead Pass to Prince Rupert, 859 miles. Revisions during the course of construction, reduced these figures to 912.7 miles for the Prairie Division, and 835.6 miles for the Mountain Division. The location on the Mountain Division showed an easy curvature, the sharpest curve having a radius of 955 ft., the gradients of the Prairie Division being exceeded only at one point in the vicinity of Tete Jaune, where for 19 miles the gradient against eastbound traffic was 1%. The location between Portage la Prairie and Winnipeg was settled during 1908, and the connection with the Canadian Northern Ry. tracks, in that city, was arranged for with the part use of terminals in 1913, and confirmed by legislation in 1914.

The track was laid with 80 lb. rails, the first rails being laid out of Portage la Prairie at the end of 1906, in which year 35 miles were laid. The Lake Superior Branch was built in 1907 and 1908, from the National Transcontinental Ry., which had been built easterly from Winnipeg, to Fort William, and this line was opened in connection with the completed sections of the line in the west, through traffic being operated between Winnipeg and Edmonton, from Sept. 13, 1909. A temporary train service was given over 120 miles of the main line west of Edmonton from Feb. 1, 1910, and complete operations through to the Pacific coast from Sept. 6, 1914. Branch line construction in Saskatchewan was started at Melville, in 1909, and subsequently at other points in Saskatchewan and Alberta.

During the course of construction, in his report for the year ended Mar. 31, 1909, Sir Collingwood Schrieber said that the cos tof the prairie section had greatly exceeded the estimated cost owing to the increased weight of rail used—80 lb. instead of 65 lb.—the increased cost of rails from $25.25 to $36.59 a ton; the increased cost of ties from 25c each, to 50c, 60c and 70c each; the increased cost of timber for bridges, etc., and the increased cost of labor. These remarks were also applicable to the mountain division, and to an accentuated degree, as labor and materials continued to advance.

In his report for the year ended Mar. 31, 1917, Sir Collingwood Schrieber showed that that total expenditure on the line up to Dec. 31, 1916, had been $131,070,730.64, of which $37,910,534.88 had been expended on the Prairie Division, and $93,160,196.76 on the Mountain Division. At that period it was estimated that the value of the work remaining to be done to comply with the acts of parliament, the contracts and the specifications was $2,297,500 on the Prairie Di-Section, and $2,334,385 on the Mountain Section.

Mileages of Lines.

		Miles
Main line, Winnipeg to Prince Rupert		1,748.00
Saskatchewan Branches.—		
Melville to Canora	55.20	
Melville to Regina	98.40	
Regina to Weyburn and Northgate	155.00	
North Regina to Riverhurst	114.40	
Young to Prince Albert	111.80	
Biggar to Loverna	104.60	
Oban to Battleford-Carruthers	95.00	734.40
Alberta Branches.—		
Tofield to Calgary	201.50	
Bickerdike to end of steel	56.70	
Coalspur to Mountain River	31.00	
Pocohontas to Snaring Jct.	14.20	303.40
Mileage operated		2,785.80
Lake Superior Branch (leased to Dominion Government)		188.80
Mileage owned		2,974.60

In addition the company has graded 26 miles of a branch from Harte to Brandon, Man., and some mileage of branch lines under provincial guaranteed bonds in Saskatchewan.

The Lake Superior Branch, 188.8 miles, while owned by the G.T.P. Ry. was leased to the Dominion Government for 99 years, at $600,000 a year when the National Transcontinental was placed in operation. Prior to that time it was operated by the G.T.P. Ry. in conjunction with the section of the N.T. Ry. from Lake Superior Jct. to Winnipeg, under the terms of an arrangement with the government.

Subsidiary Companies.

The G.T. P. Coast Steamship Co., was incorporated to carry on a freight and passenger business on the Pacific coast, and in 1910, inaugurated a service between Seattle, Wash., Victoria, Vancouver and Prince Rupert. Two steamships —the Prince Rupert and the Prince George—were built for this service, and to these there were subsequently added two steamships purchased and renamed the Prince John and the Prince Albert. Other vessels were utilized, in the service, either by purchase or charter, and one of the purchased vessels has been sold. The latest vessel acquired is the motor schooner Tillamook. The present fleet comprises the four Princes, the motor ship, and a tug.

The G.T.P. Telegraph Co. was incorporated in 1906 by the Dominion Parliament with authorized capital of $5,000,000, and a telegraph line has been built for commercial as well as railway purposes.

The G.T.P. Terminal Elevator Co. was incorporated under the Dominion Companies Act, Jan., 1909, with authorized capital of $1,000,000, to lease and operate a terminal elevator then under construction on Mission River, Fort William, Ont., and it subsequently built an elevator at Tiffin, Ont.

The G.T.P. Townsite and Development Co. was formed to acquire townsites and other lands along the line, and develop the property so acquired. Townships were acquired at divisional points, at the Prince Rupert terminus, and at other points on the line. The entire common stock of $3,000,000 is held by the G.T.P. Ry., or its nominees, and the remaining $2,000,000 is preferred stock. The company held in 1909, according to a statement of the Ministry of Railways in May of that year, 81 townsites and a three-quarter interest in the townsite of Prince Rupert, in all, 78,648 acres. The company has built hotels at Ottawa, Winnipeg, Edmonton, and Prince Rupert and started to build one at Regina.

Bond Issues, Etc.

The securities authorized to be issued to provide funds for the construction of G.T.P.R. lines amounted to $215,134,896, of which there has been issued and there is outstanding, $190,601,784.86. These issues are guaranteed as follows:

By the Dominion of Canada.—		
1st Mortgage bonds, due 1962	$68,040,000.00	
4% Sterling bonds due 1962	8,140,848.00	$76,180,848.00
By The Grand Trunk Ry. Co.—		
3% Series A bonds due 1955	$10,206,000.00	
4% Series B bonds due 1955	9,963,000.00	
4% Lake Superior bonds due 1955	7,533,000.00	
4% Perpetual debenture stock	34,879,252.86	
4% debenture stock due 1923	15,000,000.00	
4% bonds due April 1919	10,000,000.00	
5% Secured notes due 1923	9,720,000.00	97,301,252.86
By the Province of Saskatchewan.—		
4% bonds due 1939	$11,347,848.00	
4½% terminal bonds due [illegible]	1,882,240.00	13,230,088.00
By the Province of Alberta.—		
4% bonds due 1939	$ 2,430,000.00	
4% Coal Branch bonds due 1942	1,159,706.00	[illegible]
Total guaranteed bonds		$190,601,784.86

In addition the company has received by way of loan, secured on mortgage, the sum of $6,000,000, and another of $8,000,000, on account of which $5,892,366.49 was paid out by the Dominion Government in 1917, and the balance was subsequently included in a revote.

Operating Results.

The first official report of the company's earnings was for the year ended June 30, 1913, the principal figures up to 1917, the latest issued, being as follows:

	Gross Earnings	Operating Expenses	Net Earnings	Passengers Carried	Tons of Freight Carried
1913	$8,162,204.86	[illegible]	[illegible]	[illegible]	[illegible]
1914	8,244,594.13	7,262,147.[illegible]	[illegible]	[illegible]	[illegible]
1915	6,660,581.23	[illegible]	[illegible]	[illegible]	[illegible]
1916	6,965,188.88	[illegible]	1,060,[illegible]	[illegible]	[illegible]
1917	6,611,298.18	[illegible]	[illegible]	[illegible]	[illegible]
*1917	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

*Grand Trunk Pacific Branch Lines.

† Deficit.

The Company's Officers.

Following are the executive officers:—President, H. G. Kelley, Montreal; Vice President Traffic, J. R. Dalrymple, Montreal; Vice President and General Manager, W. P. Hinton, Winnipeg; Vice President and Treasurer, Frank Scott, Montreal; Vice President and General Counsel, W. H. Biggar, K.C., Montreal; Assistant to President, D. E. Galloway, Montreal; Assistant to the President and General Manager, A. A. Tisdale, Winnipeg; Secretary, H. Phillips, Montreal.

The General Superintendent is H. H. Brewer, Winnipeg; General Freight Agent, A. E. Rosevear, Winnipeg, and General Passenger Agent, W. E. Duperow, Winnipeg.

Railway, Finance, Meetings, Etc.

Grand Trunk Pacific Ry.—A London press report for 1918 states that the G.T.R. had paid interest on the G.T. Pacific Ry. notes due Mar. 3. The bond issues on which the half year's interest is said to have been paid, are $9,720,000 of G.T.P.Ry., 5% secured notes; and $34,879,252 of G.T.P.Ry. 4% of perpetual debenture stock.

Lacombe and Blindman Valley Electric Ry.—The Alberta Department of Railways report for 1918 states that the Alberta Government holds the majority of stock in this company, and that the line is managed by a board of directors consisting of the members of the government, F. Ford, Edmonton; N. L. Harvey, acting Deputy Minister of Railways; H. A. Warner, and R. H. Douglas, of the provincial engineering staff. The report states that the line handled during the year 5,000 passengers; 5,500 tons of freight, 100,000 bush. of grain, and 7,800 pkgs.

Pacific Great Eastern Ry.—Under the terms of the Pacific Great Eastern Ry. Agreements Amendment Act, 1913, the British Columbia Legislature guaranteed the payment of certain debenture stock of the company of which $5,925,195 has been issued. This stock was pledged to the Union Bank as collateral security for the repayment of a loan of $4,800,000 at 6%. The Union Bank being desirous of having the loan repaid, the company arranged for it to be taken over by the Bank of Commerce, with the approval of the B.C. Government. This loan falls due June 30. The B.C. Legislature has passed an act guaranteeing this loan unconditionally from time to time until repayment has been made.

The B.C. Legislature has also passed an act transferring to the Pacific Great Eastern Ry. the assets of the P.G.E. Development Co.; vesting in the railway company all the powers of the development company, and authorizing the railway company to sell any of the development company's lands. The Development Co. is to be dissolved, its liabilities being transferred to the railway company.

Quebec and Saguenay Ry.—At the judicial sale of this railway at Montreal, Mar. 4, the Financial Controller, Railways Department, made a bid of $4,489,313.54, which was the only one. This was accepted by the directors, and all the papers were signed. The terms of sale were that 20% was paid with the bid, and the balance within fifteen days. The sale was arranged as being the easiest and most complete procedure for the transfer of the line to the Dominion Government. The vendor was the Quebec Savings and Trust Co., as trustee for the bond issue which was held wholly by the Quebec Ry., Light, Heat and Power Co. A press report states that the Dominion Government will also pay interest on the purchase price from the date when the matter was arranged until its completion on Mar. 4.

Mainly About Railway People Throughout Canada.

J. O. Apps, whose appointment as General Agent, Mail, Baggage and Milk Traffic, C.P.R., Montreal, was announced in our last issue, was born at Tara, Ont., Nov. 9, 1877, and entered railway service in 1893 as clerk, Local Freight Department, Illinois Central Rd., Chicago, Ill., remaining there until 1896. He entered C.P.R. service in Nov. 1897, since when he has been to Mar. 1903, clerk in General Superintendent's office; Mar. 1903, clerk in General Superintendent's office; Mar. 1903 to May 1907, chief clerk, General Baggage Department; May 1907 to Jan. 1909, Assistant General Baggage Agent; Jan. 1909 to Feb. 1919, General Baggage Agent, all at Montreal.

John J. Beck, Superintendent, Union Station, Toronto, died Mar. 22, aged 70. He had been in railway service for nearly 50 years, his first service being with the Great Western Ry., now part of the G.T.R., as brakeman, eventually becoming freight conductor, passenger conductor, between Toronto and Sarnia, and agent at Niagara Falls and Buffalo. He was appointed Superintendent, Toronto Union Station in 1906, and hoped to hold the position until the approaching removal to the new station, when he intended to retire. S. V. Beck, Freight Agent, G.T.R., Windsor, Ont., and John Beck, C.P.R. ticket office, Toronto, are sons.

E. N. Bender, General Purchasing Agent, C.P.R., Montreal, announced the engagement of his daughter, Margaret Irene, to Capt. Jno. Black, 5th Canadian Infantry Brigade, Headquarters, France, and formerly of St. Stephen, N.B.

Ernest A. Blow, who has been appointed to a position in the Industrial and Resources Department, Canadian National Rys., Winnipeg, went west from Whitby, Ont., in 1879, since when, except for a short period, he has been in newspaper service for a time as editor of the Portage la Prairie Review, and latterly on the Manitoba Free Press.

W. A. Bowden, Chief Engineer, Railways and Canals Department, Ottawa, has been appointed a member of the Dominion Power Board.

Lady McLaren Brown, wife of the General European Manager, C.P.R., after visiting her sister, Mrs. C. E. Neill, in Montreal, is now staying with her mother, Mrs. Crerar, in Hamilton, Ont.

Samuel Robert Cairns, who has been appointed Sleeping and Dining Car Agent, Eastern Lines, Canadian National Rys., Montreal, was born there, Oct. 31, 1869, and entered transportation service, Feb. 1, 1906, since when he has been, to Apr. 1907, sleeping car conductor, main line, Montreal to Vancouver, C.P.R.; Apr. 1907 to July 1912, chief instructor. Sleeping and Dining Car Department C.P.R., Montreal; July to Nov. 1912, Travelling Inspector, Richelieu and Ontario Navigation Co., Montreal; Jan. [illegible] to Apr. 1914, in private business; Sept. 1915 to Jan. 1919, inspector of munitions, Imperial Munitions Board at various points in Canada and the U.S.; Feb. to March, 1919, Inspector, Sleeping, Dining and Parlor Cars, Eastern Lines, Canadian National Rys., Ottawa, Ont.

James Coleman, Superintendent, Car Department, G.T.R., has been appointed a member of the American Railroad Association's temporary general mechanical committee.

Wilfred Lawson Crighton, whose appointment as General Advertising Agent, Canadian National Rys., Toronto, was announced in our last issue, was born at Derby, Eng., Nov. 9, 1871, and entered railway service in May 1891, since when has been, to May 1896, advertising clerk, C.P.R., Toronto; May 1896 to June 1901, in advertising department, C.P.R., Montreal; June 1901 to Feb. 1919, Advertising Agent, Canadian Government Rys., Moncton, N.B.

L. C. Thompson,
General Storekeeper, Eastern Lines, Canadian National Railways.

George Coster Dew, who has been appointed Asiatic Freight Agent, Canadian Pacific Ocean Services Ltd., Montreal, was born at Toronto, Aug. 9, 1886, and entered transportation service, Mar. 15, 1907, since when he has been, to May 8, 1908, stenographer, C.P.R., Toronto; May 9, 1908 to Aug. 31, 1911, stenographer, C.P.R., Montreal; Sept. 1, 1911 to Feb. 9, 1913, clerk, C.P.R., Montreal; Feb. 10, 1913, to Feb. 28, 1914, chief clerk, C.P.R., Montreal; Mar. 1, 1914 to Dec. 31, 1916 Contracting Agent, C.P.R., Montreal; Jan. 1, 1917 to Feb. 28, 1919, Asiatic Freight Agent, C.P.R., Montreal.

Robert S. Elworthy, whose appointment as General Agent, Passenger Department, Canadian Pacific Ocean Services Ltd., Chicago, Ill., was announced in our last issue, was born in London, Eng., Sept. 10, 1877, and entered transportation service, July 21, 1891, since when he has been, to Apr. 1, 1904, clerk, and Assistant Ticket Agent C.P.R., Chicago, Ill.; Apr. 1 to Dec. 31, 1904, City Passenger Agent, C.P.R., St. Louis, Me.; Jan. 1, 1905 to Mar. 31, 1909, chief clerk, Passenger Department, C.P.R., Chicago, Ill.; Apr. 1 1909 to Nov. 1, 1910, General Travelling Agent, Minneapolis, St. Paul and Sault Ste. Marie Ry., Minneapolis, Minn.; Nov. 1, 1910 to Apr. 30, 1912, City Ticket Agent, same road, Minneapolis, Minn.; May 1, 1912 to Oct. 31, 1913, City Ticket Agent, C.P.R., Chicago, Ill.; Nov. 1, 1913 to Dec. 31, 1915, chief clerk, C.P.R. rail and steamship lines, Chicago, Ill.; Jan. 1, 1916 to Feb. 1, 41919, General Agent, Passenger Department, C.P.R., Minneapolis, Minn.

Edward Fitzgerald, Assistant to Chairman, Imperial Munitions Board, and formerly Assistant General Purchasing Agent, C.P.R., returned to Ottawa early in February from England, where he was in consultation with the Hudson's Bay Co's. Governor and committee, in connection with his new duties as Deputy Chairman of the company's Canadian Advisory board at Winnipeg. He assumed his new duty at Winnipeg in March, and is living at the Fort Garry Hotel. In publishing Mr. Fitzgerald's portrait in Canadian Railway and Marine World for March, he was referred to as "Deputy Chairman, Canadian Advisory Board, Hudson's Bay Co., and latterly Assistant General Purchasing Agent, C.P.R." It should have read, "'formerly Assistant General Purchasing Agent, C.P.R., and latterly Assistant to Chairman, Imperial Munitions Board, Ottawa."

Charles Harry Fox, whose appointment as Division Engineer, C.P.R., Regina, Sask., was announced in a recent issue, was born at Winnipeg, Apr. 2, 1885, and entered C.P.R. service in May 1902, since when he has been, to July 1903, chief clerk, Construction Department, Winnipeg; July 1903 to Sept. 1904, rodman, at various points, Western Lines; 1904 to 1910, attending McGill University, graduating B.Sc civil engineering in 1909, and M.Sc., reinforced concrete, in 1910, and, during the summers, acting as instrument man, C.P.R., at various points; 1910 to 1912, Resident Engineer, Watrous, Alta, and Fort William, Ont.; 1912 to 1915, Assistant Engineer, Manitoba District, Winnipeg; May 1918 to Jan. 1919, military service with Canadian Engineers.

A. E. Fraser, Chief Engineer, Western Lines, Canadian National Rys., and several section hands, were killed by a snow slide on the Canadian Northern Ry. in the Rocky Mountains, Mar. 30.

Major General Sir Percy Girouard, K.C.M.G., D.S.O., Director, Sir W. G. Armstrong Whitworth and Co., of England, and President, Armstrong Whitworth of Canada Ltd., is in Canada on a business trip. He was at one time in C.P.R. service as an engineer, and has spent several years in the British Army, being chiefly concerned with military railways in Egypt, South Africa and India. He was in France in a similar connectijon during the earlier stages of the war, until the War Office decided that his services could be of greater benefit in England. He was also, for some time Governor of Nigeria, where he carried out a large railway scheme.

Leonard Chester Groom, whose appointment as Auditor, Land Department, Canadian Northern Ry., Toronto, was announced in our last issue, was born at Guelph, Ont., Nov. 8, 1884, and entered Canadian Northern Ry. service, Aug. 1, 1908, since when he has been, to Jan. 1, 1909, clerk, Land Department, Jan. 1, 1909 to Jan. 1, 1919, chief clerk, same department, Toronto.

D. B. Hanna, President, Canadian National Rys., and M. H. MacLeod, Vice President, in charge of operation, etc., left Toronto, Mar. 26 on an official trip to the Pacific coast, expecting to be away about three weeks.

Reginald William Douglas Harris, heretofore Trainmaster, C.P.R., Minnedosa, Man., has resigned to take up farming at Tappen, B.C., where he has acquired a fruit, poultry and cattle ranch. He was born at Victoria, B.C., and is the elder son of Dennis R. Harris, civil engineer, his mother being the youngest daughter of the late Sir James Douglas, K.C.B., who was Governor of Vancouver Island and British Columbia when they were Crown colonies and before they were united, and who founded and named the city of Victoria. He was from 1897 to 1904, with the Bank of British North America ni Victoria and Vancouver, and from 1904 to June 1905 was engaged in civil engineering as assistant to F. J. Ritchie, D.L.S., in British Columbia. He entered C.P.R. service in June 1906, since when he has been, to June 1906, wiper, Field, B.C.,; June 1906 to June 1911, fireman, Revelstoke, B.C.; Apr. 1914 to May 1916, Trainmaster, Wilkie, Sask.: May 1916 to Feb. 2, 1917, Trainmaster, Moose Jaw, Sask.: Feb. 2, 1917 to Jan. 1, 1919, Trainmaster, Minnedosa, Man.

Lewis R. Hart, whose appointment as General Agent, Passenger Department, C.P.R., Boston, Mass., was announced in our last issue, was born at Fairport, N.Y., June 3, 1877, and entered railway service, June 22, 1899, since when he has been, to Feb. 1900, telegraph operator and ticket agent, New York, New Haven and Hartford Rd., West Quincy, Mass.; Feb. to Sept. 1900, assistant ticket agent, same road, Quincy Mass.; Sept. 1900 to Dec. 1905, assistant ticket agent, same road, Fall River, Mass.; Dec. 1905 to July 1913, chief clerk, Passenger Department, C.P.R., Boston, Mass.; July 1913 to Jan. 1916, chief clerk, Passenger Department, C.P.R., New York; Jan. 1916 to Mar. 1919, General Agent, Passenger Department, C.P.R., Buffalo, N.Y.

C. A. Hayes, Vice President, Traffic, Canadian National Rys., left Toronto, Mar. 14, for an official trip to the Pacific coast, expecting to be away about three weeks.

G. Hiam, who has been appointed District Freight Agent, C.P.R., Cleveland, Ohio, entered transportation service in June 1904, since when he has been, to Jan. 1914, clerk with C.P.R., Canadian Northern Ry., and Cuba Rys.; Jan. to July 1914, Travelling Freight Agent, C.P.R., Toronto; July 1914 to June 1915, District Freight Agent, C.P.R., Fort William, Ont.; and from June 1915, when he enlisted for active service, with the Canadian Expeditionary Force, to serving in Canada, England and France, until Mar. 1918.

Lady Holt, wife of Sir Herbert Holt, one of the C.P.R. directors, is expected to return to Montreal in April, after having spent over three years in England to be near her sons.

James Jackson Horn, who has been appointed Superintendent, Vancouver Division, British Columbia District, C.P.R., Vancouver, was born at Carleton Jct., Ont., Nov. 26, 1873, and entered C.P.R. service, Jan. 12, 1892, since when he has been, to 1895, agent and operator, Lake Superior and Manitoba Divisions; 1895 to 1911, dispatcher, Fort William, and patcher, Kenora, Ont.; 1912 to 1913, In- Kenora, Ont.; 1911 to 1912, Chief Dis- spector of Transportation, Winnipeg; 1913 to 1915, Chief Dispatcher, Kenora, Ont.; 1915, Trainmaster, Ignace, Ont.; 1916 to Feb. 16, 1919, Chief Dispatcher, Kenora, Ont.

C. R. Hosmer, one of the C.P.R. directors, has been elected a director of the United States Financial Corporation Ltd., a consolidation of C. Meredith and Co. Ltd., Montreal, and the New Guaranty Trust Co. of New York, to handle Canadian business.

Mrs. S. J. Hungerford, wife of the Assistant Vice President, Canadian National Rys., and Miss Alice Hungerford, left Toronto towards the end of March, to spend a few weeks in Winnipeg and Minneapolis.

W. J. Uren,
Superintendent, Farnham Division, Quebec District, Canadian Pacific Ry.

F. L. Hutchinson, Manager in Chief, C.P.R. Hotels, etc., and Mrs. Hutchinson, have been on a trip to the Pacific Coast.

Walter James Hyman, who has been appointed chief draftsman, Car Department, G.T.R., Montreal, was born in England, Aug. 9, 1882, and entered G.T.R. service in 1904, since when he has been, to 1914, draftsman; 1914 to Nov., 1918, assistant chief draftsman, Montreal.

F. W. G. Johnson, who died at Montreal, Jan. 3, from pneumonia, aged 58, was formerly in G.T.R. service there, and later in Great Northern Ry. service at St. Paul, Minn., and returned to Montreal some time ago as manager of a Molsons' Bank branch.

H. G. Kelley, President, G.T.R., and Grand Trunk Pacific Ry., returned to Canada, Mar. 20, after a business trip to England. He has been appointed a member of the American Railroad Association's temporary general transportation committee.

R. E. Larmour, who has been appointed General Freight Agent, Eastern Lines, C.P.R., Montreal, was born at Brantford, Ont., Sept. 26, 1868, and entered railway service Aug. 1884, at Stratford, Ont., as office boy in the office of his father, who was then Division Superintendent, G.T.R., remaining there until 1886; since when his record has been: 1886 to 1888, clerk in the office of General Manager, Great Eastern Fast Freight Line, Detroit, Mich.; 1888 to 1890, Accountant to General Superintendent, Chicago and Grand Trunk Rd., Detroit, Mich.; 1890 to 1892, Local Freight Department, G.T.R., Detroit, Mich.; 1892 to 1898, Transfer Clerk, Through Freight from Wabash Rd. to G.T.R., at Windsor, Ont. He entered C.P.R. service in 1898, and has been, to Nov. 1899, chief clerk Freight Department, Fort William, Ont.; Nov., 1899 to May 1900, acting agent, Fort William; May, 1900 to Aug. 1900, chief clerk, Superintendent's Office, Fort William; Aug., 1900 to Feb. 1903, agent, Port Arthur, Ont.; Feb., 1903 to Feb. 1905, Freight Claims Agent, Pacific Division, Vancouver, B.C.; Feb., 1905 to Feb. 1906, Freight Claims Agent, Central and Western Divisions, Winnipeg; Feb. to Aug. 1906, City Freight Agent, Winnipeg; Aug., 1906 to June 1908, Freight Agent, Fort William, Ont.; June to July, 1908, General Agent, Fort William, Ont.; July, 1908 to June 1909, General Freight Agent, Kootenay and Boundary District, Nelson, B.C.; June, 1909 to Apr. 1911, General Freight Agent, Central Division, Winnipeg; Apr. to June 1911, Division Freight Agent, Manitoba Division, Winnipeg; June, 1911 to July 1914, Division Freight Agent, British Columbia Division, Vancouver; July, 1914 to Sept. 30 1915, Assistant General Freight Agent, Vancouver, B.C.; Sept. 30, 1915 to Mar. 15 1919, General Agent, Freight Department, New York, N.Y.

Howard M. MacCallum, whose appointment as General Freight Agent, Canadian Pacific Ocean Services, Ltd., Toronto, was announced in our last issue, was born at Huntingdon, Que., Dec. 3, 1882, and entered transportation service in Sept. 1899, since when he has been, to May 1904, general freight and passenger work, Allan Line, Montreal, and Portland, Me.; May 1904 to Aug. 1907, chief clerk to General Passenger Agent, Steamship Lines, C.P.R., Montreal; Aug. 1907 to Aug. 1908, Travelling Passenger Agent, Steamship Lines, C.P.R., Winnipeg; Aug. 1908 to Dec. 1909, General Agent, Steamship Lines, C.P.R., Winnipeg; Jan. 1910 to Feb. 1919, General Agent, Canadian Pacific Ocean Services Ltd., Chicago, Ill.

A. D. MacTier, Vice President, Operation, etc., Eastern Lines, C.P.R., has been appointed a member of the American Railroad Association's temporary general operating committee.

Sir Donald Mann visited Winnipeg in March.

Andrew McCulloch, whose appointment as Chief Engineer and General Superintendent, Kettle Valley Ry., Penticton, B.C., was mentioned in our last issue, was, prior to his appointment as Chief Engineer, K.V.R., June 1, 1910, engaged for several years, in engineering work on Eastern and Western Lines, C.P.R. From June 1, 1910, he had charge of the location and construction of the K.V.R., and later had charge of both engineering and maintenance work. On the resignation of J. W. [illegible] as General Superintendent, Dec. 16, 1918, he was also appointed acting General Superintendent, and confirmed in that position, Feb. 20.

Walter Taylor Moodie, who has been appointed Superintendent, Division 3, Central District, Canadian National Rys., Port Arthur, Ont., was born at Glasgow, Scotland, Mar. 10, 1882. From Oct. 1897 to Oct. 1902, he served his apprenticeship with a firm of civil engineers there, from Oct. 1902 to Mar. 1903, was assistant engineer, with the same firm, and from Mar. 1903 to Feb. 1905, assistant engineer, Caledonian Ry., Glasgow, Scotland; Mar. 1905 to Mar. 1908, assistant engineer, Central South African Rys., Transval; Apr. 1908 to Sept. 1911, assistant engineer, Canadian Northern Ry., Winnipeg, Man.; Oct. 1911 to Sept. 1915, Engineer, Maintenance of Way, same road, Winnipeg; Oct. 1915 to Dec. 1918, District Engineer, same road, Winnipeg.

Thomas Fletcher Oakes, former President of the Northern Pacific Rd., died in Seattle, Wash., Mar. 14, aged 76. In 1863 he entered the service of the Kansas Pacific Ry., from which he resigned as Vice President in 1879 to become General Superintendent of the Kansas City, Fort Scott & Gulf Rd. He later served as Vice President and General Manager of the Oregon Ry. & Navigation Co. In 1881 he became Vice President Northern Pacific, and served as President from 1888 to 1893, when he was appointed receiver for two years.

Sir Edmund Osler, of Toronto, one of the C.P.R. directors, has been staying at Hot Springs, Virginia.

F. W. Peters, General Superintendent, British Columbia District, C.P.R., accompanied by Mrs. Peters and Miss Dorothy Langford, left Vancouver, Mar. 15, in the official car, British Columbia, to attend the C.P.R. officials' conference and dinner in Montreal, Mar. 21 and 22.

T. P. Phelan, President, Canada Railway News Co., was sufficiently recovered from the operation he underwent in January to be able to leave Baltimore about the middle of March to complete his convalescence at Atlantic City. He is expected to return to Toronto towards the end of April or early in May.

Miss Doris M. Piper, daughter of Hiram L. Piper, of the Hiram L. Piper Co., railway and steamship supplies, Montreal, was married Mar. 13, to E. C. Crutchley, of Jersey City, N.J.

Sydney John Lyle Potter, who has been appointed Paymaster, Canadian Northern Ry., Toronto, was born in Devonshire, England, Apr. 5, 1887, and entered railway service in England with the Great Northern Ry., being, from May 5, 1905 to Oct. 1, 1907, clerk at King's Cross, London. He came to Canada in 1907, and entered Canadian Northern Ry. service, Oct. 28, 1907, since when he has been, to Oct. 1, 1915, clerk, Toronto; Oct. 1, 1915 to Dec. 31, 1918, Assistant Paymaster, Toronto.

Alfred Price, General Manager, Eastern Lines, C.P.R., when in Toronto recently, paid a visit with the mayor to the new Elizabeth St. school, and ad[illegible] the pupils. As a boy he attended the old Elizabeth St. school.

Henry Thomas Rawlings, whose appointment as Lake Forwarding Agent and Fuel Inspector, Canadian National Rys., Cleveland, Ohio, was announced in our last issue, was born in London, Eng., Sept. 27, 1883, and entered railway service June 1, 1908, since when he has been, to Apr., 1914, in the Accounting Department, Canadian Northern Ry., Toronto; Apr. 1914 to Sept. 1918, chief clerk, Vice President's office, same road; Sept. 1918 to Mar. 31, 1919, chief clerk, President's office, Canadian National Rys., Toronto.

Senator H. W. Richardson, who died at Kingston, Ont., some months ago, left an estate valued at about $2,000,000.

W. D. Robb, Vice President, Transportation and Maintenance, G.T.R., and Mrs. Robb, have been spending a short time at Atlantic City N.J.

H. R. Safford, formerly Chief Engineer, Grand Trunk Ry., now Engineering Assistant, Central Western Region, U.S. Railroad Administration, has been appointed a member of the American Railroad Association's temporary general engineering committee.

Lady Schreiber, widow of Sir Collingwood Schreiber, K.C.M.G., C.E., formerly General Consulting Engineer, Dominion Government, who has been a patient in the Ottawa General Hospital for about a month, was able to return home Mar. 14.

R. E. Perry.
Assistant General Freight Agent, Eastern Lines, Canadian National Railways.

Lord Shaughnessy, Chairman, C.P.R., returned to Canada Mar. 17, after a trip to Europe.

G. E. Smart, General Master Car Builder, Canadian National Rys., Toronto, who was laid up with influenza and pneumonia, for some weeks, was able to get out again at the end of March.

D. A. Story, formerly Freight Traffic Manager, C.G. Rys., Moncton, N.B., who retired on the superannuation list recently, left Moncton, N.B., Feb. 27, for Los Angeles, Cal., expecting to remain on the Pacific coast until June, and then to return to Halifax, N.S.

Harry A. Stuart, who has been appointed Division Freight Agent, Canadian National Rys., was born at Portland, Me., Aug. 16, 1891, and entered Railway service in May 1912, since when he has been, to Oct. 1913, City Freight and Passenger Agent, Chicago Great Western Ry., Winnipeg; Oct. 1913 to Aug. 1916, City Passenger Agent, Chicago and North Western Ry., Winnipeg; Sept. 1916 to Dec. 31, 1918, City Freight Agent, Canadian Northern Ry., Winnipeg.

E. F. L. Sturdee, whose appointment as General Agent, Passenger Department, C.P.R., Seattle, Wash., was announced in our last issue, was born at St. John, N.B., Mar. 29, 1876, and entered C.P.R. service in Dec. 1893, since when he has been, to July 1894, clerk, Colonization Department, Moncton, N.B.; July 1894 to Aug. 1897, clerk, Passenger Department, St. John, N.B.; Aug. 1897 to June 1902, clerk, Passenger Department, Toronto; June 1902 to Mar. 1911, excursion clerk, Montreal; Mar. 1911 to Dec. 1913, chief clerk, Montreal; Dec. 1913 to Apr. 1915, Assistant District Passenger Agent, Toronto; Apr. 1915 to Mar. 1919, General Agent, Passenger Department, Boston, Mass.

William Taylor, General Agent, White Pass and Yukon Route, St. Michaels, Alaska, died at Seattle, Wash., Mar. 12. He had been with the company since 1900, and was, at one time, General Agent at Dawson, Yukon, and later, Superintendent of the Upper Yukon River District.

Lorne Cameron Thompson, whose appointment as General Storekeeper, Eastern Lines, Canadian National Rys., Toronto, was announced in a previous issue, was born at Kingston, Ont., Nov. 25, 1882, and entered railway service, in Mar. 1897, since when he has been, to June 1898, requisition clerk, Stores Department, Delorimier Ave. Shops, C.P.R., Montreal; June 1898 to Apr. 1889, billing clerk, Stores Department, C.P.R., Hochelaga, Montreal; Apr. 1899 to June 1900, timekeeper, car shops, C.P.R., Hochelaga, Montreal; June 1900 to Mar. 1901, Storekeeper, C.P.R., Quebec, Que.; Mar. 1901 to June 1902, Storekeeper, C.P.R., Brownville Jct., Me.; June 1902 to Nov. 1903, Divijsion Storekeeper, C.P.R., McAdam Jct., N.B.; Nov. 1903 to June 1904, relieving storekeeper, Eastern Lines, C.P.R.; June 1904 to Oct. 1905, Storekeeper, section A, Angus shops, C.P.R., Montreal; Oct. 1905 to Mar. 1907, chief clerk, General Storekeeper, Angus shops, C.P.R., Montreal; Mar. 1907 to July 1909, Storekeeper, Ontario Lines, Canadian Northern Ry., Parry Sound, Ont.; July 1909 to Nov. 1912, Division Storekeeper, Ontario and Quebec Lines, Canadian Northern Ry., Toronto; Nov. 1912 to Feb. 20, 1916, General Storekeeper, Eastern Lines, Canadian Northern Ry., Toronto; Feb. 20, 1916 to Jan. 14, 1919, Superintendent Transportation, Imperial Munitions Board, Ottawa, Ont.

William J. Uren, whose appointment as Superintendent, Farnham Division, Quebec District, C.P.R., Farnham, Que., was announced in a recent issue, was born at St. Marys, Ont., Jan. 23, 1872, and entered railway service Sept. 6, 1888, since when he has been, to June 1890, telegraph operator, C.P.R., Hawk Lake, Rat Portage, Ont., and various other points; June 1890 to Nov. 1892, agent and operator, C.P.R., Barclay and Dexter, Ont.; Nov. 1892 to Nov. 1898, Terminal Agent and Yardmaster, C.P.R., Ignace, Ont.; Nov. 1898 to June 1903, dispatcher, C.P.R., Fort William, and Rat Portage, Ont.; June 1903 to Apr. 1904, Chief Dispatcher, C.P.R., Rat Portage, now Kenora, Ont.; Apr. to June 1904, Night Chief Dispatcher, C.P.R., Winnipeg; June 1904 to May 1905, Chief Dispatcher, C.P.R., Moose Jaw, Sask.; May 1905 to Nov. 1908, Chief Dispatcher, and

Relieving Trainmaster, C.P.R., Winnipeg; Nov. 1908 to Nov. 1909, Superintendent, C.P.R., Brandon, Man.; Nov. 1909 to June 1910, Superintendent, C.P.R., Moose Jaw, Sask.; June 1910 to Sept. 1912, Superintendent, C.P.R., Cran-Brock, B.C.; Sept. 1912 to Nov. 1913, Superintendent, C.P.R., Calgary, Alta.; Nov. 1913 to Nov. 1918, Superintendent, and relieving General Superintendent, C.P.R., Toronto.

L. A. Vallee, Chief Engineer and Director of Railways in connection with the Quebec Public Works and Labor Department, and Engineer of the Quebec Public Utilities Commission, died at Quebec, Mar. 10. He was born at Beauport, Que., Nov. 30, 1851, and entered the Sherbrooke and Eastern Townships Ry's. service as an apprentice engineer in 1869, and from 1870 to 1876 acted as rodman, leveller and transit man, North Shore Ry. From 1876 to 1882 he was Assistant Engineer and Division Engineer in charge of construction and maintenance of way, Quebec, Montreal, Ottawa and Occidental Ry., now part of the C.P.R. In 1882 he was appointed Government Engineer, and in 1895, Director of Railways for the Province of Quebec, and in 1909, also Engineer, Quebec Public Utilities Commission.

Sir William Van Horne's estate of $6,371,374.73 included 2,000 shares of British Columbia Sugar Refineries Co's. stock valued at $300,000. The B.C. Government assessed the estate $14,242.10 for succession duties, but the executors contended that the basis upon which this figure had been arrived at was wrong, and that on a correct basis the succession duties would be $8,523. Chief Justice Hunter, on Mar. 13, held that the province could not assess succession duties on property outside its own borders. It is reported that the case will be appealed by the Government.

Adrian P. Villain, who has been appointed City Ticket Agent, C.P.R., San Francisco, Cal., was born there, Feb. 6, 1891, and entered transportation service in Aug. 1908, since when he has been, to Apr. 1911, car register clerk, Pullman Co.; Apr. 1911 to Mar. 1913. ticket clerk, Southern Pacific Co.; Mar. 1913 to Dec. 1915, City Passenger Agent, C.P.R.; Dec. 1915 to Feb. 1919, Travelling Passenger Agent, C.P.R.; all at San Francisco.

Ewart Buchan Walker, whose appointment as Electrical Engineer, Canadian National Rys., Toronto, was announced in our last issue, was born there, Dec. 15, 1879. He entered Canadian General Electric Co's. service at Peterborough, Ont., in 1901, and was engaged in factory work until 1903, when he was appointed Manager, Storage Battery Department, remaining in that capacity until 1909, when he became a partner in Chapman and Walker Ltd. electrical engineers and contractors, and from 1915 has been engaged as an electrical engineer, Eastern Lines, Canadian Northern Ry.

John Wardrop, who has been appointed General Agent, Industrial and Resources Department, Canadian National Rys., Winnipeg, will have jurisdiction extending over the Western Lines, from Port Arthur, Ont., to the Pacific coast. He has had considerable experience in immigration work, as Assistant Industrial Commissioner in charge of European and U.S. immigration.

R. J. S. Weatherston, Division Freight Agent, G.T.R., Ottawa, Ont., was presented with a purse of money, by a number of local business men, and a gold watch, with a silver tea service for Mrs. Weatherston by the local G.T.R. staff, at Stratford, Ont., Mar. 1, on leaving that city, where he had been Division Freight Agent, G.T.R., for over seven years.

Rowland Hill Webster, whose appointment as Commercial Agent, G.T.R., Moncton, N.B., was announced in our last issue, was born at Pictou, N.S., July 2, 1885, and entered railway service Dec. 1, 1900, since when he has been, to Nov. 1909, clerk in freight office, Intercolonial Ry., Pictou, N.S., and relieving agent, freight work, and ticket agent, at various points, Sydney and Truro Districts, Canadian Government Rys.; Nov. 1909 to Apr. 1910, chief clerk to Assistant General Passenger Agent, C.G.R., Halifax, N.S.; Apr. 1910 to Feb. 1912, Steamship Ticket Agent, C.G.R., Quebec, Que., and Halifax, N.S.; Feb. 1912 to Feb. 1919, Travelling Freight Agent, G.T.R., Moncton, N.B.

W. H. Winterrowd, Chief Mechanical Engineer, C.P.R., has been appointed a member of the American Railroad Association's temporary general mechanical committee. He returned to Montreal towards the end of March, having spent a few weeks in the south, recuperating after a very severe cold.

American Railroad Association's Mechanical Convention at Atlantic City.

The first session of the Mechanical Section (formerly the Master Car Builders' Association and the American Railway Master Mechanics' Association) will be held at Atlantic City N.J., June 18 to 25.

The convention will be under the management of the mechanical section's general committee, composed of three representatives of the United States Railroad Administration, two representatives of each of the operating regions into which the U.S. has been divided, and two representatives of Canadian railways. The names of the committees are given on pg. 172 of this issue. The Canadian representatives on the committee are, Jas. Coleman, Superintendent Car Department, G.T.R.; and W. H. Winterrowd, Chief Mechanical Engineer, C.P.R. Following is the programme:

June 18 to 20. Report from committees to be received and considered as follows:—

Arbitration, J. J. Hennessey, chairman.

Standards and recommended practice (M.C.B.), T. H. Goodnow, chairman.

Train brake and signal equipment, T. L. Burton, chairman.

Brake shoe and brake beam equipment, B. B. Milner, chairman.

Couplers, R. L. Kleine, chairman.

Loading rules, J. J. Burch, chairman.

Car wheels, W. C. A. Henry, chairman.

Safety aplıances, C. E. Chambers, chairman.

Car construction, W. F. Kiesel, chairman.

Specifications and tests for materials (M.C.B.), T. M. Waring, chairman.

Car Trucks, J. T. Wallis, chairman.

Prices for labor and material, P. F. Smith, Jr., chairman.

Train lighting and equipment, J. R. Sloane, chairman.

Nominations, F. W. Brazier, chairman.

Tank cars, A. W. Gibbs, chairman.

Draft gears, R. L. Kleine, chairman.

Welding truck side frames, bolsters and arch bars, W. O. Thompson, chairman.

Standard blocking for cradles of car dumping machines, J. McMullen, chairman.

Revision of passenger car rules of interchange, H. H. Harvey, chairman.

Depreciation for freight cars, M. K. Barnum, chairman.

June 21.—Election of officers.

June 23 to 25.—Reports from committees to be received and considered as follows:—

Standards and recommended practice (A.R.M.M.), W. E. Dunham, chairman.

Mechanical stokers, A. Kearney, chairman.

Powdered fuel, C. H. Hogan, chairman.

Specifications and tests for materials (A.R.M.M.), F. M. Waring, chairman.

Design and maintenance of locomotive boilers, C. E. Fuller, chairman.

Locomotive headlights, H. T. Bentley, chairman.

Superheater locomotives, W. J. Tollerton, chairman.

Design, maintenance and operation of electric rolling stock, C. H. Quereau, chairman.

Train resistance and tonnage rating, O. P. Reese, chairman.

Subjects, M. K. Barnum, chairman.

Intercolonial Ry. Property Not Insured.—The Minister of Railways, in answering a question in the House of Commons recently, stated that the Intercolonial Ry. locomotives, material, buildings, stations, car sheds, locomotives, trucks, workshops and elevators, were not insured against fire.

Railway Supplies for Mexico.—A cablegram from the United States Consul-General in Mexico announces that a presidential decree in effect from Feb. 20 permits the importation of the following railway supplies into Mexico free of duty for six months: Switch points, iron and steel ties, turntables, iron and steel rails, frogs, and tie plates. The duties thereby remitted amount to 0.03 peso per kilo gross weight, or $0.68 per 100 lbs.

Canadian Northern Ry's. St. Boniface Taxes.—The St. Boniface, Man., City Council, has came to a settlement with the Canadian Northern Ry. in respect to overdue taxes, which were reported to amount to nearly $250,000 since 1911, on account of which the city sold at a tax sale in Oct. 1918, a part of the 80 acres of land held by the company. The settlement reached is reported to be $25,000 cash, and $125,000 to be covered by interest bearing notes to be paid within a year.

Board of Conciliation, Grand Trunk Pacific Ry.—The following are [illegible] of a board of conciliation appointed to arbitrate between the Grand Trunk Pacific Ry. and certain of its employes who are members of the Canadian Brotherhood of Railway Employes:—A. J. Andrews, K.C., chairman; [illegible] representing the company, and T. J. Murray, representing the men. All the three members live in Winnipeg.

The United States Railroad Administration Railways entering Montreal, viz., the New York Central, Central Vermont Ry., Rutland Rd., and Delaware and Hudson, will from Apr. 1, use as a down town ticket office, the premises at [illegible] St. James St., hitherto used by the Delaware and Hudson Rd. for that purpose.

Railway Rolling Stock Orders and Deliveries.

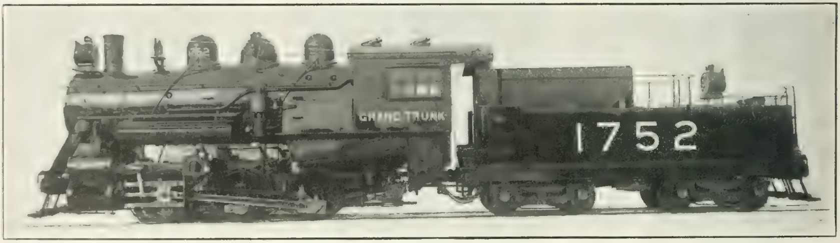
The C.P.R., to Mar. 19, received the following additions to rolling stock: 16 steel underframe box cars, 75 flat cars, and 2 decapod locomotives, from its Angus shops, Montreal, and 2 vans from its Winnipeg shops.

The Canadian National Rys. baggage cars, 20 of which are on order with Canadian Car and Foundry Co., as mentioned in a previous issue, will have the same general equipment as is being supplied with the colonist cars, except that the air brake cylinder will be 16in. diar., instead of 18 in.

Following are dimensions and general details of the 300 stock cars, which Canadian National Rys. has ordered from National Steel Car Co.:

Capacity	30 tons
Length inside	36 ft.
Width inside	8½ ft.
Height inside	8 ft.
Draft gear	Tandem
Journal boxes	4¼ x 8 in.
Trucks	Simplex
Brake beams	M.C.B. 2
Springs	M.C.B. class G

With reference to the 150 refrigerator cars, 500 stock cars, and 250 ballast cars, which Canadian National Rys. has ordered from Canadian Car and Foundry Co., and details of which were given in our last issue, we are advised that the refrigerator and stock cars will be built at the company's Amherst, N.S., works, and the ballast cars at its Fort William, Ont., works.



Grand Trunk Railway Six Wheeled Switching Locomotive.

The C.P.R. has ordered the following rolling stock, for delivery during this year by its own shops: 20 steel baggage and express cars, 106 steel refrigerator cars, 260 steel flat cars, 440 steel underframe flat cars, 1 all steel grain car, 70 tons capacity, 4 decapod locomotives, 10 mikado locomotives, 16 Pacific locomotives, 15 Santa Fe locomotives, at its Angus shops; and 6 vans at its Winnipeg shops.

The Canadian National Rys. colonist cars, 100 of which are on order with Canadian Car and Foundry Co., and 50 with the Pullman Co., as mentioned in a previous issue, will have the following equipment and specialties: 6 wheel trucks with 5 x 9 in. axles, McCord journal boxes, rolled steel wheels, equipped with latest type of clasp air brakes, Westinghouse L.N. equipment with 18 in. brake cylinder, Safety Car Heating and Lighting Co's. electric lighting system, 30 volts, 300 ampere hour battery, with lights so arranged inside of car as to provide half light on night circuit, 4 separate circuits arranged for lighting, and no gas to be used for auxiliary purposes, Vapor Car Heating Co's. latest vapor heating system, emergency stove for auxiliary heating in addition to regular colonist cooking range, Du Pont fabrikoid seat covering, pantasote curtains, composition flooring, interior finish, wood, exterior, steel, gravity water system supplied from overhead tanks with specijal filling device from side of car, 3 wash basins at men's end of car, and one at the women's end, smoke room in 4 sections.

The G.T.R., during January, received 3 six-wheel switching locomotives from its Montreal shops, and has a further 22 of the same type under construction. Following are the chief details:

Cylinders, diam. and stroke	21 x 26 in.
Driving wheels	51 in.
Boiler, diam.	68 in.
Boiler pressure	180 lb.
Firebox	95-15 16 x 4¼ in.
Tubes, no. and diam.	158-2 in., 21-5½ in.
Tubes, length	12 ft. 5 in.
Heating surface, firebox	132 sq. ft.
Heating surface, tubes	1,391 sq. ft.
Heating surface, total	1,523 sq. ft.
Grate area	27.5 sq. ft.
Wheel base, driving	12 ft.
Wheel base, engine	12 ft.
Weight on drivers	151,400 lb.
Weight, total	154,000 lb.
Tractive power	34,400 lb.
Factor of adhesion	4.49
Tank capacity	4,560 gall.
Coal capacity	6 tons
Valve motion	Walschaert
Driving wheel centers	Cast iron
Tender wheels	Tires and retaining rings
Safety valves	2-3 in.
Grate shakers	Hand
Steam heat	Gold or Vapor
Driving box shoes and wedges	Brass
Reverse gear	Casey-Cavin
Headlights	Pyle National

The C.P.R. ordered recently 140 Hart-Otis general service cars from the Hart-Otis Car Co., mention of which was made in a previous issue. They are being built in Canada. The floor of the car is composed of 8 drop doors, 4 on each side hinged to the center sill, and operated in sections of 2 doors to a section. The operating gear is the Hart-Otis Car Co's. latest improved rolling shaft type, the operating shaft being 2½ in. open hearth mild steel. The cars have an apex 14½ in. high at the center, by 2 ft. 4 in. wide at the floor line, and built up of steel plates and angles, entirely covering the center sills. Following are the chief dimensions.—

Length inside coupler knuckles	27 ft. 8½ in.
Length over end sills	24 ft. 4½ in.
Length inside	22 ft. 5 in.
Width overall	9 ft. 11 ¼ in.
Width inside	9 ft. 6 in.
Height inside	5 ft.
Height from rail	9 ft. 4 13-16 in.
Height from rail to floor	4 ft. 4 13-16 in
Truck centers	13 ft.
Wheel base of truck	5 ft. 6 in.
Wheel base of car	18 ft. 6 in.
Doors on each side	4
Width of door opening	2 ft. 2 in.
Length of door opening, intermediate	5 ft. 7 in.
Length of door opening, end	4 ft.

Following are the chief details of the Mikado, Pacific and Santa Fe locomotives, which the C.P.R. is building at its Angus shops, numbers of which are given elsewhere on this page:

Mikado.

Boiler pressure	200 lbs.
Cylinders	25 x 32 in.
Driving wheels, diar.	68 in.
Tractive effort	54,000 lb.
Firebox, inside	120⅛ x 84⅝ in.
Flues, no. and diar	40-5½ in.
Tubes, no. and diar.	211-2¼ in.
Length over tube sheets	18 ft. 6 in.
Firebox heating surface	274 sq. ft.
Arch tube heating surface	37.5 sq. ft.
Tube and flue heating surface	3,347.78 sq. ft.
Superheating surface, approx.	845 sq. ft.
Total equivalent heating surface	4,926.78 sq. ft.
Grate area	70.3 sq. ft.
Grate area	70.8 sq. ft.
Factor of adhesion	4.18
Weight on drivers	226,000 lb.
Weight on engine truck	25,000 lb.
Weight on trailing truck	49,000 lb.
Total weight, engine	300,000 lb.
Total weight, tender loaded	180,000 lb.
Coal capacity, tons	12
Water capacity, imp. galls.	8,000

Pacific.

Boiler pressure	200 lbs.
Cylinders	24 x 30 in.
Driving wheels, diar.	70 in.
Tractive effort	42,000 lb.
Firebox, inside	114⅛ x 84⅝
Flues, no. and diar.	38-5½ in.
Tubes, no. and diar.	202-2¼ in.
Length over tube sheets	18 ft. 4⅞ in.
Firebox heating surface	264.5 sq. ft.
Arch tube heating surface	32.5 sq. ft.
Tube and flue heating surface	3,197 sq. ft.
Superheating surface, approx.	803 sq. ft.
Total equivalent heating surface	4,698.5 sq. ft.
Grate area	60.87 sq. ft.
Factor of adhesion	4.25
Weight on drivers	175,000 lb.
Weight on engine truck	50,000 lb.
Weight on trailing truck	50,000 lb.
Total weight, engine	275,000 lb.
Total weight, tender loaded	180,000 lb.
Coal capacity, tons	12
Water capacity, imp. galls.	8,000

Santa Fe.

Boiler pressure	200 lb.
Cylinders	26½ x 32 in.
Driving wheels, diar.	58 in.
Tractive effort	65,870 lb.
Firebox, inside	120⅛ x 88⅞ in.
Flues, no. and diar.	45-5½ in.
Tubes, no. and diar.	230-2¼ in.
Length over tube sheets	21 ft.
Firebox heating surface	332.5 sq. ft.
Arch tube heating surface	37.5 sq. ft.
Tube and flue heating surface	4,200 sq. ft.
Superheating surface, approx.	1,085 sq. ft.
Total equivalent heating surface	6,197 sq. ft.
Grate area	74.2 sq. ft.
Factor of adhesion	4.16
Weight on drivers	275,600 lb.
Weight on engine truck	24,000 lb.
Weight on trailing truck	55,000 lb.
Total weight, engine	254,600 lb.
Total weight, tender loaded	180,000 lb.
Coal capacity, tons	12
Water capacity, imp. galls.	8,000

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Canadian Pacific Railway Construction, Betterments, Etc.

New Brunswick District.—The programme of betterments on this district, according to a press report, will, in addition to the usual repair work to bridges, culverts and buildings, include the replacement of 45 miles of rails between St. John, N.B., and Megantic, Que., on the main line, and 50 miles of ballasting, mostly in Maine; tree planting at various points along the line for snow protection purposes; the replacing of the trestle bridge at Newburg Jct., north of Woodstock, by a 12 ft. concrete arch; the replacement of the turntable at McAdam by a larger and heavier one; the building of three standard type dwellings for divisional officers, and 10 standard type dwellings for other employes at Brownville Jct.

New Brunswick Coal and Ry. Co.—A press report states that several trestles will be removed, and will be replaced by concrete culverts next year. The line extends from Norton to Minto, N.B., and is operated in connection with the Fredericton and Grand Lake Coal and Ry. Co., by the C.P.R. under lease.

Quebec District.—A press report stated recently that the company had made an appropriation of $236,000 for improvements to the freight yard at Three Rivers,, Que. We are advised that while improvements will probably be required at this point before long, plans have not been prepared, and nothing has been decided as to what will be done.

The Interprovincial and James Bay Ry. Co., incorporated by the Dominion Parliament, and controlled by the C.P.R., has power to build a line from Lumsden's Mills, Que., at the terminus of the branch from Mattawa, to Des Quinze River, for the building of which five years extension of time was granted in 1917. The Abitibi Chamber of Commerce on Mar. 6, passed a resolution asking the Dominion Government not to renew the charter unless the company starts construction of the line, with the intention of carrying it through from the Des Quinze River into the Abitibi country. The Quebec Legislature has voted 4,000 acres of land a mile in aid of the construction of a line from Timiskaming, on Lake Timiskaming, the terminus of the C.P.R. branch line from Mattawa, or from the proposed terminus of a branch of that line, via Ville Marie, on the Quebec shore of Lake Temiskaming, to the Riviere des Quinze. (Sept., 1917, pg. 359).

Ontario District.—A. press. report states that the company contemplates building a second track on its line between Guelph and London. As a matter of fact Guelph is on the company's branch line from Guelph Jct to Goderich, 15 miles from the main line to London. The company has a double track line from Toronto to Guelph Jct., and surveys for continuing the second track as far as Woodstock were completed in 1913, at the time when the second track was completed to Guelph Jct. Several of the contractors left their plants on the work, expecting to go ahead, but subsequently removed them.

Saskatchewan District.—A deputation waited on D. C. Coleman, Vice President Western Lines, Mar. 13, asking that the company build a line from Lanigan, to Humboldt and thence northwesterly toward Prince Albert, Sask. This is, in part, one of the lines for which the company is asking the Dominion Parliament to authorize it to build (Feb., pg. 75), the particular line in the company's application being from Lanigan, on the Pheasant Hill branch, generally northeasterly to a point between the Carrot and Saskatchewan Rivers, and then on to a point near Cumberland House, Sask. Mr. Coleman is reported to have advised the deputation that pending the result of the application to parliament the company was investigating the traffic possibilities of the district and was endeavoring to lay out a line to serve it.

Surveys are being made for a line from Swift Current easterly. C. H. Larson, J. B. Paget and J. K. Foster have been appointed location engineers.

Alberta District.—When the Board of Railway Commissioners was in Regina, Sask., Mar. 2, representations were made in favor of the immediate completion of the Weyburn-Lethbridge line. The vacant link is between Manyberries and Altaway at the Alberta-Saskatchewan boundary, about 37 miles. D. C. Coleman, Vice President Western Lines, pointed out that the greater portion of the land through which the line would pass was let out on grazing leases, and the company should not be asked to build lines in unprofitable territory. (Mar., pg. 130).

Nakusp and Slocan Ry.—The British Columbia Legislature is being asked to confirm an agreement made between the British Columbia Government and the C.P.R., respecting the Naksup and Slocan Ry. bonds. The bond issue was for £137,960, guaranteed as to principal and interest by the B.C. Government, and became due July 1, 1918. The agreement provides that the B.C. Government shall acquire the bonds, and sell the same to the C.P.R. at a price not exceeding their face value, and upon certain other conditions following upon the purchase. The C.P.R. agrees to continue to operate the railway until the termination of its lease, June 30, 1920, and to pay taxes on the same on the basis set forth in clause 25 of the indenture of Aug. 9, 1913, the province to repay to the C.P.R. any taxes collected in excess of that basis.

Upon the second reading of this bill, Mar. 1, it was explained that the agreement was entered into July 1, 1918. The guarantee was authorized by the legislature 25 years ago, the interest rate being 4%. The arrangement that the C.P.R. should retire the bonds and take possession of the railway relieved the province of its obligation in connection with the bonds and the road. Under the old agreement the company was obliged to pay to the province 40% of the gross receipts which had failed to meet interest payments by some $29,000 a year, a debit to the province of $326,408 in all. In the event of the province renewing the bonds and holding the company to the original arrangement, not only would the interest rate on the bonds have advanced, but there would have been the continual drain on the treasury to the extent of over $30,000. The Finance Minister said the agreement was a good bargain for the province.

Railway Development, Projected Lines, Surveys, Construction, Betterments, Etc.

Alaska Rys.—The United States Congress appropriated $4,002,380 recently for the continuance of construction on the line from Seward to Fairbanks, Alaska, but the Senate failed to ratify it. The line is 471 miles long including a branch. The report of the Alaska Engineering Commission, which has charge of the work, showed that at the end of 1918 the work was about two-thirds completed. It has been done entirely by small contractors, and by day labor, under the supervision of the commissions' engineering staff. The branch line to the Matanuska coal fields, 38 miles, is completed. The first 71 miles of the main line consists of the old Alaska Northern Ry., in which the shareholders of the former Soverign Bank of Canada were interested, and the last 7 miles into Fairbanks consist of that mileage of the old Tanana Valley Ry., a line 44.5 miles long, which were acquired by the commission. The 393 miles to be built to connect these two pieces of line, were located through a waste country. There has been built 206 miles of main track, and the 38 miles of branch line referred to above; in connection with which there has been built 30 miles of yard tracks, sidings and spurs. Of the 187 miles of main track yet to be built, clearing and grading, or clearing has been completed on 78 miles of the right of way. The amount expended to Dec. 31, 1918, was $29,876,277, of which $1,157,839 was on the purchase of the old Alaska Northern Ry., and $2,404,564 on rehabilitation of the same; $300,000 was paid for the Tanana Ry., and $46,407 was expended on restoring the 7 miles included in the mileage of the new line. Two termini have been laid out, at Anchorage on the coast, and at Neana on the Tanana River. The line was built from Seward north and from Anchorage south, so that since the autumn of 1918 there has been through traffic from Seward to Anchorage, Matanaska and the Susitna Val- There is an unconstructed section across Broad Pass to connect the Susitria Valley with the road coming down from Nenana, and another stretch of a few miles on the north of the Tanana River before connection is made with the Tanana Valley Ry. outside Fairbanks. (Mar., pg. 134).

Athabasca and Grande Prairie Ry.—The Dominion Parliament is being asked to change the route of this projected railway as set out in an original application for incorporation by the following: From the junction of the Athabasca and Solomon Rivers, northerly to the junction of the Smoky and Muskeg Rivers, thence through the Grande Prairie district northerly to Peace River Landing, and thence to Fort Vermilion. Barnard and [illegible], Montreal, are solicitors for applicants. (Mar., pg. 134).

Bell River Valley.—The Abitibi Chamber of Commerce, meeting at Amos, Que., Mar. 19, gave consideration to the railway construction necessary for the opening up of the district. In addition to the proposed line from the terminus of the C.P.R. branch from Mattawa, to Des Quinze River, and branch, referred to in this department under "Interprovincial and James Bay Ry.", the members suggested the building of branches of the National Transcontinental Ry. from Amos, mileage 887 from Moncton to James Bay on the one side, and to a connection with lines running into Montreal on the other.

The Quebec Legislature has voted a subsidy of 2,000 acres of land a mile in aid of the construction of a colonization railway from the Kiask Falls of the Bell River, southeasterly through the Laas, Hurault, Castaquier or Lamoranduere, Duvernay, Dalquier, and Fiquery Tps. to Amos, and thence through the Villemontel or Lamotte and Pressac or La Passe Tps. to Lake Kawagama, a total distance of between 80 and 100 miles. Such a line would be the beginning of the line advocated by the Abitibi Chamber of Commerce. The North Ry. has a charter for building into this territory from Montreal.

The Brunner, Mond Co., Canada, Ltd., is asking the Ontario Legislature for power to build a private tramway from the Indian stone quarry reserve to the Detroit River, crossing the second concession road of Anderton Tp., and to confirm a bylaw of that township granting permission to cross the road. We are officially advised that the proposed tramway would run between the stone quarries on the 2nd concession of Anderton to the Detroit River, about 0.75 of a mile, but that it will not be built if running permission can be obtained over the Michigan Central Rd. The line would connect with the 5 miles of track on the company's premises, on which standard gauge cars are hauled by steam locomotives. The present equipment consists of the company's own freight cars, while regular railway cars for inbound and outbound freight, are also run over it. G. Kimber is the company's engineer. (Feb., pg. 79.)

Canada and Gulf Terminal Ry.—The Quebec Legislature has voted a land subsidy of 2,000 acres a mile in aid of the extension of this railway from its present terminus at Matane to Gaspe Basin, 190 miles. An extension of line for the building of this line has also been granted by the Quebec Legislature. At present it extends from Mont Joli, on the International Ry., to Matane, 59 miles. The proposed extension is through the center of the Gaspe peninsula. Surveys for the extension have been made but the final location has not been settled. (Feb., pg. 79).

Esquimalt and Nanaimo Ry.—A press report states that plans are being prepared for an extension of the line from Bambridge, mileage 127, on the line to Alberni, northerly to Ucluelet and Clayoquot, and from Bainbridge easterly to Comox Lake.

Grand Trunk Ry.—We are officially advised in connection with a press report from Portland, Me., that the company had started work on a third grain elevator of 3,000,000 tons capacity there, that no such work has been started and that it is not the company's intention to build another elevator there.

The movement for a station at Mount Dennis, between West Toronto and Weston has been revived, and a press report states that the company is looking for a site. It is stated that a site on Roy Ave. was under consideration prior to the war.

The London, Ont., Chamber of Commerce has started a movement for the reconsideration of the plans for a new station and for the elevation of the company's tracks in the city. The matter was fully discussed several years ago, but has been in abeyance for some time. (Mar., pg. 134).

Greater Winnipeg Water District Ry.—The commissioners of this railway decided recently to expend $3,000 on ties for the railway and also decided that notwithstanding the completion of the laying of the pipe line for Winnipeg water supply, the line should be kept in good order. (Mar., pg. 134).

Hamilton, Ont.—The Ontario Legislature was asked at this session of the City of Hamilton for an act authorizing the city council to provide $15,000 for filling in Sherman Inlet between the Toronto, Hamilton and Buffalo Ry. and the G.T.R. ;to build a railway from the T., H. and B. R. in lot 29, con. 4, Saltfleet Tp., northerly to the G.T.Ry's. Northern and Northwestern Division in lot 29, or lot 30, broken front concession of Saltfleet Tp.; to build a railway from near the Red Hill to Burlington Jct., and from near the junction of the last mentioned line with the G.T.R. main line east of Hamilton to Hamilton cemetery, and to build any other lines within a radius of 15 miles from the center of the city; to form a terminal company and construct and operate terminals within the city, and to enter into agreements with railway companies for the use of the same. The city also desires authority to raise money for carrying out these projects, by debentures, to be issued from time to time as required, subject to the ratepayers.

It was stated by the city's representatives at the hearing before the private bills committee, Mar. 17, that the situation had been entirely changed by the passing of the Hydro-Electric Radial Ry. bylaw, Mar. 15. A conference with Sir Adam Beck, it is said, resulted in an agreement being reached under which the power to construct terminals, etc., was withdrawn, and the only piece of railway which the city may build is the Red Hill cut off, which it is stated, will ultimately form part of the Hydro-electric radial line.

Hudson Bay Ry.—Deputations representing various sections of the prairie provinces waited on the Dominion Government recently, to urge the immediate completion of this railway from Pas to Port Nelson, on which there are 92 miles of track to be laid between the second crossing of the Nelson River and Port Nelson. The Manitoba Legislature on Mar. 5 unanimously passed a resolution calling for the completion of the line during this year. An Ottawa press dispatch of Mar. 21, states that the government has decided at once to call for tenders for 250,000 ties for the completion of tracklaying on the grading already done.

Lacombe and Blindman Valley Electric Ry.—The Alberta Legislature has under consideration a bill to amend this act incorporating the Lacombe and Blindman Valley Electric Ry., in such a way as is necessary owing to the Alberta Government having taken it over. The offices are transferred from Lacombe to Edmonton; the name is to be changed to the Lacombe and North Western Ry.; authority is asked to issue $25,000 of bonds a mile, which sum is to include bonds heretofore issued and the government asks power to lend the company money on the security of a mortgage; to acquire the capital stock, and to have the same registered in the name of the Minister of Railways or his nominees; the line to be completed by Dec. 31, 1921. The Alberta Government took over the company's property recently under a mortgage, and has been operating it for some time. (Mar., pg. 134.)

Medicine Hat Central Ry.—The Alberta Legislature has incorporated a company with this title to build a railway from Coutts, on the International Boundary, northeasterly, crossing the C.P.R. Lethbridge-Weyburn line near Foremost, and the C.P.R.'s Crowsnest line at Whitla or Winnifred, thence to Ajax on the South Saskatchewan River, and on to Medicine Hat, and thence northeasterly to the Alberta-Saskatchewan boundary, approximately due east of Hilda post office, Alta., the total length of the line being approximately 200 miles. The company is authorized to acquire and take over from Jos. B. Swan, Medicine Hat, his right and title to an agreement made with the City of Medicine Hat, respecting a spur line of railway, and to issue stock of the company in payment for the same. The company is authorized to enter into agreements with the City of Medicine Hat respecting running rights, the building of spur lines, etc. It may use steam, electricity, or any other motive power for the operation of its lines. The provisional directors are: L. N. Laidlaw, C. S. Blanchard, and H. O. Knowles, Medicine Hat, Alta. (Mar., pg. 135.)

Michigan Central Rd.—A press report states that the company is planning to spend $1,000,000 or more upon improvements in the vicinity of Niagara Falls, Ont., the work to include the raising of the line across the cantilever bridge, and the building of a new station between the present northend station and the Victoria Park station. (Oct., 1918, pg. 488).

Montreal Central Terminal Co.—The Dominion Parliament is being asked to extend the time within which the company may begin and complete its projected railways, bridges, tunnel and terminal.

The question of the construction of a tunnel under the St. Lawrence River at Montreal was discussed by the Chamber of Commerce, Mar. 12. C. N. Armstrong, President the M.C.T. Co., explained the company's plans and argued that a terminal under the river and having its outlet at Longueuil, on the south shore, would greatly facilitate the settlement of local transportation problems. The project was referred to the transportation committee for consideration and report.

Montreal Harbor Railways Electrification.—We are officially advised that if the commissions' present plans are carried out a start will be made with the electrification of the harbor railways, etc., during the summer.

Pacific Great Eastern Ry.—The Minister of Finance in the course of his budget speech in the British Columbia Legislature, Mar. 12, stated that the liability for the company's bonds is $20,160,000 and, in addition, provision has to be made for the continuance of its construction northward. The province is the possessor of a line of railway serving a valuable section of B.C., the development of which is very important. There will need to be a good deal of financing in connection with the line, and the government will have to float a loan to provide for further construction. It is expected that the work of extending the line will afford work for many returned soldiers.

A return presented to the British Columbia Legislature Mar. 14, shows the cost of the line to that date as follows: Railway, $18,001,669; equipment, $1,153,204; lands and townsites, $1,608,222; rails, $1,150,000; cash, buildings and shops, etc., $459,000; sundries, $50,000; Peace River extension, $34,458; total, $22,456,553.

Quebec Central Ry.—The Quebec Legislature has granted 2,000 acres of land a mile for the company's projected branch from Scotts, mileage 110, on the Sherbrooke-Lewis line, to a junction with the National Transcontinental Ry., near St. Jean Chrysostome, 70 miles. We are officially advised that the question of the branch is under consideration, but nothing definite has yet been arranged.

Quebec Rapid Transit Ry.—The Dominion Parliament is being asked to extend the time within which this projected railway may be built. The company was incorporated in 1913, with authorized capital of $1,000,000, and offire at Quebec, and the undertaking was declared to be a work for the general advantage of Canada. The authorized railway extends from Quebec City towards and through Charlesbourg, Jeune Lorette, Ancienne Lorrette, Ste. Foye, Cap Rouge, Sillery, and Montcalmville, and also from Charlesbourg, through Riviere Jeune, Notre Dame des Laurentides, and Lake St. Charles to Jeune Lorette, and around the Island of Orleans, and across the island by the most feasible route. The company is also authorized to build a bridge from the north shore of the St. Lawrence to the Island of Orleans. The company may also operate steamers and other vessels, and may operate its railway by steam, electricity or other motive power. The provisional directors are, E. Taschereau, L. Savard, E. Parent, Quebec; F. X. Latulippe Beaufort, Que.; C. Renaud, Jeune Lorette, Que.; A. Lortie, St. Gregoire, Que. (Aug., 1913, pg. 395.)

St. Francis Valley Ry.—The Quebec Legislature has voted a land grant of 2,000 acres a mile in aid of the building of a line from Stanstead to St. Frances du Lac, 95 miles, and for a line from near St. Bonaventure on the St. Francis River, to Sorel, 25 miles.

The St. F.V. Ry. was originally incorporated by the Quebec Legislature under the title of the L'Avenir and Melbourne Ry., with power to build a line from the International Boundary, near Stanskid, near Magog, Melbourne and Drummondville, to Sorel, with a branch from Cherry Valley to Granby. Surveys were reported to have been made in 1914 for the section of the line from Drummondville to Melbourne, 30 miles. C. B. Hibbert was Vice President. (Apr., 1916, pg. 139).

The Shefford, Bagot and Missisquoi Ry. Co., was incorporated by the Quebec Legislature in 1914, to build a line St. George, on the Intercolonial Boundary between Quebec and Vermont, to a junction with the Intercolonial Ry. between Bagot and St. Eugene. A. R. MacMaster, Montreal; W. H. Robinson, Granby, Que., and J. E. Rennells, Worcester, Mass., were among the provisional directors. An extension of time to Nov., 1922, for the starting of construction, and to Nov., 1927, for the completion of the line, has now been granted by the Quebec Legislature, which has also voted 2,000 acres of land a mile in aid of the construction of the railway from the International boundary between Quebec and Vermont, in the parish of Clarenceville, Missisquoi County, to a junction with the Intercolonial Ry., between Bagot and St. Eugene, 75 miles. (Apr., 1914, pg. 166.)

Timiskaming and Northern Ontario Ry.—We are officially advised that the T. & N.O. Commission expects to employ during the coming construction season about 250 additional men on betterments on the line. This will include, in addition to the ordinary work, the relaying of new 85 lb. rails, of which the Dominion Government has allotted the commission 3,000 tons; the reballasting of 25 miles of track, and, according to a press report, the fencing of 50 miles of line.

In connection with the deputation which waited on the Ontario Government recently urging the extension of the line from Cochrane to James Bay, on Hudson Bay, we are officially advised that the commission's plans for this survey have not been completed. It is impracticable to start surveys at present, as it will be about May 1 before the rivers are open, when canoes can be used. A press report states that this survey will be in charge of A. Cole.

Tenders for the whole work, other than steel bridges, necessary to the complete construction of the roadbed, ready for the ties and rails, also track laying, ballasting and fencing, for a branch from Swastika to Kirkland Lake, 6 miles, and from Timmins to the Mattagami River, 2 miles, will be received at the commission's office, Toronto, up to Apr. 15, at noon. The work on both these lines is comparatively light, and there are no engineering features of any interest. Swastika is at mileage 165 on the main line, and the branch is to be built to promote the development of the Kirkland Lake gold mining area. Timmins is the present terminus of the 35 miles branch from Porquois Jct. The proposed extension will carry it to the navigable waters of the Mattagami River, there, a press report states, wharves and docks will be built. The Mattagami, is the second westerly tributary of the Moose River, the Abitibi being the other. (Mar., 1918, pg. 541.)

Vancouver Union Terminals.—A. P. Gillies, a United States engineer, who has for some years past visited Toronto, and Montreal, advocating the laying out of central terminal stations for steam and electric railways, had an interview with the British Columbia Premier, Mar. 12, with reference to plans for such a terminal in Vancouver. The plan outlined provides for the utilization of the Hastings Mill site and the erection thereon of a large terminal building with hotel, stores and theatre, etc., into which all the railways serving Vancouver would be brought. The plans also provide for wharfage and other facilities for handling steamship traffic. The estimated cost of the work is $[illegible]. Government support of the plan was asked by way of an assurance that the Pacific Great Eastern Ry. would use the terminal when completed. The Premier is reported to have stated the government would look favorably upon the project, if it were shown to be economically feasible, and provided there would be no obligation involving any liability on the government. As the Canadian National, Canadian Pacific, Great Northern and Northern Pacific already have their own and comparatively now terminals in Vancouver, the scheme is hardly likely to become a reality.

Canadian National Railways Construction, Betterments, Etc.

Construction plans for the year.—A large number of deputations from various parts of Western Canada, waited upon D. B. Harris, President, Canadian National Rys., Mar. 5, to urge the building of lines through the territories in which they are variously interested. The ideas of the deputations, as to what lines should be built and where they should pass existing lines, and the reasons why they should be built were given at length. We understand that due consideration was given to the suggestions, and that while, necessarily, some of them cannot be acted on, others will be. Other deputations have urged the construction of new lines, etc., in Eastern Canada.

Prince Edward Island Ry.—Superintendent Grady is reported to have said Mar. 13, that as soon as weather conditions permit the work of laying a third rail on the line will be proceeded with, and that it is hoped to have the work completed by the end of July. The work at Emerald includes the building of a new station, and a platform for the transfer of passengers and baggage, and the reorganization of the yard and trackage.

Intercolonial Ry.—A Moncton, N.B., press report states that plans are being prepared for enlarged freight sheds there.

Surveys are being made on the old Canada Eastern Ry. from McGivney Jct., where the line crosses the National Transcontinnetal Ry., to Fredericton, to which would be required to be done to make that section of the line part of a direct route of the National Transcontinental Ry. to St. John, N.B. From Fredericton the route would be over the St. John and Quebec Ry., which is nearing completion, to a junction with the C.P.R. at Westfield, and thence over that company's line. Tests are being made at Fredericton for foundations for a new bridge across the St. John River.

The Levis, Que., Board of Trade has passed a resolution protesting against a proposal to repair the present station buildings there, and asking that a new building to suit the importance of the place be erected at once to replace the one destroyed by fire several years ago.

Canadian Northern Ry.—In reference to a press report stating that plans were being prepared for a line from Montreal to La Tuque, Que., we are officially advised that the company already has a line between these points, and does not require a second one.

Tenders were received recently for the following works:—

For the construction of 8 abutments and one culvert between Sydenham and Ottawa on the Rideau subdivision, and for the construction of 2 concrete culverts and 2 concrete abutments at mileage 17.1 and 17.5 on the Pembroke subdivision, Ottawa-Port Arthur line.

Tenders will be received to April 3, for the construction of 2 concrete abutments and concrete culverts between Oshawa and Cobourg, on the Trenton Subdivision; and for track filling and concrete work on the Muskoka Subdivision between mileage 130 and 149, Parry Sound; the construction of concrete piers at the Seguin River crossing on the industrial spur, Parry Sound, and train fitting and concrete work on the Sudbury Subdivision between Parry Sound and mileage 30. Also for the construction of 6 abutments and 2 culverts between Gormley and Mount Albert, on the Muskoka Subdivision.

In connection with the prospective line from Toronto to Hamilton and on to the Niagara frontier, A. G. Garden, President Hamilton Board of Trade, sent the following telegram to President D. B. Hanna, Mar. 5: "What prospect is there for the extension of the Canadian National System through Hamilton to the frontier?" Mr. Hanna replied from Ottawa ,on Mar. 7 as follows: "Canadian Northern Ry. acquired right of way to and through Hamilton for the construction of line from Toronto through Hamilton to Niagara frontier, and absolutely requires the whole width of right of way which we own through your city for our purposes. Board of directors of Canadian National Rys. are on record as approving of the early construction of this line, and arrangements are now under way to carry this out."

A deputation representing the Flin Flon Mining Syndicate waited on President Hanna recently to urge the building of a line from the Hudson Bay Ry., north of Pas, Man., to a large mining area about 70 miles out. The Flin Flon property is a copper mine, and it is said that the syndicate was advised that if it would undertake to erect a smelter of adequate capacity and guarantee to keep it in operation for a number of years, the Canadian National Rys. would probably build the line asked for. We are officially advised.

The Canadian Northern Ry. has in operation as branch from Luxton, on its Maryfield-Bengough branch, to Bienfait, and Estevan, Sask., it is proposed to connect this with the northern lines so as to give access to the northern coal fields.

It is probable that some gradings will be done on a line to connect the Thunderhill branch at Sturgis, Sask., with Hudson Bay Jct., that a reconnaissance survey for the line has been made, and that it would be 74 miles long from milage 8 on the Hudson Bay Ry., to the Flin Flon mining area, within a few miles of the Manitoba-Saskatchewan boundary line. The Mandy mining properties are in the same area as the Flin Flon mne.

On the Thunderhill branch now terminating at Preeceville, Sask., grading will be done during the summer northwesterly for 25 or 30 miles.

Grading has been completed on a line from Humboldt, Sask., mileage 1,734, on the Canadian Northern transcontinental line, northerly to St. Brieux, the present terminus of a 21 mile branch southerly from Melfort. Track will be laid on this grading this year.

A survey for a line from Melfort, Sask., northeasterly to the Carrot River district was made several years ago, and it is possible that some grading will be done although this has not been decided.

Rails are to be laid for about 25 miles on a branch which has been graded from Vonda, Sask., northeasterly. This line runs about midway between the Humboldt-St. Brieux-Melfort line, and the present Saskatoon-Prince Albert line. The question of the extension of this line to Melfort on the north, and from Vonda on the south, to Saskatoon, is being looked into.

It is probable that the Canadian Northern prairie territory, track will be laid on some 200 miles already graded and that about 150 miles of new line will be built, making about 350 miles of new branches will be taken from the main line, making a total of about 740 miles of track to be laid altogether.

We are officially advised that the tunnels proposed to be built in the Rosebud Valley, Alta., are situated between mileage 191.9 and 193.8 on the Calgary-Vegreville line and will form part of the revision of location for that distance. The object of the revision is to eliminate 6 crossings of the Rosebud River, the line being carried at present on temporary timber structures. The revision will also eliminate some bad curvature, and will effect a saving of about 0.4 of a mile of track. Outside of the tunnel work, there will be about 125,000 cu. yd. of excavation necessary. The work to be done has no unusual engineering features.

Railway Finance, Meetings, Etc.

Canadian Northern Ry.—The British Columbia Finance Minister in explaining the financial position of the province to the Legislature, Mar. 12, stated that the taking over of the Canadian Northern Ry. by the Dominion Government meant that the government had assumed all responsibilities. The province is still the guarantor for the principal and interest of the Canadian Northern Pacific Ry. bonds for $47,975,000 due 30 years hence, but, of course, as the Dominion Government will not default the province is relieved of anxiety regarding this obligation and something like $1,750,000 annual interest on the principal.

The C.P.R. Co's. annual meeting will be held at Montreal, May 7.

Essex Terminal Ry.—Application is being made to the Dominion Parliament for authority to increase the capital stock from $400,000 to $1,500,000.

North Shore Ry.—In conection with the recently advertised sale of the right of way of this railway, which was built as the Beersville Coal and Ry. Co., extending from McAdam Jct. on the Intercolonial Ry., to the Beersville coal fields, a new Brunswick newspaper says the line was sold recently for $12,000, ostensibly to satisfy the stockholders; that the purchaser immediately disposed of the property to another person for $30,000; and that then the rails were sold off at the present high price of steel. The New Brunswick Government, the paper adds, put at least $16,000 into the line, and is carrying that amount of bonded indebtedness at present.

Sir Sandford Fleming.—Rev. Bruce Taylor, D.D., Principal of Queen's College, Kingston, Ont., read a paper on the life of the late Sir Sandford Fleming, at a recent meeting of the Royal Canadian Institute, Toronto, of which Sir Sandford was one of the founders. The paper referred to Sir Sandford's many years connection with the Intercolonial Ry.; his advocacy of standard time, and of the Pacific cable, and mentioned many instances of his life, which brought out his passion for honor, his loyalty to friends, his tenacity of purpose, his vision and his daring.

Canadian Pacific Railway Officers' and Employes' Conference and Dinner in Montreal.

The third conference and dinner of C.P.R. officers, officials and employes, from all over the system, which were intended to be held annually, but which were interrupted by the war, were held at Montreal Mar. 21 and 22. The meeting on Mar. 21 at the Ritz Carlton Hotel, which was attended by about 300, was presided over by C.E.E. Ussher, Passenger Traffic Manager, who was the chairman at the last previous meeting at Winnipeg. The following papers were read and discussed.

"Relations between company's officers and employes, organized and unorganized," by J. McMillan, Manager, C.P.R. Co's. Telegraphs.

"Employes' Magazine", a short talk, by J. M. Gibbon, General Publicity Agent.

"The company's popularity an asset in securing traffic", by F. W. Peters, General Superintendent, British Columbia District.

"Claims", by G C. Jackson, Auditor of Claims.

"Personal Injury", by F. R. Haney, Claims Adjuster, Eastern Lines.

"Fire Prevention", by E. Moore, Insurance Commissioner

On Mar 22, a large number of those in attendance at the previous day's meeting, left Windsor St. station, Montreal, at 10.05 a.m., by special train, and spent the balance of the morning inspecting the Montreal terminals. In the evening, there was a dinner at the Ritz Carlton, attended by over 500, which is dealt with fully further on in this article.

On Mar. 23, a large number of the officials, etc., left Windsor St. station, Montreal, at 1 p.m., for Quebec, arriving there at 6.30 p.m., and dining at the Chateau Frontenac. On Mar. 24, after visiting Ste. Anne de Beaupre, and points of interest in Quebec, they left at 1.30 by special train, making a detour to the Quebec bridge. They dined on the train and arrived back in Montreal at 9 p.m.

The Dinner and Speeches.

The dinner in the Ritz Carlton ball room, on the evening of Mar. 22, was a magnificent function, attended by over 500. Just prior to it, President Beatty, accompanied by several members of the committee, received the officers and others attending in an ante-room. When the chairman of the evening, F. L. Wanklyn, General Executive Assistant, entered the ballroom, accompanied by Lord Shaughnessy, President Beatty, and other chief officers, there was a most enthusiastic demonstration of welcome. Mr. Wanklyn had Lord Shaughnessy seated on his right, and President Beatty on his left, the others at the head table being Grant Hall, Vice President of the company; W. R. MacInnes, Vice President, Traffic; D. C. Coleman, Vice President, Western Lines; E. Alexander, Secretary; J. Leslie, Comptroller; W. N. Tilley, K.C., Consulting Counsel; A. Price, General Manager, Eastern Lines; F. W. Peters, General Superintendent, British Columbia District; G. H. Ham, headquarters staff; Dr. H. A. Beatty, Chief Medical Officer; T. E. McDonnell, Vice President, Dominion Express Co.; J. J. Warren, President and General Manager, Kettle River Valley Ry.; J. H. Walsh, General Manager, Quebec Central Ry.; and F. E. Meredith, K.C., director, C. P. Ocean Services Ltd.

F. L. Wanklyn's Speech.

The chairman, in proposing the toast of "The Company," said: "I feel it immeasurably beyond my powers to do even scant justice to such an important subject. I will not attempt to 'paint the lily,' nor 'to guild refined gold.' It it not possible for me to begin to materially enlighten such a critical audience as I have before me, regarding anything that you do not already know about the great corporation that we have the honor to serve. The Canadian Pacific Railway Co. is, indeed, a wonderful organization. In a comparatively short time it has earned for itself a world wide reputation for energy and efficiency, and success. It has accomplished things that were at one time considered practically impossible. It has succeeded beyond the wildest dreams of the illustrious and far sighted men who conceived and built the railway from ocean to ocean, across our great Dominion, through vast and almost uninhabited territories, hitherto but little known, bridging mighty rivers, gridironing boundless prairies, tunnelling lofty mountains, winding through virgin forests, overcoming physical and climatic difficulties of all kinds and under all conditions. The actual work of construction was not, by any means, the only difficulty to be overcome, but, when constructed and in operation, traffic had to be created, vacant lands had to be peopled, industries had to be established, a thousand things essential to the success of this gigantic undertaking had to be devised and executed on a sound commercial basis. A nation had to be built, and it was, and the Canada of today—the brightest jewel in the British crown—is largely due to the construction of the C.P.R.

"We are indeed fortunate to have with us tonight the Chairman of our company, Lord Shaughnessy, the great executive chief who has done so much to make the company what it is today. For 20 years he has been at the helm, and has piloted our good ship through many tempests and difficult passages, always safely and wisely, into the smooth waters of success and efficiency, and even now, after handing over his charge to another capable steersman, we rejoice to find that he is with us, with an eye on chart and compass, ready and willing, with advice and experience, to assist in overcoming any difficulties that the turbulent future may have in store.

"The wonderful story of the Canadian Pacific related by our much esteemed ex President, Lord Shaughnessy, in his address to the shareholders, reads like a fairy tale. Begun and carried to a most successful issue within the lifetime of some of the original projectors, a remarkable group, shrewd men of indomitable courage and persistent perseverance, who can truly be called "empire builders", their names are forever link-

Lord Shaughnessy, Chairman of the Board, C.P.R.; and E. W. Beatty, K.C., President, C.P.R., about to board a train.

ed with the unparalleled progress and prosperity of the Dominion. The company has ever been fortunate in the selection of its executive chiefs. Mount Stephen, Van Horne, Shaughnessy, Beatty, men possessing incomparable talents, untiring energy, and devotion to the company's interest and welfare. They are the galaxy of great men who carried on. They worked out its problems and achieved the wonderful results. They builded better than they knew. To serve such chiefs is a distinct honor, and the wonderful result is the echo from those under them, to whom various details and complexities of the organization are entrusted. As it was in the past, so it is today, and ever will be, as long as we have the good fortune to look up to men like E. W. Beatty, our first Canadian born president. That square jaw and look of determination inspire universal confidence, and with such a leader we need not fear the future. We are justly proud of him. Let us hope and pray that for many years to come he will be spared to preside over the destinies of our great company.

"The C.P.R. is a cardinal factor in the life of our empire, linking up, as it does, the motherland with the dominions across the seas and beyond, bringing closely together the eastern and western hemispheres. Just think for a moment what this meant during the late war, as an imperial lesson to all observers, the carrying of nearly 100,000 Mongolian laborers from far off Manchuria to work in old France, swiftly, silently, safely, thereby releasing much needed fighting men whose places in non combatant positions they were able to fill. Remember also what the C.P.R. men have done. In the dark and anxious days, when the very existence of our great empire was in peril, and the outcome of the fierce and bloody struggle was a matter of conjecture, C.P.R. employes gallantly did their bit; they volunteered in thousands, in answer to the call, leaving comfortable homes and all that was nearest and dearest, prepared and ready to make the supreme sacrifice for King and country. Ten thousand went to the front; 867 never will return; many have already returned, 1,870 maimed and broken: but all proudly conscious of having played their part like men, able to rejoice in the fact that they helped to bring about the glorious victory which crowned their efforts. All honor to our returned heroes; we thank them for what they did, as C.P.R. men, for freedom's cause. Is there anything calculated to impress the other nations of the world more vividly, as to the power of that empire and the extent of its resources than this; all made possible and efficiently carried out by the great C.P.R. Co. Not only Canada, but the British Empire, owes an everlasting debt of gratitude to the bold and daring men who had the vision and the genius to provide British North America with a peerless transportation system, which reached out across both oceans, and which, in the dark hour of the sore trial, did so much to save the empire and the civilization of the world.

"The saying is that nothing succeeds like success. Nothing is more satisfying to the individual than to work for and to be associated with a successful concern. It is a progressive, cumulative quality; it can only be sustained by continued effort; slacking off and slowing down court failure; it is the product of properly co-ordinated individual effort of the highest quality. It is aptly illustrated in the deep and mysterious natural phenomenon of crystalization, in which the molecules assume a regular arrangement conducive to the best results. The brilliant strategist and brave soldier, essential to each other, can only attain sucess by properly co-ordinated effort.

"C.P.R. ideals have been established and recognized the world over, they must be maintained, and it is up to you and to me to "Carry On"! Gentlemen, loyalty must ever be our watchword; loyalty to the great institution we have the honor to serve; loyalty to our President, by carrying out the duties entrusted to us, cheerfully and to the best of our ability; loyalty to the country we all love so well. Imbued with this all inspiring spirit, the future will be as grand as the past and all is well. I ask you, therefore, gentlemen, friends and colleagues, to drink to the continued prosperity of the company, and to the health of our well beloved Chairman, Lord Shaughnessy, and our President, E. W. Beatty, pledging to both our unswerving loyalty and our affectionate devotion."

Lord Shaughnessy's Speech.

"I appreciate very much, the piece of music that has just been so beautifully rendered. Killarney was the birthplace of my mother, and I hold her memory in dearest recollection, and it was appropriate, therefore, that I should have called three successive cars Killarney, in which I spent so many hours, weeks and months travelling over the system, and devoting myself to that great corporation to which we are connected, a corporation that holds for me, and I am sure for you, the very foremost place in our affections.

"I entered railway service nearly 50 years ago, just after leaving school. During that 50 years I have been associated with two companies, one for 14 years, and with the C.P.R. for 36 years. I would not have time to tell you of the many interesting events connected with my association with the C.P.R., its officers, its directors and its affairs, but I can say most truthfully that one could not lead a more interesting life, though it was not always smooth sailing. Frequently there were difficulties, and difficulties of a serious character, to surmount, but in the main our success during the past 20 and 25 years, was without interruption, and when the time came when the future welfare of the company demanded a younger and more active man should be charged with the duties of chief executive, it was a most fortunate circumstance that the directors had in hand a man of such paramount ability, and such unquestioned integrity and such great vision as possessed by our new President, my successor, Mr. Beatty.

"He takes the property over in a splendid condition, physically and financially. He takes it over with something that may be of even greater value than either of these, with what I conceive to be the best organization in the world, an organization founded upon discipline without fear; discipline that had for its substance and was based upon fair dealing and justice; discipline that had as one of its main ingredients the loyalty of the men who were under discipline; discipline that knew and declared to the men that every man was safe in his position if he were safe himself. That was the foundation of the splendid organization of which you here, are the outstanding representatives, and Mr. Beatty may feel gratified that in starting upon his career as President of this great corporation he is to have the assistance, the loyal and unquestioned and energetic assistance, of such men as I see around me. It is very gratifying after all these years to see so many here who started in small posts and who have obtained positions of marked prominence. I see here, W. R. McInnes, E. Alexander, J. Leslie, A. Price, Geo. Ham and others who I recollect as young boys, and who are now, I was going to say, grey-haired men, but I will say who have grey hair, probably due to the earnestness with which they performed their duties, but which earnestness in the end brought them to the posts they now occupy in the company's affairs. I do not wish to take too much of your time tonight, because I know that there are others to follow, but there are some few things I would like to refer to.

"We are now entering upon rather a new era in industrial affairs. Those of you who have to do with labor matters, face problems of a character somewhat different to any you have faced heretofore. I think I can say for the C.P.R. that during my period of office the relations between the labor employed by the company and the officers were of a most harmonious character. We had little of the difficulties that others had to contend with. I hope that those conditions will continue in the future, but in dealing with labor questions and in dealing with other subjects, we must be to the forefront and in the front rank, and must not be behind or lag to the rear. I have just returned from England. There the situation of labor is a cause of anxiety. Nominally the problem between labor and employers is a question of hours and rates of pay. To my mind, and it will be so here, there is something beyond that now. It is not only a question of hours and rates of pay, but of the actual status of men who are performing such a large portion of work of building up industries, and making themselves as strong an influence as the capitalists and employers. It is a question of what their social status is to be in the future. We may take it for granted beyond question that the working man of the future, the working man of today, must be permitted and enabled and assisted, he and his wife and children, to lead quite a different existence to that of the past. They must not be confined to the narrow, sordid lives that have been theirs hitherto. They must have the opportunity to enjoy the good things of life that those in higher positions have enjoyed. I am sure that every officer of the C.P.R. who has to do with social and industrial questions of this kind will, as I suggested before, be in the front rank in meeting the situation and in dealing with it judiciously and thoughtfully.

"Now, my good friends, one word more. By reason of your positions, and I am speaking more particularly to those who are located in our own country, by reason of your positions you have great opportunity of promoting a national sentiment in Canada that will be productive of the greatest possible benefit to the country. In your own localities, by reason of your posts, you have a broad acquaintanceship. You can conduct a propaganda of national idealism, of national thought, that will be a safeguard to the welfare of our beloved country. I do not mean by aggressive interference in political campaigns. That is to be avoided, but by intelligence of thought in utilizing the superior information that you have, because of your connection with the bigger and broader questions of the country, by utilizing that information, by impression upon your neighborhood, by having a campaign of good feeling between the east and the west, and north and south, between every race and every class of citizen who constitute our citizenship in this country. I have no doubt that you will do that, and will be willing to do it.

"Now, I have become a bit of a supernumerary. We worked along together for a good many years. I cannot tell you, I would not attempt to tell you, how highly I appreciate the devotion and the loyalty that I have met with throughout all the years of my administration, nor would I attempt to thank you, nor tell you how large a part that loyalty and devotion played in the success that attended my efforts. I feel sure that I bespeak for my successor, Mr. Beatty, that same spirit and co-operation. Great as is our corporation, vast as are our interests, varied as its activities, I have in my mind's eye a C.P.R. infinitely more great, more successful, and more progressive than at any time, and with the wisdom and tact and ability of your President, combined with the loyal and devoted efforts of yourselves, that end can be attained. I will not take time to say more tonight. I am afraid that I have kept you too long as it is. I can only express my great gratitude that I have had the opportunity to be here. I know of no gathering that is as homelike as a C.P.R. gathering, and there is no other atmosphere that so inspires and exhilarates as a C.P.R. atmosphere. I hope and earnestly trust that while for a time there may be difficulties resulting from, and brought about by the war, the forward movement of the company will continue without interruption, and I will close, my dear friends, by assuring you that you have the thanks and blessing of your old chief."

President Beatty's Speech.

E. W. Beatty, K.C., said: "I trust that you will permit me to put my own interpretation on the generosity and warmth of your greeting, and to assume, as I am perhaps warranted in assuming, that you are expressing, through me, your appreciation of the company. In fact, if it were not for the innate modesty which characterizes all officers of the company, I would say that you are taking advantage of the occasion to indulge in a little audible appreciation of yourselves. This, I think, is the third dinner held by the officers and employes of the company, the last one being held in Dec., 1912. By reason of the outbreak of hostilities in 1914, these gatherings, which were intended to be annual, have not been resumed since. This was inevitable, but I sincerely trust that nothing in the future will prevent a function which has in it so much of pleasure to the participants, and, in a different degree, perhaps some profit. It was my privilege in 1912 to attend the second annual banquet, in my capacity, at that time, of General Solicitor of the company, and it is only fitting that I should recall to those of you who were present then, the fact that several of the most honored and respected officers of the company who were there, are not here now. They have passed out of the service, and, in many cases, out of this life, but they have left a place in our recollections and our affections which cannot be effaced. We cannot pay too much respect to those men—and some of them are here tonight—who have given the best of their life's service in the company's intrests, who have reached the age of retirement, and who are now spending the declining years of their lives in comparative freedom from business affairs, but whose affections for, and interest in, the company and everything pertaining to it, still exist. They are worthy of the appreciation which all of you more active are, I know, so willing to accord them.

"The last six years have made somewhat violent changes in the personnel of the company's organization, and I was struck particularly, when considering the proceedings at that dinner—and especially the remarks made by the President, then Sir Thos. Shaughnessy, with the effect of the company's traditions upon those engaged in directing its enterprise. It is well enough for us to give our time and thought to the problems of today and the possibilities of tomorrow, but it would never be wise in our case to disregard the lessons of the past, or the standards of efficiency and integrity set us by the distinguished men who have heretofore headed this company's activities. It has always struck me as a fact of peculiar significance that each stage of the company's development from 1881 to 1918, when Lord Shaughnessy retired from the Presidency, was marked by the incumbency in the office of the President of a man who, by nature, disposition and talents, was peculiarly fitted to direct the administration of the company's affairs during the particular period of his tenure of office. You may say that that was our good fortune, and it certainly was, but it was not an accident that Lord Mount Stephen, Sir Wm. Van Horne and Lord Shaughnessy presided over the destinies of this company at those particular periods. It was, in fact, one of those results which come from the development of men in responsible positions over a period of years, which enable them, when the testing time comes, to fill the gap necessary to be filled if the company is to progress and prosper. It is, perhaps, not fitting that I should indulge in encomiums on the work of these men, who, in different ways, and for different reasons, appealed so strongly to the imagination and the confidence of the Canadian people, and the results of whose work is shown in the outstanding position which the company holds in the many and widespread phases of its activity. Their work meant much to Canada, to the Canadian Pacific Railway and to its shareholders, and that result is easily appreciated and will be given its due measure of recognition in the history of this country. There is another gentleman whose quiet and retiring disposition is apt to make us forget that he is, with one exception, the sole member living of the original syndicate which was incorporated as the C.P.R. Co. I refer to R. B. Angus who, from the beginning, has been the guide, counsellor and friend of each of the company's successive executive, and has never, in the past 38 years, failed to serve and guide the company's interests in a way that has earned the admiration and appreciation of his associates on the board and the company's shareholders. To us, however, who succeed in later years to the positions occupied by them and others, their personal qualities must be a continual and, I hope, effective inspiration. All of them were men of unswerving integrity, loyalty and true vision, which inspired the confidence of the people without, and a spirit of loyalty in the employes within. If it were seemly to do so in his presence, I would cheerfully devote much time to a personal tribute to the qualities of heart and mind which have made Lord Shaughnessy such a distinguished and unique personality in Canada, and have made his period of office, for the past 19 years, one of uninterrupted prosperity. From him I have learned much, and from the high quality of his ideals I have received a practical inspiration, which I know is shared by you all, to do what is best, but always creditably, in the company's interests. Lord Shaughnessey's devotion to the company, and to its interests, the affection in which he is held by the officers, and, in the last analysis, his judicial attitude, in spite of the handicap of racial temperament, have been to me the three outstanding phases of his character and career. If you add to this, a rigorous sense of discipline, and an unswerving integrity, and unimpeachable official and private life, you will have some appreciation of why it is that this extraordinary measure of respect and confidence is accorded him by the people of this country.

"As I have said, the last dinner of the officers, etc., was held in Dec., 1912. At that time Lord Shaughnessy gave to you some interesting figures indicative of the company's progress in the previous 10 years and, in order that you may have some conception of the steady progress which was maintained since that time, I am impelled to give you a few further figures just made public in our annual report: In 1912 the company had 1,820 locomotives; in 1918 it had 2,225. In 1912 it had 1,841 passenger cars; in 1918 it had 2,179. In 1912 it had 369 sleeping and dining cars, and in 1918 it had 480. The transportation development is probably most vividly evidenced by the increase in the number of freight cars, the company, in 1912, owned 61,144, and in 1918, owned 89,513. In 1912 the company's gross earnings from transportation were, $123,000,000, and in 1918, $157,000,000. The pay roll has now reached the enormous sum of $7,500,000 a month. Unfortunately, owing to the increased cost of operating, the ratio of net earnings has not been maintained, but as this is a condition due to exceptional causes, and is common to all railway and industrial enterprises in recent years, it is not one which indicates any lack of advancement. The variety of the company's interests is just as numerous as outlined to you on previous occasions and the extent of its activity in all of them has shown the same progression as in its purely transportation enterprises. In the strenuousness of the times in which you live, and the exacting nature of the services which you are called upon to render, it is conceivable that time for a study of the company's history and of the character of the work, in transportation and other ways, which it has done and is doing, may not be accorded to you. I would commend to each of you an earnest and careful consideration of the speech of the then President, delivered at the last annual meeting of shareholders. It is a concise and illuminating historical exposition of the development of the C.P.R. I do not wish you to live in the past, but an adequate appreciation of the development of the company, since its inception, is necessary to a proper realization of the character and importance of the work, individually and collectively, you are all attempting to do now.

"The problems of today, transportationally speaking, are not at all akin to the problems of the past, and the problems of the future have still more of the unknown in them than the problems of today. The C.P.R. is what is termed a public service corporation, which means that, in its primal functions, it makes its way by serving the public. While it has always been a public service corporation, the view of what constitutes effective public service, has, in later years, been modified and enlarged. It is said that the public is an exacting and jealous mistress. It is also true that the public is a generous friend, and the attitude of the public toward a corporation is necessarily and properly influenced by the attitude of that corporation and its officers toward the public. Nothing is so readily recognized and appreciated as willingness to serve, and efficiency in service. In these times, when the people's minds are directed to possible changes in the theory of administration of transportation companies, it is more important than ever that the officers and men of this company should appreciate to the full the character of their obligations to the public. I am not unmindful of the fact that unreasonable demands are periodically made of railway companies, but I cannot avoid the conclusion that upon the extent to which the people of this country believe in the C.P.R., as an institution which is honestly and efficiently managed, and upon the extent to which they believe in the integrity and fair dealing of the company's officers, will, in a large measure, depend their attitude toward the company, in connection with projects for government ownership, nationalization, or whatever other term the excursions of governments into private enterprises are designated by.

"The C.P.R. is not in business for its health, but health is very necessary to it, and that health depends upon the prosperity and goodwill of the Canadian people. Canada's prosperity is our prosperity and what is good for Canada is good for the C.P.R. Canada's interests are our interests. Many of you have grown up in the company's service. You have been faced with competition from other companies performing public service. You know the extent of that competition, and the healthy conditions which evolve from it. It is said that self interest is the guiding influence in men's lives, and that is true, and nothing spurs men to effort toward greater efficiency more than the healthy competition of a rival engaged in the same business. The competition which you have to meet at present is in a measure different from this. It has all the elements of the natural struggle for business which pertains to all industries, but it has this aspect of abnormality, in that the principal competing forces, being the government, possesses in itself powers which make the competition unequal. In many cases the government is in the position of judge and jury; of the man who is umpire, who owns the ball field and has an interest in one of the teams. Improperly used, such competition is unfair. I do not say necessarily so, but the strong and human tendency is to exercise strength where one knows he possesses strength and to exercise power where that power is accorded. I have great confidence in the sense of fair play which prevails in this country. I believe a judge, known to be unfair, would, without hesitation, be removed, and I believe that no country which has invited the investor of foreign countries to stake his money on the future of Canadian enterprises would permit those enterprises to be jeopardized in the slightest degree by the acts even of the government itself. I am only mentioning these facts lest someone might assume that we did not know the difference between these forms of competition, and so that you may be even more assiduous, conscientious and loyal to the interests you represent, and keenly alive to the obligations you owe the public, by whom in the last analysis we shall all be judged.

"No one could be prouder than I am of the company's position and prestige in Canada, and throughout the empire, and my pride is tinctured with humility, in that I appreciate my own share in its extraordiary development has been small. I have, however, acquired from my predecessors, and especially from my immediate predecessor, an appreciation of those standards and ideals which have made this company a somewhat different corporation, and one to whose activities one may swear fealty, only less in degree to that which you naturally give to your country. Its fortunes and development have heretofore been linked up so intimately with those of the country itself that the C.P.R. can rightly be termed a national enterprise, and its development a national development. It was purely Canadian in its conception, largely Canadian in its development, and if its activities have been so extensive as to be imperial in character, it has redounded not only to the benefit of the corporation itself, but to Canada and its people also.

"In closing, I wish to say a word to you in appreciation of the loyalty which has always characterized the company's officers and men. For years, as you know, I was a member of the Law Department, and therefore in the position of the man in the grand stand watching the game; and often the man in the grand stand sees more of a game than the players. If there is one thing more than another that during these years convinced me that the C.P.R. must progress and prosper, it was the fact of the strong spirit of loyalty which permeated every department and was shown by every man in it. It is perhaps true that loyalty to a corporation is, in some form or other, bound up in the human equation, and has some relation to a man's respect and loyalty to his immediate superior, but loyalty cannot exist from the bottom up unless it prevails from the top down. The loyalty which every officer owes to those above him ijs exactly measured by the loyalty which they owe to him. Superior officers are expected to give consideration and support to the efforts of those whom they direct, and those who are taking direction are required to carry out the wishes of their superiors, and the duties of their offices, with that complete and absolute loyalty which their treatment by those superiors has warranted.

"They used to tell every American boy:—'Some day you may be President of the United States', and that was said only as indicating the equality of opportunity which existed in that country. Some few years ago I was returning from Quebec, with two friends in whose composition a sense of humor had taken the place of respect, and, when we reached Three Rivers, they disappeared from the car, and, on their return, presented me, with due ceremony, with a picture postcard, on which was printed, 'No mother ever said to her son, 'some day you will be Vice President.' I am not repeating this for the purpose of discouraging those of you who are vice presidents in embryo, but as an appropriate example of the general feeling that the highest position is open and is the one which should be aimed at. So far as fairness of opportunity goes, the C.P.R. offers opportunity for every boy; a fair field, no favorites, and no handicaps on natural endowment. The company is looking, day by day, for boys and men who are disciplined, reliable and brainy, and in no corporation in Canada are there so many first, second and other prizes offered for the capable and efficient man. I hope you will remember this and advise your wives and heirs accordingly. The value of the individual to a corporation cannot be over estimated if he appreciates what he can do with his own personality. None of us, I presume, has a full conception of the influence of the personal equation in human affairs. It, however, influences every situation and every individual action. If you capitalize your personal qualities for the benefit of the road, it is that much more potent factor in its success. I commend to you a personal and studious interest in the affairs of this country, with which your own fortunes are inextricably bound up. I commend to you an increasing interest in the affairs of your local communities, both for your own sake and for ours, and I particularly commend to you an intimate knowledge of the company and its affairs, a desire to give, and to accept unhesitatingly, suggestions for the benefit of the service, no matter from what quarter received, a jealous regard for your own standing in the community and the first and prime duty of efficient service to those with whom the company has dealings."

The Vice Presidents' Speeches.

Grant Hall, Vice President of the company, said: "After hearing Lord Shaughnessy, and the President and the chairman, it seems that we have nothing to do, but I would like to express, at least, my pleasure in seeing so many old friends here, and so many others who are here from all parts of the system. The idea of this dinner originated with Mr. Beatty, and I may say that from the close association that I had with him that I do not think there has been any mistake in having put the mantle where it has fallen. Lord Shaughnessy has made some very pertinent suggestions, and some very important statements in connection with what I may call the personal element. One has only to think of what has transpired in Russia where, if I understand the matter aright, the Bolsheviki have attempted to eradicate the personal element, and have just about destroyed that country. We on the C.P.R. have been fortunate, we officers, in having had as President for a great many years a man of extremely broad vision, courage, with abundant faith in this country, who gave us an equipment and roadbed and terminals not to take care of business, as it existed at that time, but to take care of a business that we may be fortunate enough to get, and he had the vision to believe we would get. I think it is for us to say to Lord Shaughnessy that we will take care of the property, and tell him that it will be kept in as good a condition as when he turned it over to our President, Mr. Beatty. Unfortunately on a railway it often happens or has happened, but never on the C.P.R., that we have socalled departments, that jealously guard and take care of what they call their rights. Let me ask every officer here to co-operate. Let me ask every officer to give the Vice President who succeeds me in the west, and the one in the east, that support that was given me when I was in the west. We will have problems facing us from now on that are most serious. We had the war. Now that the war is over, the settlement problems are as serious in a way as were the war problems. Meet it together, cooperate and consult and show that you are all of one accord.

"Lord Shaughnessy, it was with a great deal of pleasure that we all heard that you would be present this evening. It was with some regrets that the announcement was received last autumn that in order to obtain a rest from your arduous labors you had decided to retire from the presidency of the company, but it was with feelings of satisfaction that it was learned that you were to remain as chairman of the board. Let me assure you, sir, that you have the respect and affection of the employes from the highest to the lowest to a marked degree. I would ask you, sir, to take this small token of our respect to Lady Shaughnessy, and we wish Lady Shaughnessy, your family and yourself many years of happiness." Mr. Hall then handed Lord Shaughnessy a magnificent sheaf of roses.

W. R. MacInnes, Vice President, Traffic, said: "I would like, first of all, to thank our leading counsel for his pleasant words about vice presidents, I imagine that in speaking about traffic some of you may expect that I will tell you how tariff sheets are constructed, and how revenues are collected. I must disappoint you, and I think it will be more interesting and give a more human touch to treat of comparisons between the traffic managers of olden days, and those of modern times."

Mr. MacInnes told some amusing stories of the old days when traffic managers worked on systems all of their own, of "gentlemen's agreements," which was a misnomer as far as the word "gentlemen" was concerned, for no traffic manager was expected to keep his word. He told of a brother official who then was in St. Louis. A miller wanted to make him a present of a barrel of flour, and the traffic man said: "All right, send it up to my house."

"Oh, no, that would cost more than to ship it to Liverpool," said the miller. Then had followed the days of Teddy Roosevelt and the coming into action of the inter-state commission and the prosecution and persecution of the railways. He urged the importance of looking after local business, not only for selfish reasons, but because it was well to have a well satisfied local community.

D. C. Coleman, Vice President, Western Lines, said in part: "I wish to add my thanks to those of Vice Presidents Hall and MacInnes for the gracious acceptance of this toast. I regard it as a great honor to be invited to the general conference and dinner with a delegation of the officers representing the interests of the company on the outer marches of the great west. In the west we serve what some people are inclined to regard as a difficult constituency. It is true that the western people are outspoken and free in criticism. If you fail to meet their views as to services they sometimes voice their feelings with a pungency and a directness which is a little disconcerting but, on the other hand, they are generous almost to the point of extravagance, in appreciation for good services, and no people could possibly respond more warmly or more heartily to courteous treatment and reasonable argument. When confidence is once given, it not lightly taken away. These people have a very high opinion of the C.P.R. They have great esteem and regard for the officers who control its policy, and I think that we can also say that they also have confidence in the officers who are in charge of carrying out the policy into practice. If we continue to make timely aid for the railway provisions of that country, and if the officers out there maintain our present standing of keenness and efficiency, no competitor can successfully assail our relative position west of the Great Lakes. The President can feel confident that his policy will be carried forward into actual practice to the full extent of our powers, because not only is it our duty to him and the company to give him that service, but the policy that he has proclaimed makes a convincing appeal to our reason and imagination."

W. D. Tilley, K.C., of Toronto, the company's Consulting Counsel, proposed the health of the vice presidents and expressed regret at the absence of I. G. Ogden, Vice President, Finance, and A. D. MacTier, Vice President, Eastern Lines.

F. W. Peters, General Superintendent British Columbia Division, proposed the toast of the Canadian Pacific Ocean Services Ltd., which in the absence of the Chairman, G. M. Bosworth, was responded to by one of the other directors, F. E. Meredith, K.C.

Geo. H. Ham, of the headquarters' staff, in a characteristically witty speech, proposed "Our allied interests," which was responded to by J. J. Warren, President of the Kettle Valley Ry.

A capital programme of vocal and instrumental music, with many original features, was interspersed between the speeches, and a short time was devoted to the showing, on a screen, of a splendid collection of photographs of general officers, and chief operating officials, and of views along the C.P.R. from Nova Scotia to British Columbia.

Rhymes of The Rear End Man.

The following verses, which are attributed to Arthur S. Piers, Manager Real Estate Department, C.P.R., accompanied the souvenir menus distributed at the officers' and employes' dinner in Montreal, Mar. 22.

Said the **Woodman**, to the **Coleman**,
As they drove to **Morse**, and back,
" Wonder why the **Pyne Burns**,
"With a **Curle** of Smoke so **Black**."

Said the birdman in his **Curtis**,
As he chased the peaceful dove,
"I wonder if the trumpet **Blair**,
"In **Paradis** above."

Said the **Tinker**, to the **Taylor**,
As they chanced to meet one **Dey**,
"For a suit I'm going to **Spencer**,
"A **Price** that I can pay."

Said Lee, to General **Jackson**,
As they fought on **Bosworth** field,
"If you'll leave the terms to **Balfour**
"At Fort **McKenzie**, I will yield."

Said **Howard**, meeting **Oswald**,
With his **Hatton**, in the **Hall**,
"I think I **Seymour** of **Reynolds**,
"In that painting on the **Wall**?"

Said the **Cook**, at **Conway** Castle
Putting a **Gascoigne** in the stove,
"A **Crabbe** and **Ham**, I'll **Freiser**."
Was he not a curious cove?

"This **Fairbairn** I will **Foster**,
"If a **Goodchild** he will be,"
Said **Kirkpatrick**, to **McPherson**,
And a **Goodman** brave, was he.

If Harry **Lauder** lost his **Hart**,
To Pretty Alice **Lloyd**,
Do you think that Gertie **Millar**
Would be very much annoyed?

A **Sturdee Savage** had a wish
To occupy the Throne,
But **Reeder**—do not be alarmed
He's in jail now at **Malone**.

Humphrey and **Hodge** went to **Hamilton**,
To see **Jack Johnson** fight
Such a **Motley** crowd had gathered
They had to **Camp** out for the night.

Annable rode on the **Atcheson**,
Many **Miles** of the **Main** line, to see
As the train was so late, a **Cherry**, he ate,
"With no diner it's awkward" said he

Purvis was trying to catch **Pickrell**,
On the banks of the **Fraser**, I'm told
Though he tried to keep warm on a **Collins**,
What he caught was a terrible cold

Brown bought a ticket to **Leslie**,
And **Snell** bought one to **Grant**.
But WHY should they go to Ontario?
Can you answer the question? I can't.

Wilson asked Admiral **Perry**,
How to **Moore** his ships to the **Piers**.
"With the **Rudder**, and room for **Shearing**,
"We've done it," said David, "for years."

Two pitchers were having an argument,
Alexander and **Bender**, by name.
Had **Fulton**, or **Benjamin** Franklin,
Any **Wright** in the **Temple** of fame?

If **Nelson**, or Admiral **Hawkins**
Had blocked the Zeebrugge **Moule**,
Would it not have solved the **Riddell**,
For **Bernier** to have reached the Pole?

With Laura **Secord** Sis **Hopkins**,
Was feeling as sore as a **Boyle**,
For the names that Laura **Calder**,
Were not according to Hoyle.

When **Jeffries** was fighting **Corbett**,
And **Britt** sat with Bombardier **Wells**,
Sullivan said to the **Ussher**,
"They think they're a couple of swells."

Grand Trunk Pacific Telegraph Officers Convention.—The third annual conference of Grand Trunk Pacific Telegraph Co. officials was held at the Macdonald Hotel, Edmonton, Alta., recently, H. Hulatt, Manager of Telegraphs, G.T.R. and G.T.P.R., Montreal, presiding. Important matters tending to increase the efficiency of the service were discussed. Among those present were, Superintendents W. J. Rooney, Western Division; W. E. Bell, Central Division; electrical engineers, S. Robertson, F. H Hiscock; general foremen, G. Nicolson, D. S. Adamson, G. Spratt, A. Dougall, chief operators, J. A. C. Kelman, C. A. Radford, J. Stevens; city managers, J. E. Grace, Winnipeg, G. A Jackson, Regina, A. Vegel, Saskatoon, G. B. Breen, Calgary, J. O. Pilon, Edmonton, J. E. Lalonde, Prince George. Mr Hulatt entertained all those attending the conference at dinner the first evening, Superintendent N. E. Walton, Dawson Freight Agent L. V. Bruce, and City Passenger and Ticket Agent J. F. Philp also being present.

The Northern Construction Co. Ltd., has been granted supplementary letters patent under the Dominion Companies Act, converting it from a public company into a private company.

Canadian Transportation Men, Engineers, Etc. in the War.

A Canadian on his way back to his billet, on the British Western Front, crossing a badly shelled area.
Canadian Official Photograph. Copyright reserved.

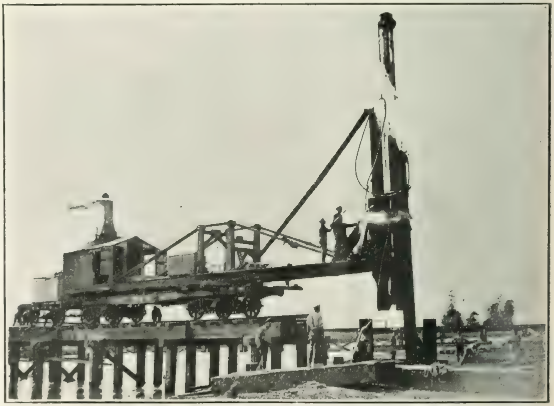
Canadian Railway and Marine World is desirous of publishing all the information possible about the war work of Canadian transportation men, engineers, etc., and invites its readers to send in information for use in this connection. No doubt a large number of our readers receive many letters from the front, etc., extracts from which would prove of interest in these columns. We should be glad to be favored in this respect.

Army Transportation Intelligence.—The sale of army mules at Tattersall's recalls an incident which sent a ripple of sheer joy through our forces in France when the war was still young. It was a routine order from G.H.Q. as to the transport of machine guns, then being greatly increased in numbers. The gun on ammunition limber was to be drawn by "a mule, or if not available, by an intelligent N.C.O. and five men." The army had not ceased chuckling over this gem of red tapedom when there appeared in orders the notice: "Reference G.R.O.—of such a date—line 7; delete the word 'intelligent.' "—London Chronicle.

The Grand Trunk Employes' Patriotic Association, consisting of officials and employes located at Toronto, held its final meeting Mar. 8, to receive reports and for winding up its affairs. The report showed that since the organization of the association in Aug. 1914, $39,800.81 had been received and $39,677.43 expended. The balance was handed to a special committee to dispose of as conditions may warrant. The expenditures were divided as follows: Toronto and York County Patriotic Fund and Canadian Red Cross Society $23,093.20; British Red Cross Society $4,250; Christmas boxes for enlisted employes $3,595.05; Overseas Club Tobacco Fund $2,200; Y.M.C.A. $2,000; Navy League of Canada $1,500; British Sailors Relief Fund $1,000; Prisoners of war $830; Catholic Army Huts Fund $500; Relief Committee $457.50; Honor Roll and flags $114.30; Daughters of the Empire, Mimico, $100; current expenses $37.38. J. A. Murphy, Secretary of the Association, was presented with a gold watch in recognition of his services.

PERSONAL NOTES.

Capt. F. D. Burpee, Superintendent, Ottawa Electric Ry., Ottawa, Ont., resumed his duties early in March, after an absence of three years, on military service. In 1894 he enlisted in the Ottawa and Carleton Rfles, and afterwards was in the O.A.A.C. Co. of the 43rd Regiment, which he rejoined in 1915. He enlisted in the 207th Battalion, C.E.F., in Ottawa, in Feb. 1916, and assisted in recruiting the battalion. He left for England as second in command in May 1917, and was quartered at Seaford, Sussex, where, after a few days, the battalion was broken up. He then transferred to the Canadian Railway Troops, reverting to the rank of lieutenant, and went to France July 7, reporting to the 5th Battalion, C.R.T., at Arras. This battalion, like all other railway construction units, was employed all over the British front, seldom remaining longer than four or five weeks on one job, and being constantly employed on repair and construction of narrow and standard gauge railways. The 5th Battalion worked in front of Ypres in Oct. 1917, when fighting was practically continuous, and immediately after the capture of Zonnebecke was ordered to construct a narrow gauge line to that point. Later in the year this battalion followed the Third Army in the unsuccessful attempt on Cambrai, and worked in the vicinity of Hermes and Havrincourt for about six weeks. The last work the battalion was engaged in, prior to its return to England, was the reconstruction of the main line between Lille, France, and Brussels, Belgium. This line had been destroyed by the enemy on retirement, the demolition being very thoroughly done. About 2 lb. of perdite was exploded at every second joint, and a mine, consisting of 4 or 5 shells of a special type for railway destruction, was exploded in the grade at intervals. In other places the destruction was carried out by means of a track destroyer, consisting of a heavy rail bent into a hoop and slipped under the rail joint and attached to a number of locomotives by a steel cable. This, while it did not destroy the rail, twisted the track sideways, split all the ties and tore up the grade. One line was rebuilt with salvaged material, the second track being laid with new material brought up by train.



Royal Engineers completing a bridge over a river in France.
Official photograph, taken on British Western Front. Crown copyright reserved.

Capt. Norman J. D'Arcy, M.C., eldest son of W. H. D'Arcy, General Claims Agent, C.P.R., Winnipeg, has returned from overseas service.

Col. J. S. Dennis, C.M.G., liason officer and Red Cross Commissioner, Siberian Expeditionary Force, Chairman of the Canadian Economic Commission in Siberia, and Assistant to the President, C.P.R., was reported to have left Vladivostock for Canada, Mar. 19.

Lieut. A. C. Doucet, Royal Air Force, killed in an aeroplane accident in England recently, was son of Lt.-Col. A. E. Doucet, of Quebec, Que., formerly District Engineer, National Transcontinental Ry.

Brigadier General C. L. Hervey, D.S.O. of Montreal, who returned to Canada, Mar. 24, went overseas as Major of a unit of the Canadian Railway Troops, and shortly after arriving in France, was promoted to Lieut.-Colonel and given command of the 4th C.R.T. In June 1918, he was promoted to Brigadier-General, and placed on special service in England. Before taking up military service, he was a director of the Courtenay Bay Construction Co., and was supervising the construction of the breakwater. He had also been in charge of considerable contracting work on the C.P.R. in New Brunswick.

Lt.-Col. W. B. Kingsmill, D.S.O., of Saunders, Torrance and Kingsmill, Canadian Solicitors for the Michigan Central Rd., has returned to Toronto and has resumed his practice. Prior to the war he was in command of the 10th Royal Grenadiers, and later organized and commanded the 123rd Battalion C.E.F., which proceeded to France as the pioneer battalion of the 3rd Division. It fought at Vimy Ridge, Avion, Passchendaele and Hill 70. On the disbandment of all pioneer battalions, the 7th Battalion Canadian Engineers was organized, with Lt.-Col. Kingsmill in command. He returned from France in Aug. 1918, and has since been acting as Judge Advocate General at Ottawa. He was twice mentioned in dispatches, and was awarded the D.S.O. for service in France.

Lieut. M. P. MacLeod, of the R.A.F., son of M. H. MacLeod, Vice President, Operation, etc., Canadian National Rys., who went overseas in Feb. 1917, arrived back in Toronto late in March.

Major R. C. Manning, D.S.O., whose death in France, Nov. 6, was reported recently, was, before enlisting, in the Bridge and Building Department, Canadian Government Railways, Moncton, N.B. He enlisted on the outbreak of war, as a private, and went to France as a lance corporal, being granted a commission for bravery on the field. He was awarded the Military Cross in Sept. 1915, the Distinguished Service Order in 1917, and the French Cross of the Legion of Honor in Jan. 1918.

Col. C. W. P. Ramsey, C.M.G., formerly Engineer of Construction, Eastern Lines, C.P.R., and Mrs. Ramsey, arrived in Montreal, from England, early in March. Col. Ramsey was born at Bury, Que., Jan. 15, 1883, and entered C.P.R. service as an apprentice in the Mechanical Department at the Delorimier Ave. shops, in 1898, and served in various minor capacities until Sept. 19, 1903, when he was transferred to the Construction Department at Montreal, passing through the various grades of draftsman, transit man, Assistant Engineer and Division Engineer. On Mar. 15, 1912, he was appointed Engineer of Construction, Eastern Lines, and held that position until Feb. 25, 1915, when he was granted extended leave of absence on his appointment as Lt.-Colonel in command of the Canadian Overseas Railway Construction Corps. During 1918, he was promoted to Colonel, made a Companion of the Order of St. Michael and St. George, and seconded for service at the War Office.

Capt. Hon. W. J. Shaughnessy, son of the Chairman of the C.P.R., returned to Canada, Mar. 17, after about 30 months service overseas, chiefly on Lieut.-Gen. Sir Arthur Currie's staff. He went overseas with the 199th Irish Rangers, and was, for some time attached to the British Headquarters staff, later being transferred as A.D.C. to Gen. Currie. He is returning to his law practice.

Major-General J. W. Stewart, C.B., of Foley, Welch and Stewart, railway contractors, who has, since 1916, been in railway work on the western front in France and Flanders, and who latterly acted as Director General of Transportation there, returned to Canada Mar. 6. In an interview at Montreal, he stated that the Canadians rendered great service to the British transport service and became as famous behind the lines as at the front. During the first two years of the war, the British built a little over 100 miles of railway, but from 1916 to the end of the war, more than 3,000 miles of standard gauge, and 6,000 miles of narrow gauge lines were built, enabling 250,000 tons of munitions to be moved monthly .

Liability for Injuries on Joint Railway Lines.—Mrs. P. Beauchemin has been awarded $12,025 and costs by a Quebec court against the G.T.R. as compensation for the death of her husband, a section foreman, who was struck by a train. He was in the G.T.R. employ and at the time of the accident was mending a broken rail near St. Basil, Que., on a section of the line over which the Intercolonial Ry. has running rights, and was struck by an Intercolonial locomotive. Justice Greenshields, held that the plaintiff could not be held bound by any agreement as to joint control; he was in the G.T.R. employ and doing that company's work, and whatever remedy the G.T.R. had was as against the Intercolonial Ry. The company alleged that the accident was due to inexcusable fault, but the facts showed that the fault lay with the driver of the Intercolonial train failing to obey a stop signal at St. Basil. The moment the train entered the section of the line at Montreal or St. Lambert, he was under the orders of the train dispatcher who was an exclusive employe of the G.T.R. As between the section foreman and the G.T.R. the responsibility lies with the company. It was further alleged that there was contributory negligence on the part of the section foreman, but he failed to find any, and on the other hand considered it a case of inexcusable fault on the part of the company.

United States Railways Financial Situation.—The U.S. Congress adjourned without making appropriations amounting to $750,000,000 asked by the Railroad Administration. This left that body with practically empty coffers, about $381,000,000 of debts and no funds to finance the programme of improvements planned for this year as a measure to take up the slack in the materials and labor markets. It was arranged Mar. 5 by the government to retain control of the railways and to have the industrial companies do their own financing for the next few months on the open market or through advances by the War Finance Corporation which is reported to have about $337,000,000 of resources available.

Questions About Canadian National Railways Officials.

In answer to a question, by A. B. Copp, M.P. for Westmoreland, N.B., in the House of Commons recently, the Minister of Railways stated that the following officials, attached formerly to the Canadian Government Rys. head office at Moncton, N.B., had been transferred for service on the Canadian National Rys.

C. A. Hayes, formerly General Manager, Eastern Lines, C.G.R., Moncton, promoted to Vice President, in charge of traffic, all lines, Canadian National Rys., Toronto.

H. H. Melanson, formerly Passenger Traffic Manager, C.G.R., Moncton, promoted to Passenger Traffic Manager, all lines, Canadian National Rys., Toronto.

R. F. McLeod, formerly Assistant General Passenger Agent, C.G.R., Moncton, promoted to Assistant to Passenger Traffic Manager, in charge of Tariff Bureau, Canadian National Rys., Montreal.

W. L. Crighton, formerly Advertising Agent, C.G.R., Moncton, promoted to General Advertising Agent, all lines, Canadian National Rys., Toronto.

—add questions about C.N.R officials—

G. E. Smart, formerly Master Car Buiilder, C.G.R., Moncton, promoted to General Master Car Builder, all lines, Canadian National Rys., Toronto.

H. F. Alward, formerly General Claims Agent and Solicitor, C.G.R., Moncton, promoted to General Solicitor, Canadian National Rys., Montreal.

In answer to another question by Mr. Copp, the minister stated that F. P. Brady and A. E. Warren, are general managers of the Canadian National Rys. Mr. Brady's jurisdiction extends over all Canadian Northern lines east of Port Arthur, and National Transcontinental lines east of O'Brien, Que., and over the former Canadian Government Rys. His salary is $12,000 a year and his office is at Montreal. Mr. Warren's jurisdiction extends from O'Brien west, on the National Transcontinental Ry., and on all Canadian Northern lines west of Port Arthur. His salary is $10,000 a year and his office is at Winnipeg.

C. A. Hayes, formerly General Manager, Eastern Lines, Canadian Government Rys., with a salary of $12,000 a year, is now Vice President, in charge of traffic, Canadian National Rys., at the same salary.

In answer to a question by J. H. Sinclair, M.P. for Antigonish and Guysborough, N.S., the Minister of Railways stated that no employes formerly in the Canadian Northern Ry. service had been appointed since Jan. 1 to positions on the Canadian Government Rys. east of Montreal, but W. A. Kingsland, formerly General Superintendent, Canadian Northern Ry., Montreal, had been appointed Assistant General Manager, Eastern Lines, Canadian National Rys., and his jurisdiction had been extended to cover Canadian Government Rys., east of O'Brien. Guy Toombs, formerly Assistant Freight Traffic Manager, Eastern Lines, Canadian Northern Rys., had had his jurisdiction extended to include Canadian Government Ry. lines west of Matapedia, Que. and Edmundston, N.B., and east of Armstrong.

Railway Subsidies.—The Dominion Public Accounts for the year ended Mar. 31, 1917, show that railway subsidies of $959,583.88 were paid during the year.

Orders By Board of Railway Commissioners for Canada.

Beginning with June, 1904, Canadian Railway and Marine World has published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed the paper have a continuous record of the board's proceedings. No other paper has done this.

General order [illegible]. Jan. 1[illegible]. Approving specifications for [illegible] dated Ottawa, May 22, 1918, submitted by Canadian Railway Mail Services Department for use by railway companies operating in Canada.

28052. Jan. 22. Dismissing Toronto, Hamilton & Buffalo Ry. application for a rehearing by way of appeal from order [illegible]951, Dec. 24, 1918, rescinding clause 7 of order 25570, Oct. 27, 1916, providing for interswitching at Brantford, Ont.

28053. Jan. 21. Ordering Kitchener & Waterloo St. Ry. to move north derail at the diamond crossing with G.T.R. at King St., 100 ft., and south derail, 75 ft. from the nearest G.T.R. rail, and to place cluster lights with red light center over derail.

28054. Jan. 23. Ordering that crossing of Bruce St., Galt, Ont., by G.T.R. and Lake Erie & Northern Ry. be protected by watchman between 7 a.m. and 7 p.m.

28055. Jan. 22. Authorizing C.P.R. to remove its regular agent at Kinorth, Sask.; caretaker to be appointed to see that station is kept clean, heated and lighted for passengers.

28056. Jan. 23. Relieving Canadian National Rys. from providing further protection at Wallace or White Lake crossing, Sheffield Tp., Ont.

28057. Jan. 23. Amending order 27826, Nov. 18, 1918, re Lautz Bros. siding, Beachburg, Ont.

28058. Jan. 23. Extending to June 1, time within which the Edmonton, Dunvegan & British Columbia Ry. shall fence its right of way through east half of Sec. 31, Tp. 72, Range 5, west 5th meridian, Alta., and install farm crossing for S. Wright.

28059. Jan. 25. Amending order 27770, Oct. 9, 1918, re G.T.R. level crossings in Brantford, Ont.

28060. Jan. 25. Approving Great Northern Ry. timetable showing service between Guichon and Sumas, via Colebrook, and to Vancouver, B.C.

28061. Jan. 27. Extending to Mar. 27 time within which C.P.R. shall install electric alarm bell at crossing of King St. West, Ingersoll, Ont.

28062. Jan. 25. Authorizing C.P.R. to build spur for Three Rivers Shipyards, Ltd., Three Rivers, Que.

28063. Jan. 27. Amending order 14606, Aug. 21, 1911, re Canadian Northern Ry. interswitching at Brandon, Man.

28064. Jan. 27. Ordering New York Central Rd. to stop all its trains, both incoming and outgoing, on flag at Westmount station, Que.

28065. Jan. 27. Relieving Canadian National Rys. from providing further protection at crossing near Vegreville station, Alta.

28066. Jan. 27. Authorizing C.P.R. to remove its station agent at Naughton station, Ont.; caretaker to be appointed to see station is kept clean, heated and lighted for passengers.

28067. Jan. 28. Amending order 28039, Jan. 16, re C.P.R. level crossing at Grant St., Quebec.

28068. Jan. 24.—Approving agreement, July 27, 1917, between Bell Telephone Co. and Wakefield & Masham Telephone Co., Ottawa and Pontiac Counties, Que.

28069. Jan. 22. Dismissing application of City of Niagara Falls, Ont., for order directing Niagara, St. Catharines & Toronto Ry. to lay its tracks down center of Queen St. and to construct a new cross-

28070. Jan. 31. Approving G.T.R. clearance at siding for Canadian General Electric Co., Toronto.

28071. Jan. 31. Authorizing Toronto Terminal Ry. to lay conduits containing pressure steam lines across Bay, Yonge, and Scott Sts., and upon and along Esplanade St., between Yonge and Scott Sts., Toronto.

28072. Jan. 31.—Authorizing Pere Marquette Ry. to erect bridge over spur serving Gray Dort Motors Ltd., Chatham, Ont., with 16 ft. clearance.

28073. Feb. 5.—Suspending, pending hearing by Board, G.T.R. supplement to tariff C.R.C. no. 1024 and cancellation of item 195 in C.P.R. supplement 14 to tariff E 3551 showing increase in rates on agricultural lime or stone dust from [illegible], Ont.

[illegible] Feb. [illegible] Authorizing Essex Terminal Ry. to build extension of spur for Swedish Crucible Steel Co. of Canada, Ltd., Windsor, Ont.

[illegible] Feb. [illegible] Authorizing British Columbia Government to build crossing over C.P.R. at Notch Hill.

[illegible] Feb. [illegible] Authorizing Canadian Northern Ontario Ry. to build spur for Eastern Land Department, Canadian National Rys., at [illegible].

[illegible] Feb. [illegible] Relieving G.T.R. from providing further protection at crossing near Corby-[illegible], Ont.

[illegible] Feb. [illegible] Approving Esquimalt and Nanaimo Ry. [illegible] for Straits Lumber Co., [illegible], B.C.

[illegible] Feb. [illegible] Authorizing Canadian Northern Ontario Ry. to build spur for Anglo Canadian [illegible] Co., [illegible] Tp., Sudbury District, Ont.

28082. Jan. 21. Rescinding order 27497, July 24, 1918, and ordering work to be done in connection with the Foster St. drain and the natural water courses in connection with drainage at crossing of C.N.R. and C.P.R. tracks, Belleville, Ont.

28083. Feb. 7. Authorizing British Columbia Electric Ry. to build extension of Graham Co's spur for Barrett Co., Point Grey, B.C.

28084. Feb. 5. Extending to May 15, time within which Grand Trunk Pacific Ry. shall build stock yard at Ardrossan, Sask.

28085. Feb. 5.—Authorizing Department of Justice to build coal conveyor over Grand Trunk Pacific Ry. for Alberta penitentiary.

28086. Jan. 27.—Ordering G.T.R. to provide shelter at Brussy station, Que., and substitute the name of Brussy for Ile Perrot.

28087. Feb. 10.—Authorizing Kettle Valley Ry. to open for traffic its line from mileage 13.6 at Princeton, B.C., to mileage 8.

28088. Feb. 13. Suspending, pending public hearing by Board, supplement 3 to C.P.R. tariff E-3383, supplement 5 to G.T.R. tariff E-3411 and supplement 1 to C.N.R. tariff E-1121, cancelling commodity rates on cheese to Montreal.

28089. Feb. 10.—Approving Canadian National Ry. bylaw authorizing R. E. Perry, A.G.F.A. and W. Hately, A.G.F.A.; H. H. Melanson, T.M.; R. F. MacLeod, A.P.T.M.; R. L. Fairbairn, G.P. A., and R. Creelman, A.P.T.M., to prepare and issue freight and passenger tariffs respectively.

28090. Feb. 11. Dismissing application of J. H. Warrington, Cornwall, Ont., and others for reduction in class rates and carload minimum weight on shipments of live poultry.

28091. Feb. 8.—Ordering that cost of installing transfer track between the G.T.R. and Niagara St. Catharines and Toronto Ry., at Thorold, Ont., be paid equally by G.T.R. and Canadian National Rys.

28092. Feb. 8.—Authorizing G.T.R. and C.P.R. to operate over crossing at Komoka, Ont., without first stopping.

28093. Feb. 10.—Recommending to Governor in council for sanction, Maine Central Rd. rules for operating department effective from Jan. 1.

28094. Feb. 10.—Authorizing G.T.R. and Michigan Central Rd. to operate over crossing at Canfield, Ont., without first stopping.

28095. Feb. 10.—Amending order 28064, Jan. 27, re stopping of New York Central Rd. trains at Westmount, Que.

28096. Feb. 11.—Authorizing Saskatchewan Government to build highway crossing over C.P.R. on road north of Sec. 26, Tp. 17, Range 16 west 3rd meridian.

28097. Feb. 12.—Approving British Columbia Government's plan of overhead bridge on Columbia and Northwestern Ry., near Castlegar, B.C.

28098. Feb. 11.—Authorizing C.P.R. to build spur for S. Ouellette, Campbell Tp., Que.

28099. Feb. 11.—Ordering the use of 9 temporary railway crossings between Dosquet and Lyster, Que., for certain property owners pending hearing of question of location and construction of permanent crossings to be heard by the board in Montreal.

28100. Feb. 10.—Authorizing C.P.R. to build spur for J. C. Wright, Proton Tp., Ont.

28101. Feb. 8.—Ordering Canadian National Rys. to stop train no. 8 on flag at Richmond, Ont., on Monday mornings to accommodate the weekend passenger traffic for Ottawa.

28102. Feb. 13.—Relieving Grand Trunk Pacific Ry. from providing further protection at crossing between Unity and Vera, Sask.

28103. Feb. 11. Approving agreement, Jan. 21, between Bell Telephone Co. and Stroud Telephone Co., Simcoe County, Ont., and rescinding order 23352, Feb. 23, 1915.

28104. Feb. 12.—Ordering C.P.R. to maintain day and night watchmen at crossings of Waterloo and Adelaide Sts., London, Ont.

28105. Feb. 13.—Authorizing G.T.R. to build spur for Imperial Oil Ltd., Toronto.

28106. Feb. 13.—Authorizing City of Toronto to carry a 10 in. water main across overhead bridge at Strachan Ave., over railway tracks.

28107, 28108. Feb. 18.—Approving Bell Telephone agreements with St. Marys Telephone system Ltd., Shefford County, Que., Jan. 3; and Lambeth Telephone Co., Middlesex County, Ont., Feb. 4.

28109. Feb. 17.—Approving Bonaventure and Gaspe Telephone Co. bylaw authorizing E. A. Bouillon, Managing Director, and M. C. Harris, General Manager, to issue triaffs for board's approval.

28110. Feb. 17.—Authorizing Saskatchewan Government to build highway crossing over Canadian National Rys. in n.e. ¼ Sec. 20, Tp. 39, range 4 west 3rd meridian, at Osler townsite.

28111 Feb. 18.—Dismissing complaint of St. Lawrence Pulp and Lumber Corporation against rate of $23.07 a gross ton on secondhand rails from Matapedia, Que., and requesting reparation to basis of $11.79 a gross ton from Montreal to Vancouver with addition of arbitrary of $1.12 a gross ton from Matapedia to Montreal.

28112 Feb. 21. Dismissing application of Mme. Napoleon Bessete of Roxton Falls, Que., for order directing C.P.R. to remove stock pen from near her dwelling.

28113. Feb. 20.—Approving agreement, Feb. 11, between Bell Telephone and Burgessville Telephone Co., Oxford and Brant Counties, Ont.

28114. Feb. 20.—Ordering G.T.R. to provide a one pen stock yard and loading chute at Jamesons siding, Ont.

28115. —Feb. 19.—Authorizing Canadian National Rys. to build spur for J. Bachler Boulter Tp., Ont.

28116. Feb. 25.—Authorizing G.T.R. to build 2 additional tracks at grade across William St., Brockville, Ont.

28117. Feb. 24.—Approving plan of interlocking plant to be installed by C.P.R. at Kempton, Ont.

28118. Feb. 26.—Authorizing Canadian National Rys. to build branch for Standard Chemical Iron and Lumber Co. of Canada Ltd., Ferguson Tp., Ont.

28119. Feb. 25.—Ordering C.P.R. within 60 days to install improved type of automatic bell near Farrelton, Que.

28120. Feb. 25. Disallowing Ottawa Electric Ry. tariff C.R.C. 5 which was filed to become effective Nov. 18, 1918, and which was suspended pending hearing.

28121. Feb. 24.—Ordering that transfer track between Niagara St. Catharines and Toronto Ry. and G.T.R. at Thorold, Ont., be maintained by N. St. C. and T. Ry.

28122. Feb. 21.—Amending order 28982, Jan. 21, re extension of walls of culvert opposite Marsh Engineering Works, Belleville, Ont.

28123. Feb. 27.—Approving Lake Erie and Northern Ry. standard freight mileage tarif C. R.C. 162.

28124. Feb. 27.—Approving London and Port Stanley Ry. standard mileage freight tariff C.R. C. 224.

28125. Feb. 26.—Relieving C.P.R. from providing further protection at crossing between sec. 25, Tp. 16, Range 25, and sec. 30, Tp. 16, Range 24, west 2nd meridian.

28126. Feb. 26. Ordering Canadian National Rys. to erect a one-car stock pen at Mair, Sask.; by Sept. 30.

28127. Feb. 26.—Authorizing C.P.R. to build spur for Harris Abbatoir Co., Toronto.

28128. Feb. 27.—Authorizing Toronto, Hamilton and Buffalo Ry. to build 2 branch lines for Ker and Goodwin Machine Co., Brantford, Ont.

28129. Feb. 28.—Ordering C.P.R. to install improved type of automatic bell at crossing of Bull St., Woodstock, N.B.

28130. Feb. 28.—Approving Pere Marquette Ry. plan of timber trestle to be built at Muirkirk, Ont., in lieu of culvert directed by order 27821, Dec. 11, 1918.

28131. Feb. 27.—Authorizing C.P.R. to build 2 spurs for Wayagamack Pulp and Paper Co., Belle Rive Island, Que.

28132. Feb. 28.—Authorizing C.P.R. to build spur for Excelsior Coal Co. in s.w. ¼ sec. 30, Tp. 1, Range 5, west 2nd meridian, Sask.

28133. Mar. 4.—Authorizing Drury, Dennison and Graham Tps., Ont., to build highway crossing over Algoma Eastern Ry., near O'Donnell, Ont.

28134. Mar. 4.—Approving agreement, Feb. 10, between Bell Telephone Co. and Shakespeare Telephone Co., Sudbury District, Ont.

28135. Feb. 28.—Relieving C.P.R. from providing further protection at Kingston Crossing, near Verona station, Ont.

28136. Feb. 27.—Amending order 28154, Jan. 23, re crossing of Bruce St., Galt, Ont., by G.T. R. and Lake Erie and Northern Ry.

28137. Mar. 4.—Approving location of Canadian Northern Ry., Jackfish Lake Branch, from mileage 60.45 to 93.91, Sask.

A Railway Coal Freight Case.—Judgment was given Mar. 20, by Chief Justice Falconbridge, at Hamilton, Ont., in the case of Niblock vs. G.T. Ry. The action was to recover $24,053.51 for coal sold, but the New York Central Rd. intervened with a claim for freight over its lines. The judge said: "I do not think that the New York Central Rd. claim against the defendants is mere camouflage on the part of these defendants. Let defendants pay into court $19,283.17, with interest from Aug. 15, 1913, less their costs, as of an interpleader application, which I fix at $60. Plaintiff may apply to the court on notice to the New York Central Rd., for payment out."

Railway Land Taxation.—The Greater Winnipeg Water District is asked by the Manitoba Legislature recenly for power to tax railway lands in the district in regard to the water levy, but the clause was struck out by the bill.

Electric Railway Department

Increases in Electric Railway Freight and Passenger Rates.

British Columbia Electric Ry.—Vancouver City Council passed the following resolutions Feb. 7: "That the city exercise its rights to cancel and abrogate the agreement of July 8, 1918, granting permission to the B.C. Electric Ry. Co. to collect 6c fares on its street cars within the City of Vancouver, and that the cancellation thereof do take effect immediately at the expiry of the nine months from the date of the last mentioned agreement, and that the notice of such intention to cancel the same forthwith be formally given to the company.

The mover of the resolution, Ald. McRae said that it was not an attempt to break the 6c fare bylaw, but simply a preliminary move to place the city in a safe position in connection with the legislation coming before the legislature to appoint a public utilities commission. He pointed out that a clause in the draft bill for the proposed public utilities commission provides that fare schedules stand as they are until such time as the board deals with them.

Representatives of the Victoria City Council and the company have met on several occasions with a view to arriving at a satisfactory settlement of the proposed 6c fare question, but no material progress has been made.

In view of the fact that the company is asking the city to eliminate the jitney from routes in direct competition with the company and, should this be granted, will expect the city to enforce the regulation (one of the concessions asked of the city in return for a 6c fare), the jitney men have circulated a petition, asking that jitneys be allowed to operate freely in competition with the company, as heretofore, and have obtained a considerable number of signatures. The petition and signatures was presented to the city council as an argument in favor of retaining the jitney in its present unrestricted condition, a number of local garages presented a similar petition to the city council. The legislature's private bills committee refused to consider the city's application for a bill to eliminate the jitney on traffic lines competing with the company, but on Mar. 14 the council, by a vote of 5 to 3, decided that the section should be retained in the bill.

Cape Breton Electric Co.—The Nova Scotia Public Utilities Commission gave judgment, Mar. 4, on the application of the Cape Breton Electric Co., and the Sydney and Glace Bay Ry., for an increase of fares on their lines, which were heard in July and August, 1918. The S. and G.B. Ry. is leased by the C.B.E. Co., the two lines being operated as a unit. The C.B.E. Co. operates its lines in Sydney and Glace Bay, which are connected by the company's ferry service, while the S. and C.B. Ry. is an interurban line, serving the mining district between the two termini. The fares in Sydney and Glace Bay were 5c, while on the interurban line there are 5 zones on each of which a 5c fare was charged, making a 25c fare from Sydney to Glace Bay. The company asked authority to increase the fares by 1c in Sydney and Glace Bay, and by 1c in each zone on the interurban line, and to charge 1c for each transfer. The municipalities through which the line passes, opposed the application and desired to have limited tickets at for workers, and for school children.

The commissioners dealt with the matter as the application of the C.B.E. Co., the two lines being treated as one. In an elaborate judgment they authorized the increase of fares, except the request to charge 1c each for transfers which was not pressed very thoroughly by the company and was finally dropped. The new fare is therefore 6c each in the city of Sydney, and the town of North Sydney , and Sydney Mines respectively, while the through fare from within the City of Sydney to Glace Bay, covering 5c zones, is advanced from 25c to 30c, with no limited or reduced rate likely except to school children. Although the commissioners stated that they felt sure they had no power to require that tickets should be sold to school children at a reduced rate, the company intimated that it was not averse to doing this, and finally offered to selll tickets to children under 16 years of age in attendance at public schools, on schooldays, betweeen 8 a.m. and 5 p.m., at 10 for 30c. This rate does not go into operation until Apr. 1. In the course of the judgment the commissioners said that the value of the company's property used and useful in connection with the furnishing of tramway service plus the usual overhead charge for engineering, etc., was $764,918, this valuation being based upon figures submitted by C. M. O'Dell, an engineer, who was engaged upon the construction of the line, and who was a witness for the municipalities. The company's expert engineer, L. R. Nash, of Boston, Mass., placed the value of the property at $1,600,000.. Under the terms of the Public Utilities Act, the company is entitled to earn a return of not less than 8% on the value of the property used and useful in connection with the service which it is rendering. The company is therefore entitled to a return of $61,193.44 in addition to taxes and depreciation. From the returns of earnings and operating expenses submitted it appeared that for 1918, there was available after meeting operating expenses, $46,963; whereas in 1917 there had been $99,777.15. The company based its application for relief upon the ground of increased costs of operation in all lines, especially emphasizing the increases in coal and labor. The total operating expenses increased from $133,472.92 in 1914, to $243,522.00 in 1918, while the revenue increased from $202,327.11 to $290,490 in the same period. The taxes increased from $8,537.25 in 1914 to $18,967 in 1918. The operating costs, while high as compared with pre war conditions, were not extravagant in view of the greatly increased cost of labor and materials. One item in particular which was claimed to be extravagant was a payment to Stone and Webster of 2.9% of the gross annual earnings in return for which the services of the legal, engineering, accounting and managerial staffs of the firm are at the company's disposal and perform for it functions which it would otherwise have to maintain a staff of its own to fulfil. While occasionally the company might possibly escape with a slightly lower expenditure, the commissioners found that "on the whole the arrangement cannot be said to be excessive." Transportation is the only thing the company has to sell, and if it is apparent that it could not economize in expenses by curtailing the service, on the other hand there are demands by the municipalities for increased service, and the commissioners were satisfied that any impairment or reduction in the service now being provided would fail to meet the needs of the communities served. The only alternative was an increase of fares. After an examniation of the effect of the increased fares elsewhere, the judgment proceeds to set out that, while putting the rate asked for into effect, it must be reached as a temporary schedule which might be modified should the results of its operation, when known, call for such modification. With this end in view the company is directed to furnish quarterly statements showing the results of the increased schedule.

During the hearing of evidence a statement was made with reference to an agreement with Glace Bay, but after examining the whole matter the commissioners were of the opinion that there was nothing in the matter to preclude them from exercising the general control over rates conferred upon them by the Public Utilities Act.

Lake Erie and Northern Ry.—The Board of Railway Commissioners taxed order 28, 125, Feb. 27, approving this company's standard freight mileage tariff C.R.C., 165, the rates named in which are on the same basis as apply on steam railways in Eastern Canada.

London & Port Stanley Ry.—The Board of Railway Commissioners passed order 28, 124, Feb. 27, approving this company's standard mileage freight tariff C.B.C., 224.

London St. Ry.—We have been advised, in reference to the company's application to the London, Ont., City Council, for power to increase fares that the no. 1 committee recommended that the mayor be authorized to employ an expert accountant to report on the accounts, state and physical condition of the company, and that the city solicitor be asked to advise as to the power of the council to amend bylaw 916, the franchise agreement. The committee has been advised that any amendment of the bylaw would have to be approved by the Ontario Legislature. These recommendations were approved by the city council, Mar. 3. No appointment of an auditor had been made at the time of writing, Mar 22. The London Chamber of Commerce decided Mar. 14, that it would secure an independent report on the company's affairs

The no. 1 committee had a special meeting Mar. 21, in connection with street railway matters. The mayor is reported to have said that the city was not at present contemplating the purchasing of the railway

A bill has been introduced in the House of Commons to ratify an agreement made between the company and the City of London, Jan. 20, 1919, which nullifies an agreement of Nov. 28, 1917, and provides for an advance in semi weekly excursion rates from London to Port Stanley and return from May 24 to Sept. 10 in each year. The new return rates are not to exceed 50c to persons over 12 years of age, and 25c for persons under 12, except children under 5, accompanied by a parent, or other person, in charge, who are to be carried free. The old fare was 30c for the round trip, so that the advance is 20c. There were no children free with the old arrangement.

The Nipissing Central Ry., which is owned by the Ontario Government and operated by the Timiskaming and Northern Ontario Ry. Commission, has filed a local passenger tariff with the Board of Railway Commissioners which advances fares practically 25%, effective Apr. 1. The new fares are as follows:—

Within town limits of Cobalt, Haileybury and New Liskeard, 7c, or 4 tickets for 25c. Between North Cobalt and Haileybury or Cobalt, 10c, or 12 tickets for $10. Between Cobalt and Haileybury, between Cobalt and Kerr Lake and intermediate points, and between New Liskeard and Haileybury, 15c, or 8 tickets for $1. Between New Liskeard and Cobalt, 30c, or 4 tickets for $1.

Scholars tickets, good for 10 rides, between Cobalt, Haileybury and intermediate points; between New Liskeard, Haileybury and intermediate points, and between Cobalt, Kerr Lake and intermediate points are sold at 30c. These tickets are good only on days on which school is in session, going to and from school, and will not be honored at any other time of day, or on Saturdays, Sundays, or holidays. They will be sold to scholars only on presentation of certificate bearing the personal signature of the principal of the school, certifying that the applicant is a regular attendant of his school under 18 years of age and properly entitled to use these tickets.

Workmen's tickets, good for 21 rides, between 5 and 7.30 a.m., and 4.45 and 7 p.m., daily, except Sunday, are sold as follows:—Between Cobalt, Kerr Lake and intermediate points, $1.25; between Cobalt, Haileybury and intermediate points, $1.25; between New Liskeard, Haileybury and intermediate points, $1.25; between New Liskeard, Cobalt and intermediate points, $2.50. On car leaving Cobalt at 6.45 p.m., also on car leaving New Liskeard 6.45 p.m., workmen's tickets will be accepted as far as Haileybury only.

As before stated, the increases are practically 25%, except between Cobalt and Haileybury, Cobalt and Kerr Lake, and Haileybury and New Liskeard. An advance of 25% on the old 10c rate would have made a very cumbersome fare, so it was advanced to 15c cash, or 8 tickets for $1. As residents of the district will, in nearly all cases, buy tickets, they will really only pay an increase of about 25%.

Women Conductors at Kingston.—The Kingston, Portsmouth and Cataraqui Electric Ry., Kingston, Ont., issued notice recently that no more women would be engaged as conductors. We are advised that the company has found women most satisfactory as conductors, that it is not discharging any of them, and that when their services are dispensed with entirely it will be due to the fact that there is an abundance of male help labor.

Answers to Questions on Electric Railway Topics.

Answers have been sent to questions through the American Electric Railway Association's question box, by Canadian electric railway officials, as follows:—

Snow Removal Agreements.—In entering into an arrangement with a municipality for the removal of snow and ice from streets occupied by tracks, is it better for the company to agree actually to perform the work, or to contribute to its cost?

W. G. Murrin, Assistant General Manager, British Columbia Electric Ry.—It is better for the company to do the work, as it usually has better facilities, and the equipment necessary can in many cases be combined with that required to clear the tracks. After the railway has swept its right of way and pushed the snow back to provide room for vehicular traffic without encroaching upon the car tracks, the municipality should be asked to bear the cost of transporting the snow entirely from the streets.

W. F. Graves, Chief Engineer, Montreal Tramways Co.—Our experience in Montreal, where we have a most unusual snow fall, in the average over 10 ft., is that it is more economical to contract the moving of snow from streets occupied by tracks, either with the municipality or a private contractor. In the first place, by arranging with either, the company relieves itself of many complaints as to dumping of snow and the condition in which the street is left. It also eliminates many long hauls of loaded snow, as municipalities or contractors are able to utilize vacant property in the immediate vicinity at a very small cost, or in instances no charge at all, while the company would, of necessity, have to dispose of the snow at some distant snow dump. In instances we have saved as much as 50% by entering into private contract.

Destroying Weeds by Electricity.—Does any reader know of any method of destroying vegetation or eradicating weeds on railway roadbeds by the use of electricity?

W. G. Murrin, Assistant General Manager, British Columbia Electric Ry.—I do not know of any electrical method of removing weeds. We have used a spray of coal-gas tar with good results, applying it in the spring. After three annual treatments the line will be free from weeds for about three years. The tar kills not only the weeds, but a large extent the seeds and roots as well.

Returned Soldiers as Trainmen.—In engaging discharged soldiers and sailors as trainmen, do you consider it necessary to subject them to a physical examination, or would you take the certificate of discharge as evidence of their good physical condition?

F. L. Hubbard, Assistant to General Manager, Toronto Ry., Toronto.—We think they should undergo physical examination, both for the protection of the public, and also on account of the Workmen's Compensation Act, for the protection of the company.

Dust Shields and Guards.—What has been your experience with dust shields and dust guards on modern railway motors; do they materially increase the life of bearings?

W. G. Murrin, Assistant General Manager, British Columbia Electric Ry.—Dust guards are almost a necessity, as they not only increase life of bearings, but also protect the gears. We have two types of motors using interchangeable axles and gears, and the ones with dust guards have not only less bearing trouble, but run with less noise.

Paper as a Lining for Pinions.—Is a liner of paper better than a lining of metal when used to make loose pinions tight on armature shafts?

W. G. Murrin, Assistant General Manager, British Columbia Electric Ry.—I would not favor the use of any kind of liner on pinions. We build up worn shaft with electric welder and turn a new bearing for the pinion.

Pressed Steel Gear Pans.—Please state your experience with the new style pressed steel gear pans. We have had a number of breakages and are inclined to prefer the malleable iron pans.

W. G. Murrin, Assistant General Manager, British Columbia Electric Ry.—We have had but slight experience with pressed gear cases, but from this are inclined to prefer the malleable, which we can easily repair by electric welding. With some 240 four-motor equipments in service we have taken from stores only one new gear case in the last year.

Running Pinions Without Keys.—What results have been obtained by running pinions on railway motors without keys?

W. G. Murrin, Assistant General Manager, British Columbia Electric Ry.—Would be afraid to try pinions without keys, as there is not sufficient bearing to guarantee that they will not slip with the high torque required in modern rapid acceleration.

Handling Passengers Carried Free.—When city employes are carried free under the terms of a franchise, is it better to provide them with tickets or to carry them on their uniforms or badges, and

W. G. Murrin, Assistant General Manager, British Columbia Electric Ry.—This depends largely on the method of fare collection in use. We do not register our fares, and our arrangement is as follows: Policemen and firemen in uniform carried free. Plain clothes men and other civic employes show passes. Letter carriers, when in uniform, are carried on passes.

Advertising on Outside of Car.—Do any companies derive any revenue from the sale of advertising space on the outside of their cars; what are the objections to such a practice?

W. G. Murrin, Assistant General Manager, British Columbia Electric Ry.—I would not favor allowing advertising on the outside of cars, for appearance sake. Then these signs would have to be removable for painting and washing cars, etc. We allow banners to be hung on the fenders, this privilege being controlled by the advertising company which places cards inside the cars.

Reporting Reckless Drivers.—What is the experience of companies in reporting reckless drivers to the police; what forms are supplied to the trainmen, and what results have been obtained?

F. L. Hubbard, Assistant to the General Manager, Toronto Ry., Toronto.—Our trainmen are instructed to report cases of reckless driving, blocking of car tracks, or damage to cars by wagons, automobiles, etc. These are handled by the operating department, an inspector collects damages where the company is not at fault and looks after the reporting of such cases to the police and prosecutions in the police court. Trainmen report the occurrences on the forms used for reporting accidents.

Proposed Hydro Electric Radial Railways in the Niagara Peninsula.

The hydro electric radial railways proposed to be built between Port Credit and St. Cartharines, and between Welland and Bridgeburg, Ont., by the Hydro Electric Power Commission of Ontario, on behalf of the municipalities concerned, were voted on by those municipalities, Jan. 1, 1917. The aggregate vote for the first named line was 7,236 for, and 5,545 against; and for the second line, 2,097 for, and 392 against. In the latter case there were majorities for the railways in the case of each municipality, so that so far as that line is concerned, the matter was considered settled. In the former case, majorities were recorded against the proposal in Hamilton, Nelson Tp., and Saltfleet Tp., the figures in each case being, Hamilton, 3,192 for, 3,626 against; Nelson Tp., 90 for, 101 against; Saltfleet Tp., 104 for, 241 against.

Owing to the existence of the war, and the consequent restrictions on bond issues, and general financing, the matter was allowed to rest, but with the declaration of the armistice, interest was again aroused, and the councils of the three municipalities in which the bylaws were defeated in 1917 decided to re-submit them. They were voted on Mar. 15 being carried in two municipalities and defeated in one as follows: Hamilton, 6,172 for, 3,435 against; Nelson Tp., 67 majority for; Saltfleet Tp., 26 for, 87 against.

The Port Credit-St. Catharines line is intended to connect with the proposed hydro radial line between Toronto and London, previously authorized, at Port Credit, and the municipalities interested are,—Toronto, Trafalgar, Nelson, East Flamboro, West Flamboro, Barton Saltfleet, North Grimsby, Clinton, Louth and Grantham townships; Grimsby and Beamsville villages; Oakville and Burlington towns, and Hamilton and St. Catharines cities. The total mileage from Port Credit to St. Catharines is 59.57. The route proposed is as follows:

Port Credit-Hamilton section: From a point approximately one mile west of Port Credit on the projected Toronto-London line it is proposed to parallel the Grand Trunk Railway to near Clarkson, thence southwesterly across the Toronto-Hamilton highway to Con. 3, thence through same to Oakville, where Oakville Creek will be crossed near Sheddon Ave. From Oakville the line will strike straight for the Hamilton Radial Ry. crossing of Bronte Creek, from which it is proposed to parallel the Hamilton Radial Ry. to Burlington. Through Bulington the line will cross the town in the neighborhood of Wellington Ave., and thence direct to a crossing of the old Desjardins Canal at Valley Inn;

Hamilton City section: Through Hamilton it is proposed to parallel the G.T.R. main line on the west side between the railway and the highway. Through Harvey Park and Dundurn Park the line will be south of and as close to the G.T.R. as possible, and will continue easterly, crossing Barton St. near Greig St., and keeping on the south side of Barton St. to the corner of Tiffany St., where it will cross Barton St. and continue northeasterly across Bay, Park, Murray and McNab Sts. and James St. between Murray and Stuart Sts., thence in the same general direction across Hughson, Mary, Catharine, Ferguson and Wellington Sts., at which latter point it will turn and follow south of Ferire St., across Victoria and Emerald Sts. to a point just north of the T.H. & B.R. spur, which it will parallel on the north side to Sherman Ave., thence it bears northeasterly to the south side of the Hamilton and Northwestern Ry., which it will parallel to the city limits;

Hamilton-St. Catharines section: From Kenilworth Ave., Hamilton, just south of the Hamilton and Northwestern Ry., the line will turn and bear southeasterly to midway between the G.T.R. Stoney Creek station and the village, thence to about ¼ mile north of Fruitland, and at about the same distance north of the Hamilton stone road as far as Winona, from which it will parallel the G.T.R. on the south side through Grimsby and as far east as the Grimsby and Clinton township line, from which it will bear southeasterly to Beamsville, just north of the Hamilton stone road, and thence parallel the same to Jordan. From Jordan to the town line between Louth and Grantham it is proposed to follow in the neighborhood of the road allowance between concessions 6 and 7 of Grantham Tp. to where it crosses the G.T.R., thence southeasterly to near Victoria and Permilla Sts. and along Permilla St. to the west end of the new bridge over the old Welland Canal.

Following is an estimate of the cost of construction, equipment and operation, with estimated operating revenue:

Capital Cost:	
Right-of-way, track construction, and buildings	$8,935,363
Sub-station, car shops, and rolling stock	2,425,000
	$11,360,363
Annual Operating Revenue:	
Passenger revenue	$760,000
Freight revenue	545,000
Miscellaneous revenue	57,000
	$1,362,000
Annual Charges:	
Operating expenses	$570,289
Maintenance expenses	152,193
Total operating and maintenance expenses	$722,482
Interest charges	568,018
	$1,290,500

The class of construction covered by the estimates is based upon a single track line of 80 lb. rails on private right of way for practically the entire distance. The line will be double tracked through Hamilton, with practically no level highway crossings, thus allowing high speed right through the city. By connecting with the Toronto-London line at Port Credit it will be possible to utilize the high speed entrance of that line to the large radial terminal to be provided in the center of Toronto. The Toronto entrance will have no level highway crossings between the centre of the city and New Toronto, and will utilize a steel viaduct along the harbor front, a tunnel under the exhibition grounds, an open cut through South Parkdale, and an elevated embankment from Sunnyside to the Humber River. Ample allowance is said to have been made to cover a very high class of construction, and 80 lb. steel rails, concrete culverts, steel bridges and other similar structures are designed to carry, in an economical manner, the heaviest types of freight cars now in use on steam railways. Proper station facilities, freight sheds and team tracks have been provided for in the various municipalities, and especially in Hamilton, where provision is made for a passenger terminal of sufficient size to accommodate the other lines which are proposed for that district.

The 1,500 volt direct current system of power has been estimated upon, with 4 substations located at various points between Port Credit and St. Catharines. This voltage and substation spacing will ensure ample power supply to heavy freight trains. The following equipment has been estimated upon:

30	3-compartment all steel, passenger motor cars.
6	suburban passenger motor cars.
15	passenger trailer cars.
4	express motor cars.
2	motor work cars.
10	60-ton steel locomotives.
350	freight cars.

The furnishings of the passenger cars will be of a high standard, and approximately 500 h.p. in motor capacity on each car will allow high speed even when a trailer is hauled.

It is anticipated to give practically hourly service between Toronto and St. Catharines, with a suburban service for a few miles both east and north of Hamilton. Limited cars, making few stops between termini, will be run at certain hours to take care of through business, and these cars should, it is claimed, make practically the same running time between Toronto and St. Catharines as is now in effect on the G.T.R. Local cars will, of course, be run in addition to the limited trains, and these will stop at approximately one mile intervals. The 10 locomotives provided for in the estimates will be used to haul heavy freight trains, and it is anticipated that from 3 to 6 round trips a day will be required to handle the freight business which has been estimated. In addition to this, express cars will also be used to handle light package, milk and freight business. These cars can make frequent stops along the line and collect milk cans, farm produce, etc., at points convenient to the residents of the different sections.

It is announced that the adverse vote given in Saltfleet Tp., will not affect the construction of the line as planned, though whether any stops will be made at any points in the township, or not, remains to be considered.

The voting on the bylaw aroused considerable interest in the general railway situation in Hamilton and in the matter of a common entrance for all lines to the city. Sir Adam Beck, on behalf of the commission, stated that it would assist and support the city in an application to the Board of Railway Commissioners to authorize a common entrance for all railways, and a common right of way on the G.T.R. location, presuming that the government took over the G.T.R., which is at present under consideration.

The amount covered by the original bylaw submitted to the Hamilton ratepayers was $5,869,286, but in the course of the recent campaign for the second vote, Sir Adam Beck announced that owing to numerous causes, including a possible relocation and reduction in certain costs, it was likely that the share for which Hamilton would be responsible, would possibly be decreased by about $2,000,000.

It is expected that the government restrictions on the financing of this railway construction will be removed at an early date, and that the preliminary work of the construction will be commenced during this year.

Electric Railway Finance, Meetings, Etc.

British Columbia Electric Ry. and subsidiary companies.—

	Jan. 1919	Jan. 1918	7 mos. to Jan. 31, 1919	7 mos. to Jan. 31, 1918
Gross	$677,489	$559,569	$4,095,584	$3,483,229
Expenses	457,388	388,407	3,101,566	2,712,720
Net	220,101	171,162	994,018	770,959

Cape Breton Electric Co.—

	Jan 1919	Jan. 1918
Gross	$52,190.24	$41,428.23
Expenses	36,957.50	33,256.65
Net	15,232.74	8,171.58

Niagara, St. Catharines and Toronto Ry.—The Niagara Falls, Ont., City Council notified the company Mar. 18, that when its franchise for its lines in the city expires, the city will take over the railway and operate it. The franchise of the Niagara Falls, Wesley Park and Clifton Tramway Co., which expires in Mar. and Apr., 1920, covers 4.56 miles of lines. The ratepayers at the January elections voted in favor of acquiring these franchises.

Toronto Ry., Toronto and York Radial Ry., and allied companies.—

	Jan. 1919	Jan. 1918
Gross earnings	$1,106,840	$1,068,319
Expenses	635,293	590,657
Net	471,547	477,662

Winnipeg Electric Ry. and subsidiary companies.—

	Jan. 1919	Jan. 1918
Gross earnings	$390,539	$334,642
Expenses	291,016	255,850
Net	99,523	78,792

Electric Railway Notes.

The Lewis County Ry. is reported to be building a single truck steel one-man car.

The Edmonton Radial Ry. is adopting a new type of lamp for lighting the cars, and has improved the bell connection so that a passenger can notify the motorman when he wants to get off.

The Quebec Ry. Light and Power Co's new stop system on the city lines, put in force recently, is reported to have resulted in a speeding up of cars and the giving of a better service. There will be a theater stop after 2 p.m. on week days. The company will add to the stop points as experience shows them to be necessary.

Winnipeg City Council has been asked by property owners and residents on River Ave., to have the Winnipeg Electric Ry. tracks thereon taken up and a bus line established. The company is reported to have informed the council that if the residents desire it and, the council approves, the company is willing to make the change. The petitioning residents and owners were asked to submit details in writing when they would be fully considered.

The St. Thomas, Ont., City Council, is considering the question of operating one-man cars on the municipal railway and rerouting several lines in order to economize. It is estimated that about $12,000 a year would be saved thereby. The line is at present controlled by the city council, and it is proposed to obtain power to elect at the regular municipal elections in January of each year, two commissioners, who, with the mayor, will be a commission to manage the railway.

The American Electric Railway Association will hold a convention with exhibits, in the autumn.

Electric Locomotives for Hydro Electric Power Commission of Ontario.

As stated previously in Canadian Railway and Marine World, the Hydro Electric Power Commission of Ontario is having 6 additional electric locomotives built, for use on its Niagara power development construction railway. The general dimensions, etc., are as follows:

Length overall	41 ft. 0 in.
Length of truck centers	25 ft 0 in.
Length of main cab	16 ft. 0 in.
Length of auxiliary cab	9 ft. 6 in.
Width over side sills of locomotive	9 ft. 0 in.
Width over main cab	9 ft. 0 in.
Width over auxiliary cab	6 ft. 6 in.
Height of rail to bottom of side sills	3 ft. 4 in.
Height of rail to center of coupler knuckle	2 ft. 10½ in.
Height of rail to top of roof	12 ft. 8½ in.
Truck wheel base	7 ft. 0 in.
Track gauge	4 ft. 8½ ft.

The locomotives are designed for double end operation, for either switching or road service. Both ends are symmetrical about the center line across the body, the total weight, including equipment, being 100,000 lbs.

The trucks are of the arch bar type, with M.C.B. class C springs. The wheels are 36 in. chilled grey iron M.C.B. 1912 profile; axles M.C.B. 5½ ft. x 10 in.; journals with center between hubs of wheels of 50 in. to take motor bearings and cast steel gears, which are pressed on the axle. The under frame has six 12 in. I beams at 40 lb. sills, the full length of the locomotive, with 8 in. I beams at 25 lb.; cross sills rivetted to longitudinal sills; end buffers 15 in. channel at 33 lb., rivetted to sides of longitudinal sills; bolster 1 in. x 14 in. x 9 ft. longitudinal sills.

The main cab is of box type, with 2 side doors; 2 end doors, 4 ft. side windows, 4 end windows and removable doors between the main cab and hoods. Two hoods are parallel, one at each end of main cab, with 2 removable doors on one side of each hood. Carlines, and posts in hoods and main cab, are standard structural shapes, with inside finish in main cab only. Additional ballast is added in flooring by placing solid cast iron slabs 2¾ in. thick by 18 in. by 9 ft. long in the floor under the hoods at each end only. This ballast weighs altogether 24,080 lb., and brings the weight of body truck equipment, etc., up to the required 100,000 lb. total necessary for proper tractive effort.

The electrical equipment consists of 4 G.E. 66 B motors 125 h.p. each, mounted on each truck; type M multiple unit control consisting of 2 sets of D.B. 31 contactors, each set consisting of 13 contactors. 2 D.B. 20 reversers, 10 frames of rheostats, 2 C 6 controllers, 2 B T 335 junction boxes, necessary kicking coils, lightning arrester, main switch, motor cut-out switches, fuse boxes, choke coil control switch, lighting headlight and heater switches, trolleys, etc.

Each pair of two motors is wired up in such a way as to give 2 sets of equipment, separate and distinct from each other, which are paralleled together in each controller, one of which is at each operating end. Located in front of each operating position, where they can be readily seen, and used in operation, and under the hood, is one set of contactors, one reverser, air gauges whistle valve, sander valve, dump line valves, ammeter and all control switches. All control leds are special standard 19-25 wire, and run in conduit without colors, each individual wire being tested out before connection. All main leads are special standard extra flexible wire, and are run singly, each one in a separate conduit, with bellmouths and gaskets in each end, for weather proofing, and to prevent wearing of insulation on wires in operation.

Air brake equipment is Westinghouse 14 E.L. locomotive air brake, as used by present steam roads with two 50 cu. ft. motor driven air compressors, both located in main cab. Extra features are the dump line operating couplers and valves, used for operating 20 cu. yd. dump cars on the Niagara power development. All compressors and control are equipped with multiple unit features, so that it is possible for one operator to operate 2 or more locomotives from the one controller.

Four trolley bases are used, due to the double end operation, and side trolley wire construction, used. The trolley wire on which these locomotives will operate is located 7 ft. from the center of the track and 24 ft. from the rail, requiring the use of 4 trolley bases with poles bent out to reach this wire.

The interior finish of cab is painted dark green; floors, doors, and sash, medium gray; outside body and truck, black; lettering and stripping in yellow; numbers E 13 to E 18 inclusive lettered Hydro-Electric Power Commission.

These 6 locomotives will supplement 12 other similar ones, numbered E 1 to E12, at present in operation at Niagara Falls.

Toronto's Acquisition of Portion of Toronto and York Radial Railway.

Canadian Railway and Marine World for March contained a summary of the agreement under which the City of Toronto proposed to take over the portion of the Toronto and York Radial Ry's. Metropolitan Division property on Yonge St., within the city limits. Certain clauses in the agreement were considered to be not quite so clear as was desirable, and it was handed over to W. N. Tilley, K.C., for correction, so that the points relative to the carriage of freight over the city lines, etc., may be perfectly plain. His report came before the board of control, Mar. 25, and it was decided the agreement, with Mr. Tilley's suggested amendments be submitted to the Hydro Electric Power Commission of Ontario, for approval, or otherwise. In common with other cities, towns, townships and villages, Toronto made an agreement with the Hydro Electric Power Commission of Ontraio, in connection with the proposed building of a hydro radial railway between Toronto and London. One of the clauses in this agreement provides that municipalities entering into such agreement with the commission, are debarred from making any agreement with, or bonussing any other railway or transportation company without the commission's consent

Mount Royal Incline Ry.—A Quebec court recently, authorized the Mount Royal Incline Ry. to appeal against Justice Bruneau's order directing the sale of the company's line and other assets by public auction recently.

The Service at Cost Campaign in Ontario.

E. P. Fredericks, Secretary, Association of Holders of Public Utility securities, had the following letter in the Toronto Globe, March 10:—"In your editorial in today's paper under the heading 'Hamilton and the Radial', you refer to the bylaw which is now before the people of Hamilton and say 'the scheme has nothing of an exploiting nature in it. The service will be rendered at cost.'

"It is gratifying to note that the Globe, in common with a great many other thinking minds throughout the province, is beginning to realize that service at cost as applied to public utilities is 'obviously in the interest of the city.'

'This association is endeavoring to let the people in Ontario know more about this modern and businesslike method of operation, and what applies to Hamilton will apply with equal force to any community where public utilities are in need of readjustment."

Toronto Works Commissioner Replies.

R. C. Harris, Toronto's Works Commissioner, and a member of the city's transportation commission, which is making preparations for taking over the Toronto Ry. in 1921, when its franchise will expire, issued the following statement the same day:—"E. P. Fredericks, Secretary of an association of holders of public utilities, an organization composed of stockholders in street railway and like concerns operating in the Dominion, publishes in this morning's Globe a communication relative to the service at cost upon which the proposed hydro-radial project is founded. Mr. Fredericks states that thinking minds throughout the province are beginning to realize that service at cost, as applied to public utilities, is obviously in the interests of the city.

"Mr. Fredericks represents a financial group, who have invested in public utilities, such as the Toronto Ry., which, while earning large returns upon overcapitalization, refused to furnish adequate service to the citizens of Toronto, flouted their protests, and condemned them to a condition during rush-hour periods from which the law protects cattle in transit. When operating expenses increased, and dividends of necessity declined, these interests merge identity in an association advocating service at cost, not the service at cost of the hydro, where the dividends are returned to the consumer by means of decreased power rates.

"The service at cost, which Mr. Fredericks and his principals advocate, is on a basis of charging, in the case of the street railway, such a fare as will guarantee the capitalist 6 per cent annual return on the money invested after paying all operating and other expenses. In other words, the capitalist is guaranteed his annual return, and if other expenses increase, then the fare to the passenger is increased in order that the investor may secure undiminished 6 per cent. annual return. In a word, the investor takes no risk whatever, the user of public utilities being condemned to make good all variation of cost in order that the capitalist may be protected.

"This is the inset of a campaign to secure a renewal of the Toronto Ry. franchise, but the people of Toronto, who have so long endured the abominable service provided by this public utility corporation, will not be misled by a specious application of the service at cost principle. By the hydro system, every consumer shares in benefits derived and an annual unimpaired return is not guaranteed to capitalists, who control like corporations privately owned."

The Toronto Railway Replies.

The Toronto Ry. on Mar. 15 commenced issuing "Public Service Topics," a 4 pg., 6 x 9 in. leaflet which is distributed on its cars. The first number contained the following:

Works Commissioner R. C. Harris has issued a statement concerning a recent discussion of the service at cost plan of street railway operation, in which he says: "This is the insert of a campaign to secure a renewal of the Toronto Ry. franchise, but the people of Toronto, who have so long endured the abominable service provided by this public utility corporation, will not be misled by a specious application of the service at cost principle."

Commissioner Harris takes rather too much for granted. This company is not seeking to secure a renewal of the franchise with the city by using the service at cost plan as a pretext. In common with all other public utilities this company has been watching with interest the success of the service at cost plan, because it is being generally recognized as the modern and logical method of conducting the affairs of such concerns. It did not remain for Toronto to add its stamp of approval to the plan to secure for it the endorsement of the leading transportation men on this side of the Atlantic. The service at cost principle had ample vindication before it ever reached Ontario, so it requires no defence at this time.

Service at cost, in its broadest application, simply means that a public utility shall pay its own way. There isn't a business man anywhere in the country who will deny that this is a rational method of conducting any kind of an enterprise. A business that is conducted on a less than cost basis is doomed to only one end, and if anyone in Toronto thinks that the street railway system here can be run at a loss indefinitely they must certainly be blind to the simplest rudiments of business.

Service at cost demands that a utility be conducted so that it gives the maximum service at the minimum charge. It gives public control and enables the city to take over the road whenever it wishes to. It is the fairest, squarest and most business like method of conducting the affairs of a public utility that has thus far been devised. When cities like Montreal, Chicago, Philadelphia, St. Louis, Cincinnati, Des Moines, Toledo, Dallas, Youngstown, Kansas City, and other important centers adopt the service at cost plan in preference to all others there must be some reason for it. Not all of these cities can be wrong. It is only last week that the Provincial Commission of New Brunswick recommended service at cost for St. John after months of investigation into various methods of operation.

It is only fair to say in reply to Mr. Harris that service at cost does not contemplate a return of 6% on anything but the actual gold value of the property a value that is not set by the company, but by a board of arbitration or other disinterested parties. Other phases of the service at cost plan brought out in Mr. Harris' statement will be discussed in subsequent issues of this bulletin. So far as the service in Toronto is concerned we shall have considerable to say about this also later on.

This company is not seeking to block municipal ownership, but is endeavoring to secure such co-operation as will enable it to give to Toronto, during the next two years, such service as the public demands.

Meeting at Windsor.

E. P. Fredericks addressed the Windsor Chamber of Commerce, Mar. 17, and reviewed the entire public utility situation, with special reference to the problems of the street railways. He the service at cost plan and the member seemed very much impressed with its possibilities as applied to their particular situation. The Windsor Chamber of Commerce is made up of members from a number of the nearby towns and is really represenattive of about six communiites where street railway problems have been engaging a great deal of attntion for the past few years. The opinion seems to prevail that some application of the service at cost plan would come nearer solving the problem than anything that has thus far been presented. At an early meeting of the chamber of commerce the matter of endorsing the plan will be taken up for final action.

Following an address recently to the Kingston Board of Trade by E. P. Fredericks, secretary of the Holders of Public Utility Securities, the board passed the following resolution: "Resolved that Kingston Board of Trade endorses the principles of the service at cost plan by which good street railway service, under close public supervision, shall be furnished without profit and for rates of fare just sufficient to pay the actual cost as designated under the service of cost plan."

Buffalo, Lockport and Rochester Ry. Reorganization.—This electric railway was sold by auction at Rochester, N.Y., Mar. 12, to W. A. Mahon and W. W. Foster of Rochester, representing the bondholders. The property includes [illegible] miles of track between Rochester and Lockport, the right to terminals in both cities, traffic agreements with the Rochester city lines and the International Ry. for the operation of cars in Lockport and over the line into Buffalo, together with power stations and rolling stock. The company was understood to be interested in a project for building a bridge over the Niagara River, to make a connection with the electric lines in the Niagara Peninsular of Ontario. The sale was in accordance with a reorganization plan prepared by the bondholders protective committee, R. Home Smith, D. B. Hanna, and Senator F. Nicholls, Toronto.

The Port Arthur, Ont., Trades and Labor Council asked the City Public Utilities Commission, Mar. 18, to reduce fares on the Port Arthur Ry. The deputation was advised that nothing could be done this year as the fares are the subject of an agreement with the Fort William City Council. It was stated that the deficit on the P. A. C. Ry. for 1918 was approximately $29,000, and that it was proposed to provide for meeting part of the same by a levy of one mill on the general taxation.

American Electric Railway Association on Electric Railway Financial Conditions.

At the American Electric Railway Association's mid-year meeting in New York, N.Y., Mar. 14, the committee on readjustments presented the following report: Your committee believes that the question submitted to it must properly be divided into two phases: (1) those dealing with urban street railways; (2) those dealing with interurban street railways; and that while the condition of both systems are in the main, the same, and while the causes of the condition are practically identical, the remedy often differs. Our committee now has under consideration plans which, it believes, will assist in meeting the situation confronting the industry. These will be reported to you from time to time in detail. In its opinion, there are certain fundamentals which must control the readjustment of the relations between the companies and the communities they serve, and it presents for your consideration the following summary of these fundamentals:

That the electric railways of the country are breaking down under present conditions of operations. As a result, the public is being deprived of service and is facing certain financial losses through the depreciation of electric railway securities which are largely held by savings banks, life insurance and trust companies and other similar institutions in which its savings are invested. That this condition is primarily due to the economic error of establishing an inflexible fare regardless of the cost of the service rendered or the distance hauled. That to correct this difficulty, flexible fares must be established which will be automatically adjusted to the cost of the service demanded by and furnished to, the community.

That a necessary element of the cost of service is such a return on the fund employed as will attract capital to the public service. To provide incentive to enterprise and initiative, there must be an additional reward for economic management.

That in the interest of the car rider, who must ultimately pay the cost of local transportation, every special impost and tax which cannot be justified upon the ground that it is payment for benefits received should be abolished.

That to secure satisfactory service and keep fares as low as possible, the public must act on the principle of the "greatest good to the greatest number" and must co-operate with the operating companies in making effective economics by the use of "skip-stops," one-man cars, etc.; the speeding up of schedules by reduction of vehicular interference.

That electric railway transportation is a community problem to be solved by the community and the company acting together and animated by a spirit of civic interest and devotion to the public service and having as its objective the establishment of such regulations as will give the public the greatest efficiency, economy and enterprise in the operation of their transportation utilities.

That the committee proposes to carry out as rapidly and as effectively as possible, the following programme. To furnish to members of the association at as early a date as possible, information concerning franchise settlements and agreements along service at cost and other lines: To analyze these various agreements and present for the information of the companies such a summary of their provisions as will provide a guide inthe drafting of new ordinances or agreements To directly assist communities in which the readjustment of franchise relations are under way; to furnish at the instance of the railway company to civic organizations and similar bodies, information as to, and studies of public utility questions.

In conclusion your committee recommends that the scope of the association's activities be so enlarged as to provide machinery for carrying out the purposes set forth herein.

Proposed Purchase of Detroit United Railway By The City.

After a lengthened period of negotiations the Detroit, Mich., City Council, on Mar. 17, approved an agreement with the Detroit United Ry. for the purchase of its city lines. The company agrees to sell what is known as the city property for $31,500,000 of which $15,000,000 is to be paid on the city taking over the property, and the balance at the end of 1931 with 6% interest a year on the deferred payment. The sale does not include quite all the trackage owned by the company in the city, as some terminals of other lines, the stock of which is held by the D.U.R. are situated within the city. Such tracks, however, may be used by the city upon varying terms. Neither does the sale include all the company's property, as freight and passenger terminals and property unused for railway purposes will remain with the D.U.R. The city also agrees to pay the market value of all supplies and materials at hand. The estimated value of the property and supplies to be taken over, plus the value of the property not taken over, is put at $37,000,000. In addition the purchase carries with it the unhampered right of continued operation of the company's freight and passenger cars into and through the city of Detroit. The gross income of the company from freight and express business is in excess of $1,250,000. The question of the approval of the agreement will be submitted by a vote of ratepayers Apr. 7.

Montreal Tramways Co.—The Minister of Labor has authorized the appointment of a board of conciliation to investigate the differences between the company and its employes inregard to wages and working conditions. The company has nominated Hon. J. L. Perron, K.C., as its arbitrator and the men named J. T. Foster. On Mar. 20 protested against an appointment of Mr. Perron on the ground that he is financially interested in the company.

Toronto Civic Ry.—The commissioners of the city works, street, property and parks departments, have reported to the city council that they approve of the principle of an 8 hour day. The report says, in part: "In so far as the civic car lines are concerned, the estimated increased cost approximates $26,755. These employes, by reason of the fact that they operate on schedule, could not render additional service in the shorter day."

The Toronto Railway Co. Stops Paying Dividends.

The Toronto Ry. Co. issued the following circular to its shareholders at the end of March: "In view of the heavy obligations facing the company, your directors have decided not to pay the regular quarterly dividend on the company's capital stock. It is with regret and only after mature consideration that this decision has been arrived at. For some years past, as you are probably aware, the street railway companies of Canada and the United States have been operating under very unfavorable conditions (due mainly to the excessive costs of materials and labor), which have necessitated the cutting down of many dividends and the elimination of many others. Only companies able to meet increasing costs out of advanced rates of fares, have been able to sustain dividends.

"Your directors deem it imperative that the company's property be efficiently maintained; and, with this end in view, are compelled to provide very large disbursements for the rebuilding and overhauling of the company's rolling stock, new cars and trackage renewals. A large portion of the expenditure so required is beyond the control of the directors, since it is made under order of the Ontario Railway and Municipal Board. Further, there is an additional disbursement of $150,000 required for increase in wages, pursuant to a recent decision of a board of conciliation. The latter expenditure is the more regrettable because at the time of this decision there was in existence a contract between the company and its employes, which, it will be remembered, was made by order of a previous board of conciliation, effective June 15, 1917, the term of which, under the contract, did not expire until June 15, 1919, and which in itself provided for an increase of wages about $700,000 annually. But it is useless to complain of these conditions and decisions, much as we may regret them. They are mentioned only as factors which have made necessary the elimination of dividends."

Sherbrooke Railway & Power Co.—The Toronto Globe stated recently that W. C. Hawkins, Vice President and Managing Director, Dominion Power & Transmission Co., had said that its subsidiary, the Southern Canada Power Co., was having no trouble and that it had scrapped its intururban railway. The Southern Canada Power Co. is not a subsidiary of the Dominion Power & Transmission Co., nor has it any connection with the latter, although Mr. Hawkins is its President. The Southern Canada Power Co. owns and operates the Sherbrooke Ry. & Power Co., which company shut down its electric railway for two days some little time ago, until the question of fares was arranged satisfactorily with the Sherbrooke City Council, but the line has not been scrapped and is still running.

The Montreal City Commissioners on Mar. 13, passed a resolution authorizing the City Solicitor to ask the Quebec Public Utilities Commission to direct the proceeding with the work of placing all electric wires in the city in underground conduits. This work was in progress in districts 4 and 6 of the city, but about a year ago, the Quebec Public Utilities Commission, owing to the abnormal price of material authorized the postponement of the work.

Mainly About Electric Railway People.

Thos. Ahearn, President, Ottawa Electric Ry., left Ottawa, Mar. 5, with Alex. Johnston, Deputy Minister of Marine, to spend some weeks at Coronada Beach, Cal.

Capt. F. D. Burpee, has resumed his duties as Superintendent, Ottawa Electric Ry. on returning from three years overseas service, reference to which is made under "Canadian Transportation Men, Engineers, etc., in the War," on another page of this issue. He was born at Ottawa, Ont., Apr. 25, 1876, and commenced railway work in 1891, under H. B. Spencer, Superintendent, District 4, Eastern Division, C.P.R., Ottawa, and transferred to electric railway service in 1893. Since when he has been, to 1896, stenographer, 1896 to 1898, cashier and paymaster, 1898 to Aug. 1912, accountant, during which time he also acted as assistant to the Secretary-Treasurer, and to the Superintendent, Ottawa Electric Ry. In Aug. 1912, on the resignation of J. E. Hutcheson, to become General Manager Montreal Tramways Co's. service, he was appointed Superintendent.

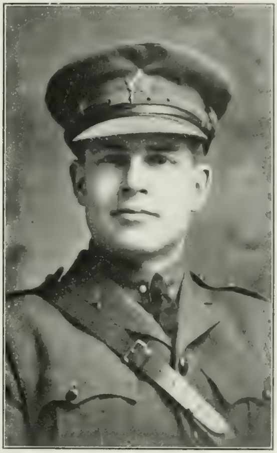
A. J. Clarke, who was appointed acting Superintendent, Grand River Ry., and Lake Erie & Northern Ry., Galt, Ont., during the absence of M. M. Todd, Vice President, continues to act as Superintendent, since the latter's return. Prior to occupying that position, he was engaged on the L.E. & N.R., piloting trains over the G.T.R. at Port Dover, Ont. He commenced his transportation service in May, 1901, in Dominion Power & Transmission Co.'s service, at Hamilton, Ont., and was engaged in the train service with that company for 13 years, in train operation between Hamilton and Burlington, relieving agent, and dispatcher, chief dispatcher of the Hamilton, Grimsby & Beamsville Ry., acting Superintendent, same line, and latterly Superintendent of Interurban Lines.

H. E. Crawford, President Windsor, Essex and Lake Shore Rapid Ry., died at Chatham, Ont., Mar. 9, aged 59. He had been in poor health for some time and suffered a stroke on Mar. 7, after which he did not recover consciousness. Before removing to Chatham in 1915 he was in the store business in Tilbury for many years, was mayor of that town for several years.

J. A. Ellis, formerly of Ottawa, who is a member of the Ontario Railway and Municipal Board with a salary of $4,000, has also been appointed in charge of the Ontario Bureau of Municipal affairs with an additional salary of $1,000.

H. G. Foreman, Assistant Treasurer, Canadian Northern Ry. System, has also been appointed Assistant Treasurer, Toronto Suburban Ry.

Arthur Hilliard Foster, B.A. Sc., who has been appointed Manager, Brantford Municipal Ry., Brantford, Ont., was born at Guelph, Ont., Dec. 24, 1888, and from 1905 to 1908 took a course in civil enginjeering at the University of Toronto Faculty of Applied Science, and during vacations was employed as rodman, Guelph and Goderich Division, C.P.R., prospecting in Larder Lake and Megantic District, land surveying in Northern Ontario, and town engineering; from May to Dec. 1909, Assistant Resident Engineer, National Transcontinental Ry., Mattagami, Ont.; Dec. 1909 to Mar. 1910, Resident Engineer, N.T.R., Lost River; May 1910 to Aug. 1911, in service of City of Toronto; Aug. 1911 to Mar. 1919, Manager and Engineer, Guelph Radial Ry., and Guelph Water Department, Guelph, Ont.



F. D. Burpee,
Superintendent, Ottawa Electric Ry.

A. H. Foster.
Manager, Brantford Municipal Railway

G. Gordon Gale, Vice President and General Manager, Hull Electric Co., was one of the masqueraders at a skating party given by the Governor General in Ottawa, March 1, appearing as a Chinaman.

D. B. Hanna, President, Canadian National Rys., has also been elected President, Toronto Suburban Ry., vice Sir Wm. Mackenzie, resigned.

The Hon. D. O. L'Esperance has been elected Vice President, Quebec Ry., Light, Heat and Power Co., succeeding Lorne C. Webster, elected President.

G. W. Lang, who has been acting Superintendent, Ottawa Electric Ry., during the absence on overseas service of Capt. F. D. Burpee, has resumed his former position as Claims Agent, Capt. Burpee having returned to his duties as Superintendent.

Sir Wm. Mackenzie, President Toronto Ry., and Monterrey Ry., Light and Power Co., left Toronto, Mar. 22, for Monterrey, Mexico, in his private car Natalia, accompanied by F. H. Phippen, K.C., and expecting to return early in April.

T. Marriott has been appointed Chief Dispatcher Niagara, St. Catharines and Toronto Ry., St. Catharines, Ont., vice R. W. Robertson deceased.

D. J. McIntosh, heretofore accountant, Niagara, St. Catharines and Toronto Ry., has left the company's service.

A. J. Mitchell, Vice President, Canadian National Rys., has been also elected Vice President, Toronto Suburban Ry., succeeding the late Allan H. Royce.

W. G. Murrin, Assistant General Manager, British Columbia Electric Ry., spent a few weeks at Santa Barbara, Cal., during February and March.

R. P. Ormsby, Secretary, Canadian National Rys., has also been appointed Secretary, Toronto Suburban Ry., G. C. Royce, heretofore Secretary-Treasurer and General Manager, who is still acting as General Manager.

Major Jas. A. Roosevelt, second cousin of the late Theodore Roosevelt, and formerly British Columbia Electric Ry. official, died on a transport recently on his way home from France.

George Lee Snelling, whose appointment as acting Secretary-Treasurer, Ottawa Electric Ry., Ottawa, Ont., was announced in our last issue, was born there, Mar. 2, 1880, and entered the company's service, Aug. 1, 1898, since when he has been, to Feb. 1902, junior clerk; Feb. 1902 to Aug. 1, 1912, timekeeper, stenographer and storekeeper; Aug. 1, 1912, to Dec. 23, 1918, accountant, and from Mar. 2, 1914, during various absences of the late Secretary-Treasurer, acting Secretary-Treasurer.

Lorne C. Webster, President, Webster Steamship Co., and Agent, Nova Scotia Steel & Coal Co., Montreal, heretofore, Vice President, Quebec Ry., Light & Power Co., has been elected President, succeeding the late Sir Rodolphe Forget. Mr. and Mrs. Webster, left Montreal, early in March, for Old Point Comfort, Va.

St. Thomas Municipal Ry. The report of the St. Thomas, Ont., city auditor, for 1918, shows that there was a deficit of $11,1[illegible] on the operation of the city's electric railway for the year.

The Ottawa Electric Ry. has decided to appeal to the Supreme Court against the Board of Railway Commissioners decision given Feb. 10, and published in Canadian Railway and Marine World, for March, declining to to grant an increase of fares on its suburban lines.

Electric Railway Projects, Construction, Betterments, Etc.

Berlin and Northern Ry. Co.—The Ontario Legislature is being asked to change the name of this company to the Waterloo-Wellington Ry. Co., and to extend the time for the construction of the projected extension. The company was incorporated under the Ontario Companies Act, Dec. 7, 1901, with the title of the Berlin and Bridgeport Electric St. Ry., and its title was changed to the Berlin and Northern Ry. in 1912. The company has power to build a electric railway from Bridgeport, the terminal of its original line, to Elora and Fergus. (Feb., pg. 88.)

Hamilton St. Ry.—The City Engineer asked the Hamilton board of control recently for authority to spend $16,000 on repairs to the roadbed on King, Hirkimer, Wentworth and Margaret Streets, on the ground that the improvement of the street railway servico depended upon this work being done. The board decided Mar 20, to report to the city council that it had no funds at its disposal for this work.

London and Port Stanley Ry.—Plans for the erection of station buildings at St. Thomas and Port Stanley, Ont., at an estimated cost of $12,000 each, have been approved by the commissioners. The chairman of the commission is reported to have said that the buildings will be paid for out of surplus revenue, and that the work will be put in hand at once.

Montreal Tramways Co.—A press report states that the Tramways Commission has directed the opening of a line passing through Kelly St., and Poincare Ave., and that the property owners along the projected line have consented to pay their proportion of the cost of street paving.

Pemberton, B.C.—In connection with the proposed power developments of the West Kootenay Light and Power Co., a press report says: "What is perhaps more important to the company in aiding to arrive at a decision about the secondary extensions will be the amount of electricity which the governmenjt will require for irrigation pumping in connection with the development of the southern Okanagan lands. If considerable pumping is done and if the government goes ahead with an electric tram line from Petrolia, there is no doubt the power company will prepare immediately for the establishment of a north and south pole line."

Peterborough Radial Ry. The business of the Electric Power Co. Ltd., which owned the stock of the Peterborough Radial Ry., was taken over as from Mar. 1, 1916, by the Hydro Electric Power Commission of Ontario, under the provisions of an order in council, of the Ontario Government, dated May 5, and the Ontario Legislature in 1917 authorized the Peterborough City Council to take over the line, and its utilities commission to operate it under powers to be set out in a bylaw.

A recent press report refers to a proposed extension of the line on Park St., from Albert St. to Lansdowne St., and to a project for an extension from Peterborough to the summer resorts on the Kawartha Lakes. Both these matters are said to be under consideration. (May, 1917, pg. 203).

Saskatoon Municipal Ry.—We were officially advised recently in respect to the proposed extension to the line at a cost of $46,000, that the city council had not reached any definite decision as to what will be done. (March, pg. 143.)

St. Thomas Municipal Ry.—A citizen's committee after examining into the condition of this railway has recommended that the line should not be scrapped, as had been suggested, but that it be operated with one man cars and that about $8,000 be expended on putting the tracks and the overhead system in order. The matter is under consideration, together with the committee's suggestions as to the operation of the line.

Sudbury-Copper Cliff Suburban Electric Ry.—The Ontario Legislature is being asked to authorize the company to increase its capital stock from $250,000 to $500,000, and to sell the unissued ordinary shares at a discount, a price to be fixed by law. The company has built 7.9 miles of line and requires further capital for equipment and extensions.

Electric Railway Employes' Wages, Working Conditions, Etc.

Calgary Municipal Ry.—The Calgary, Alta., City Council is considering demands of its employes who are members of the street railway union for increased wages and better terms. The men ask for an 8 hour day, an increase to 65c an hour, or $1.35 over their former wage of $4.50 a day. For holidays double time is asked, and the request made that all men who were on the service before Jan., 1919, be placed on the maximum of 65c. Another clause demands that all men operating work cars of all kinds shall become members of the union within 60 days of joining the department.

London and Port Stanley Ry.—At a meeting of the London Railway Commission, Mar. 12, it was decided to grant the employes an 8 hour day, and an increase of wages to go into effect May 1. The increases of pay will give the following schedule: To trainmen, 40c an hour for the first year of service, and 43c an hour for the second year; motormen and conductors will receive 43c an hour for the first year, 44c an hour for the second year, and 45c an hour for the third year; an additional 10c an hour will be paid for all work done over 10 hours a wages paid to motormen and conductors was 23c an hour, and the present rates of wages are 30c, 33c and 35c an hour for first, second and third year men respectively.

Transportation of Postal Mail.—At the opening of the hearing by the Board of Railway Commissioners at Ottawa, on Mar. 18, of the steam railways companies' application for increased compensation for carrying mail, which was referred to the board by the Dominion Government, Acton Burrows, Honorary Secretary-Treasurer, Canadian Electric Railway Association, who appeared on behalf of 11 electric railway companies carrying mails, said that they had no desire to interject themselves into that hearing, but he asked that any of the companies he represented might, on making application to the board, have their cases considered, and have hearings, if such should be considered necessary. This request was acquiesced in, and steps are being taken to represent the electric railway companies' cases to the board at an early date.

London Street Railway's Sunday Operation Outside City.

Sir Adam Beck has introduced in the Ontario Legislature a bill to amend The Ontario Railway Act as follows:

"1. Subsec. 2 of sec. 234 of The Ontario Railway Act, as amended by sec. 40 of The Statute Law Amendment Act, 1914, and by sec. 31 of The Statute Law Amendment Act, 1917, is amended by adding at the end thereof the following: 'Or, subject to subsec. 2a, to the London St. Ry. Co., in the operation of that part of its existing line lying in the Township of Westminster, west of the west limit of the City of London.'

"2. The said sec. 234 is amenjded by adding thereto the following subsection: '2a. Nothing in subsec. 2 of this section shall entitle the London St. Ry. Co. to run any of their cars on any Sunday in the Township of Westminster, unless and until the said company has received permission from the Council of the Corporation of the City of London and from the Public Utilities Commission of the City of London by bylaws to run their cars on Sunday, and then only and usbject to such terms and conditions as may be contained in such bylaws, and unless and until the said company has also entered into an agreement or agreements with the said corporation, and the said the Public Utilities Commission of the City of London, to observe the terms and conditions of the bylaws.' "

When the question of running street cars in London on Sundays was first considered some years ago very strong objection was made by a number of people to the cars being operated to Springbank, so the latter service was not included in the provision permitting the operation of cars in the city on Sundays. The desire for Sunday cars to Springbank, has, however, been growing to such an extent that it was taken up with the London City Council last year, by Sir Adam Beck, with a view to having such a service provided in connection with the Byron Sanitorium, which is across the river from Springbank Park, and the bill above quoted is apparently the next step in the process.

The British Columbia Electric Railway and its Victoria Franchise.

In connection with the negotiations between the B.C.E. Ry. and the Victoria, City Council for a new franchise, one of the questions arising has been that of the jitney traffic. The company desires to have inserted as one of the conditions that the city shall prohibit the operations of a jitney on routes directly in competition with the company's cars. A section in a city bill now before the Legislature giving the council power to prohibit jitney traffic was refused consideration by the private bills committee of the legislature, but, on Mar. 14, the council, after considerable discussion decided by a vote of five to three to retain the section in the bill.

The franchise regulations, which cover the granting of a 6c fare, fixing the charge for electric light, and other matters, were still pending, Mar. 20.

An Auto Bus Line to be operated on the Toronto-Hamilton highway, has been authorized by Toronto Police Commissioners.

Public Utilities Commission for British Columbia.

The bill providing for the formation of a public utilities commission for British Columbia has been drafted, but is meeting with considerable opposition in various quarters. While it would give the commission power over rates, whether under franchises or not, the public utility companies are objecting to it on the ground that much wider powers have been given, but on the contrary, no safeguard provided for the companies.

A deputation from the chief utilities in the province waited upon the B.C. Government at Victoria in January and endeavored to have a clause inserted, providing that a reasonable return on the investment should be allowed. While no reply had been given to the date of writing, it is reported that the phrase "that rates shall not be unjust or unreasonable," is to be defined, and that just rates shall not be either insufficient or excessive.

The companies endeavored to have the commission reduced in membership from three to one, and lodged a protest against the veto power of the governor in council. The clause as drafted provided that only appeals on questions of law should go to the appeal court, and appeals on evidence of fact should go to the lieutenant-governor in council, which, in addition, had power to carry or rescind any decision of the commission.

Clause 90 of the bill is as follows: "If the lieutenant-governor in council considers it advisable in the public interest, he may, from time to time, of his own motion, and without any application or petition, vary or rescind any decision, order, rule or regulation made by the commission, whether the decision, order, rule or regulation is general or limited in its scope and application, or is made inter partes or otherwise. Every order made by the lieutenant-governor in council, pursuant to this section, shall be binding on the commission and on all parties and shall for all purposes be deemed to be an order duly made by the commission under this act."

Vancouver newspapers have protested vigorously against this part of the measure, evidently deeming that it would place too much power in the hands of one party. "Why cannot the utilities commission be made as independent of political control and interference with its decisions as the Board of Railway Commissioners of Canada?" said the Daily Province.

The preliminary draft of the bill was issued Mar. 6, but up to Mar. 17th had not been introduced in the legislature.

Among the bills introduced in the B.C. Legislature, Mar. 20, was one providing for the franchise of a public utilities commission. A press dispatch states that the clause giving the Lieut.-Governor in council power to vary, reverse or annul any decision of the commission has been modified from that in the original draft, and that other clauses of which there was some criticism have also been varied.

Calgary Municipal Ry.—Referring to the reported deficit of $34,000 in the operation of this line for 1918, we are advised that there are several adjustments to be made which will reduce this and which, as reported, included $16,000 spent on Bowness Park; $2,000 on reconstruction of cars and amounts chargeable to depreciation as well as other items.

Proposed Purchase of Ottawa Electric Railway.

The terms of the city of Ottawa's bill, before the Ontario Legislature respecting the proposed purchase of the Ottawa Electric Ry., were approved by the city council Mar. 17. The bill gives the city power to enter into an agreement with the company for the purchase of its electric railway, subject to the approval of the ratepayers. The lines, if taken over, are to be put under the management of the city's hydro electric commission, the members of which are to be paid salaries to be fixed by the council. The value of the line and the property to be taken over is to be fixed by arbitration, and the money to pay for the same is to be raised by a loan. The line is to be taken over upon the expiry of the franchise in 1923.

The city is also applying to the Dominion Parliament for authority to acquire the company's lines, franchises, etc., and authorizing it to "construct, maintain and equip an electric street railway in Ottawa, and by way of the Interprovincial Bridge to Main St., Hull, Que.

The company offers to sell the railway and all its holdings for $6,500,000. The city has appointed the following to report on the respective values: Financial, T. Bradshaw, Finance Commissioner, Toronto; overhead wires, J. E. Browne, General Manager, Ottawa Hydro Electric Commission; water lots, power houses, generators, rolling stock, etc., R. S. Kelsch, C. E., Montreal; tracks, A. F. Macallum, City Works Commissioner, Ottawa.

T. Bradshaw, Finance Commissioner of Toronto, has written the Mayor of Ottawa expressing grave doubts as to the wisdom of the city giving further consideration to the present offer. He says that if the citizens desire to acquire the enterprise their best interest will be served by waiting until 1923, when the franchise expires, and then acting in the terms of the existing agreement between the city and the company. One of the main reasons for this suggested delay is that the raising of a large loan would be necessary and as interest rates are falling the longer the city can delay the floating of a loan the less onerous the interest and other debt charges will be.

Montreal Tramways & Power Co's Bond Issue.

An issue of $7,300,000 of 6½% 5-year secured gold bonds of the Montreal Tramways & Power Co. was placed on the market recently by a syndicate of underwriters at par and accrued interest. The first interest coupon is for two months and matures May 1. Thereafter the interest coupons will mature half yearly on Nov. 1 and May 1, but the last coupon will be for four months interest, from Nov. 1, 1923, to Mar. 1, 1924, when the principal will become due. The bonds will be issued in denominations of $100, $500 and $1,000.

The M. T. & P. Co., which controls by stock ownership the Montreal Tramways Co., has pledged to the trustee the following as security for the new issue:—$7,000,000 fully paid 5% debenture stock of Montreal Tramways Co., and $2,500,000 5-year 6% gold bonds of Montreal Tramways & Power Co., which latter bonds are secured by a trust deed pledging $2,100,000 fully paid ordinary stock of Montreal Tramways Co. This places the control of the Montreal Tramways Co. in the hands of the trustee (the Montreal Trust Co.) as security for the holders of these bonds, and a clause in the trust deed provides that in the case of the M. T. Co.'s capital being increased, sufficient of the additional stock shall be pledged with the trustee to maintain absolute control of the company in its hands.

Under the Montreal Tramways Co.'s contract with the City of Montreal, as ratified by the Quebec Legislature in 1918, there is appropriated an annual return to the company of $2,177,177.10, being 6% on $36,286,285, which is the capital value of its assets as determined by the contract. The annual sum of $2,177,177.10 is more than sufficient to pay all the Montreal Tramways Co.'s fixed charges on its outstanding bonds and debenture stock, and a dividend of 10% on its common stock.

The issue sold rapidly and is reported to have been oversubscribed.

The Lambeth Motor Transport Co. has been incorporated under the Ontario Companies Act, with authorized capital of $10,000, and offices at Lambeth, Ont., to operate motor busses and trucks for carrying passengers, freight, etc., and generally to act as a common carrier. The company may not however "operate or control any public utility or municipal franchise within the meaning of part 12 of the Ontario Companies Act until authorized to do so by supplementary letters patent. The provisional directors are:—R. Piper, T. H. Hamlyn, Rev. J. Holmes, F. N. Soper, and W. K. Coldicott, Lambeth, Ont. The company was expected to have started operations Mar. 8, arrangements having, according to a press report, been made for five round trips a day, and if the business warranted, a couple of trips at night. The bus has a seating capacity of 34. An application has been made to London City Council for a grant of $500 towards the project, and an agitation has been instituted in Lambeth to ask the Ontario Government to pave the highway from Lambeth to London, 6 miles, in the event of that piece of road not forming part of the projected provincial highway to Windsor. F. N. Soper, is the prime mover in the company.

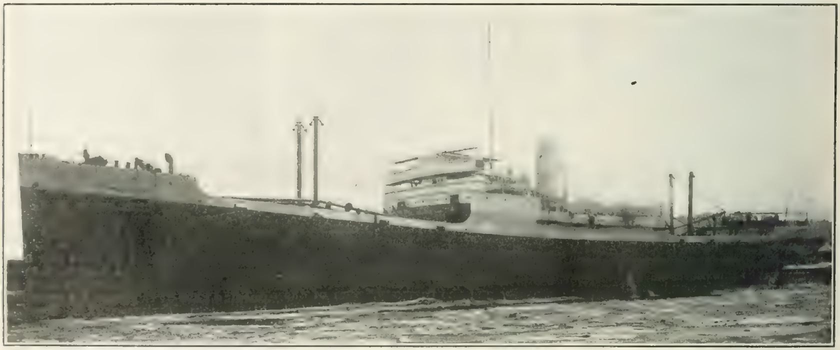
Car Line Routing in Toronto.—An application was made to the Ontario Railway and Municipal Board recently, to order the Toronto Ry. to restore the car service on McCaul St., between Queen and College Sts., to the same as it was before the necessary rerouting of cars over the Bloos St. viaduct. The board therefore requested the company to divert its Harboard St. cars, on Sundays, until further notice, east on College St., south on McCaul St., east on Queen St., south on York St., east on Front St., north on Bay St., west on Queen St., west on Queen St., north on McCaul St., and west on College St., to Spadina Ave., then to assume the regular route north and west, it being the opinion that the Harbord cars would serve more people on Sundays going to the station, and to the foot of Bay St by this diversion, and at the same time would accommodate those desiring to attend the churches on McCaul St. The board announced that it could not see its way clear to order any additional service on McCaul St. during week days, as the locality seems to be very well served.

"Conductor," ventured the stranger in New York. "Well, sir?" "Does this car pass anywhere near the corner of 42d Street and Broadway?" "Frequently, sir. We ran right over that corner about sixty blocks back."

Marine Department

8,100 ton d.w. Steel Cargo Steamships for Canadian Government Merchant Marine, Ltd.

Of the 45 steel cargo steamships which the Marine Department has ordered, to be operated by Canadian Government Merchant Marine Ltd., 16 are to be of 8,100 tons d.w. each, representing a total dead weight carrying capacity of nearly 130,000 gross tons. These orders have been placed as follows: Canadian Vickers Ltd., Montreal, 6; J. Coughlan & Sons, Vancouver, 4; Halifax Shipyards Ltd., Halifax, N.S., 2; Prince Rupert Drydock & Engineering Co., Prince Rupert, B.C., 2; Victoria Machinery Depot Ltd., Victoria, B.C., 2; Canadian Vickers Ltd. launched the first of these steamships, Canadian Pioneer, at Montreal, Dec. 3, 1918. She left there Dec. 6, in tow, for Quebec, where she has been completed, and is ready for operation on the opening of navigation. Canadian Vickers Ltd. laid keels for three more on Nov. 30 and Dec. 2, 1918, respectively. Halifax Shipyards Ltd., laid the keel for one, Feb. 24. The principal dimensions of these vessels are as follows:



Canadian Government Merchant Marine Ltd. s.s. Canadian Pioneer, 8,100 tons d.w., in Quebec Harbor.

Length between perpendiculars	400 ft. 0 in.
Breadth moulded	52 ft. 0 in.
Depth moulded	31 ft. 0 in.
Draft loaded	25 ft. 1 in.
Deadweight carrying capacity, about	8,100 tons.
Speed on trial	12 knots
Complement officers and men	45

The vessels are of the two deck type, with poop, bridge and forecastle, straight stem, eliptical stern and 6 watertight bulkheads. A double bottom, 43 in. deep, with solid floors on every third frame, extends from end to end of vessel with the usual facilities for filling and emptying. The vessels are framed on the transverse system, with a 26 in. frame spacing, bulb angle being used for both frames and beams. To facilitate stowage of cargo, side stringers have been dispensed with, and the outside plating correspondingly increased. All the decks are plated with steel . On the poop and in way of accommodation, the decks are sheathed with British Columbia fir.

The cargo hatches have been arranged for expeditiously handling cargoes and are of the following dimensions:— No. 1, 32 ft, 6 in. x 26 ft.; no. 2, 34 ft., 8 in. x 26 ft.; no. 4, 34 ft., 8 in. x 26 ft.; no. 5, 30 ft., 4 in. x 26 ft.; hatch on bridge deck, 18 ft. x 10 ft. Widely spaced pillars in cargo holds have been adopted to reduce to the minimum obstruction in handling cargoes. For the working of the hatches, 4 derrick posts are provided; 2 between the forward pair and 2 between the after pair of hatches, with 2 derricks to each post. The cross bunker hatch, on bridge back, is operated by 2 derrick posts, having ventilator tops and derrick to each post. All the derricks have a 5 ton lifting capacity. Ten cargo winches are fitted on board, 2 each to the 4 main cargo hatches, 1 on bridge and 1 on poop deck. These are of Clark-Chapman type as manufactured by the builders, having cylinders 7 in. diameter by 12 in. srtoke.

The vessel has one steel lower mast, with B.C. fir lowering top mast, to suit the Manchester Canal bridges, fitted about amidships, carrying the wireless aerials and lifting leads for derrick posts.

The anchor equipment is as required by Lloyds', viz.; 2 bower anchors, 60 cwt. stockless; 1 bower anchor, 50½ cwt. stockless; 1 stream anchor, 16¼ cwt. ex-stock; 1 kedge anchor, 7 cwt., ex-stock; 210 fathoms 2 3-16 in. stud link chain cable, together with stream chain, manilla hawsers and warps, all as required by Lloyds'.

The steering gear is located aft, under the poop. The gear is controlled from the wheel house on flying bridge, by telemotor, and is of the steam and hand patent guided segment type, with cylinders 9 in. diameter by 12 in. stroke as manufactured by the builders.

The vessel is lighted throughout by electric light, the dynamo having a capacity of 10 k.w. The engine will run at 350 revolutions a minute, with steam at 100 lbs. pressure, and is of the single cylinder, vertical, enclosed type, with cylinder 8 in. diameter by 6 in. stroke. The dynamo, which is coupled directly to the engine shaft, is of the 4 pole type, compound wound. The wiring is on the double system throughout, being lead covered, in the accommodation, and lead covered and armored, in the machinery and cargo spaces. The lights are grouped under the following circuits: 1 navigation light; 2 wireless telegraphy; 3 machinery spaces; 4 accommodation and store rooms; 5 cargo spaces.

In accordance with the requirements of the Canadian Board of Steamship Inspection, the following life saving applications are provided: 2 lifeboats 28 ft. x 8½ ft. x 3½ ft.; 2 dinghys 18 ft. x 5½ x 2½ ft.; 4 life rafts; with life belts and life buoys as required by the board.

The seamen's and firemen's accommodation is situated aft under the poop, in compartments fitted out for 2 men. Separate mess rooms and lavatories have been provided, and all requirements, such as lighting, ventilation and sanitation are in conformity with the British Board of Trade regulations, governing the survey of masters' and crew spaces. The hospital is placed under the forecastle, together with carpenters shop, paint room and lamproom. The officers' and engineers' accommodation is at the fore end of bridge deck, and includes one cabin for each officer, dining saloon, pantry, baths, w.c.'s and stores. The petty officers' cabins, etc., and mess room, are at the after end of the officers' accommodation on bridge deck. The captain's cabin is on the upper bridge, with office adjoining, the latter having internal communication with the chart room forward, and with the wireless office and cabin aft, all on upper bridge. An internal stairway communicates with the officers' accommodation below. The cold storage chambers and plant are on the upper deck, below the after end of bridge deck. Two fresh water tanks, each of about 2,500 gals. capacity are provided. They are connected to a distiller capable of distilling 1,000 gals. in 24 hours.

Engines, Boilers, etc.—The vessel is propelled by one set of triple expansion, surface condensing engines, with cylinders 27 x 44 x 73 x 48 in. stroke. The air pump with a diameter of 24 x 24 in. stroke; the two feed pumps 4 in. diar. by 24 in. stroke, and the 2 bilge pumps 4 in. diameter by 4 in. stroke, are all worked from the main engines. The main circulating pump is of the centrifugal type, and is driven by an engine having a 6½ in. diar. cylinder by 6 in. stroke. The reversing engine is made reversible, the gear being of the all round type and arranged for steam and hand power. The general donkey and feeed donkey pumps are of the vertical double acting type, having steam cylinder 9½ in. diameter, water cylinder 7 in. diameter and a stroke of 18 in. The ballast donkey pump is also of the vertical double acting type, having steam cylinder 10½ in. diameter, water cylinder 14 in. diameter and a stroke of 24 in.

An evaporator is provided capable of supplying 25 tons of fresh water per 24 hours. The vessel is provided with filter, feed water heater, winch condenser, telegraphs, etc. The contraflo system of condensing and feed heating is being fitted to all vessels of this class. Steam is supplied by 3 single ended Scotch boilers, working under Howden's system of forced draft, with diameters of 15½ ft. x 11½ ft. long and having a working pressure of 180 lbs. a square inch. Air is supplied by a fan, driven by 1 single cylinder open type engine, 7½ in. diameter by 5 in. stroke.

The machinery on completion will be subjected to a 4 hour trial in dock, after which an official 6 hour full speed trial, with the vessel fully loaded, will be run. The vessels are being built to meet the requirements of Lloyd's 100 A1 class, special survey, and also under the direction of the Marine Department constructors.

Protection Asked by Auxiliary Marine Equipment Manufacturers.

The following memorial has been sent to the Ministers of Finance and Marine at Ottawa by some 30 manufacturers:—

The Canadian manufacturers of auxiliary marine equipment humbly submit:—That the order in council of Oct. 31, 1916, which grants a drawback, not exceeding 99%, on all material used in the construction of ships, is unjust and unfair to them and detrimental in its consequences to the country at large. Your petitioners do not ask for a modification of the Customs Tariff in force since 1907, but simply for the repeal of the above mentioned order in council, or at least for its modification to such an extent as to grant them an adequate protection to which they are entitled, and this without injuring in any way the shipbuilding industry.

By the Customs Tariff, 1907, item 470, schedule A, all material entering into the construction of ships, of a class or kind made in Canada, are subject to duty. The effect of the above order in council is to remove such duty and the Canadian manufacturers of marine equipment are left without protection. The government seems to have recognized this injustice and unfairness caused to your petitioners, for in Mar., 1918, another order in council was passed, extending to them the privilege of a drawback on imported raw material. However, this last order in council has proved to be unpractical and inoperative in the great majority of cases, and this has been admitted by the officers of the Department of Customs. Moreover, it places the manufacturer at the mercy of the shipbuilder in the matter concerning the drawback, stating that this can be obtained only "with the consent of the shipbuilder". Instances have occurred where the shipbuilder has demanded that the drawback on the manufacturer's raw material be paid to him and not allowed to the manufacturer.

Your petitioners beg to lay before you the following considerations as to the injustice and unfairness resulting from such order in council:—

With possibly one or two exceptions, all the manufacturers interested in this matter established their business before 1916, with the firm belief that the general protective policy of the Canadian Government, as laid down by both Conservative and Liberal administrations, was fixed. With hardly any exception, every interested manufacturer, in anticipation of an increased demand for marine equipment, has incurred expenditures for better facilities, the aggregate extra investment representing a large amount. Whereas previous to 1915 some specialties may have been made abroad that were superior to those manufactured in Canada, under a protective tariff this kind of industry has made such progress in Canada, that now there is not a single item that is not being produced in some Canadian factory, of a design, quality and efficiency in every respect equal to the best produced anywhere in the world.

American capital and American influence is strong in many shipyards in Canada, and preference is given to American products even where the identical material of equal quality is made in Canada. The cost of manufacturing machinery in Canada is from 15% to 20% in excess of the cost of making the same article in the United States, and this excess is due to the cost of raw material. Comparative cost sheets have already been submitted to the Minister of Finance by one of the firms interested. The raw material cannot be free in spite of the drawback offered. For instance, pig iron for foundry purposes is produced in Canada under tariff protection, and owing to the shortage of foreign supply, must be used. This applies to other forms of iron and steel.

While marine engine and boiler builders have been busy, this has been largely due to the fact that these items have been on the list of prohibited exports promulgated by the United States, and also by Great Britain. The same does not apply to pumps and other auxiliary marine equipment, and when peace conditions obtain, every branch of marine equipment will be affected equally.

Under the operation of the existing regulations, and because the Customs Department is not actually interested in checking the foreign prices, the dumping clause is virtually of no effect, as without this help of the department, it is practically impossible to check prices, which are frequently below those quoted by American makers to American shipyards.

Under existing conditions, the manufacture of marine equipment is unprofitable. Many firms now prepared to supply the Canadian demand must retire from the marine field. Every single manufacturer has contributed to the Victory Loans, with the understanding that the proceeds would be spent in Canada. Would it be fair to them to use their subscription in the purchase of auxiliary marine equipment from their foreign competitors when the same can be bought in Canada? There appears to be no special reason why the manufacturers of marine equipment should be specially singled out from all the industries of Canada, and deprived of the benefits which every other trade enjoys.

The detrimental effect and its consequences to the country at large can easily be seen. The same adequate protection must be given to manufacturers of marine equipment, as is given to any other class of manufacturers. Otherwise they will be forced to abandon this field of business, and the unavoidable consequence will be the closing of their factories and the dismissal of a great many persons who will be without employment, at a time when the labor question has become a problem of so great importance to our country. Instead of helping to solve this problem by giving employment to many it will increase its difficulties of adjustment. Your petitioners are tax payers to the country. If their industry is ruined, the revenues of Canada will evidently suffer by it.

Not only the manufacturers, but also the great majority of their employes, have contributed their full share to the Victory Loans. It has been represented to all these men (in the aggregate thousands) that the proceeds of recent loans would be spent in Canada. What explanation shall your petitioners give them on the part of the government if their factories are closed and they are left without employment, after all the advertisement announcing to the public the increased shipbuilding in Canada.

An adequate protection granted to the manufacturer of marine equipment will not increase the cost of shipbuilding to the government, and it will not affect materially nor unjustly the profits made by the shipbuilder. Some purely Canadian shipbuilding firms try to place all business in Canada. Why should not every one of them do the same? It is a fact that several of the largest, most successful yards purchase all material in Canada that can be made here. Their contract prices have not been affected by this.

If the duty is restored on such marine equipment as is already being made in Canada there would be no increase in the price per ton to the government on ships being built. It has been the experience of a number of Canadian manufacturers that they are asked for prices before tenders are made to the Marine Department, and that contracts have been arranged on the basis of these prices. Subsequently the orders for the raw material in question have been placed in the United States. The Canadian Government does not benefit by any saving effected by the shipbuilder.

Your petitioners humbly submit that by passing the order in council of Oct. 31, 1917, there was no intention to destroy the Canadian marine equipment industry, that in view of the above considerations, the government should see the injustice done to the undersigned manufacturers, and also to a great many people vitally interested in this kind of industry, and should also see the detrimental consequences of the maintenance of such order in council, and they pray for the repeal of same, or at least for its amendment and change to such an extent as to give an adequate protection to the Canadian marine manufacturers, which, they humbly submit, would in no way injure the shipbuilding industry in Canada.

Marine Engineers Wage Scale Classification for Great Lakes District.

The National Association of Marine Engineers of Canada have sent to owners of steamboats operating in the Great Lakes district printed copies of a minimum wages scale and classification for steamboats operating in that district which is as follows:—

Adopted by the Great Lakes Executive Committee representing Port Arthur, Sault Ste. Marie, Collingwood, Owen Sound, Midland, Toronto, Kingston, Sarnia and St. Catharines councils, Jan. 10, 1919, and approved by the National Executive Committee. This card to be effective during the season of 1919, or until revised or amended by the Great Lakes Executive Committee.

Conditions of Employment.—All engineers shall be furnished 1st class transportation, including berth and meals, from the lake ports nearest their homes to the steamboats on which they are to be employed, when going to fit out, and after the steamboats go out of commission, 1st class transportation, including berth and meals, shall be furnished to the lake port nearest the homes of the engineers.

In all references to tonnage to be construed as gross tons. In all reference to monthly conditions, 30 days to constitute a month.

All ratings in all classes to include board and accommodation, excepting passenger ferry steamboats.

Overtime at the rate of 75c an hour for all time over 12 hours shall be paid engineers on boats carrying only one engineer.

Any special conditions of employment not covered by the provisions of this wage scale to be submitted to the Great Lakes Executive Committee through the Business Manager for adjustment.

Passenger Steamboats.

Class 1—All passenger steamboats of 3,000 tons or over: chief engineer, $2,400 a season; second engineer, $180 a month.

Class 2A—All passenger steamboats of 1,250 tons, and under 3,000 tons, running 6 months or over: chief engineer, $2,100 a season; second engineer, $150 a month.

Class 2B—All passenger steamboats of 1,250 tons, and under 3,000 tons, running less than 6 months: chief engineer, $1,900 a season; second engineer, $150 a month.

Class 3—All lake passenger steamboats under 1,250 tons and all passenger steamboats confined to river service requiring second class engineer: chief engineer, $1,650 a season; second engineer, $125 a month.

Class 4—All passenger steamboats from 45 n.h.p. to 25 n.h.p.: chief engineer, $150 a month; second engineer, $110 a month.

Class 5—All passenger steamboats under 25 n.h.p.: chief engineer, $125 a month.

Freight Steamboats.

Class 1—All freight steamboats of 5,000 tons or over: chief engineer, $2,400 a season; second engineer, $180 a month.

Class 2—All freight steamboats of 3,000 tons, and under 5,000 tons: chief engineer, $2,100 a season; second engineer, $150 a month.

Class 3—All water bottom freight steamboats under 3,000 tons, requiring second class engineer: chief engineer, $1,900 a season; second engineer, $130 a month.

Class 4—All freight steamboats not included in classes 1, 2 and 3 and requiring second class engineer: chief engineer, $1,800 a season; second engineer, $120 a month.

Class 5—All freight steamboats not otherwise classified and requiring third class engineer: chief engineer, $155 a month; second engineer, $110 a month.

Tug Steamboats.

Class 1—All tug steamboats requiring second class engineer: chief engineer, $165 a month; second engineer, $130 a month.

Class 2—All tug steamboats from 75 n.h.p. to 50 n.h.p.: chief engineer, $150 a month; second engineer, $125 a month.

Class 3—All tug steamboats from 50 n.h.p. to 25 n.h.p., and all h.p. tugs over 15 n.h.p.: chief engineer, $145 a month; second engineer, $115 a month.

Class 4—All tug steamboats under 25 n.h.p. and not embraced in class 3: chief engineer, $130 a month; second engineer, $105 a month.

Tugs operating exclusively in Welland Canal (dredge tug excepted): engineer, $140 a month. Overtime clause not to apply to this class.

In addition to the foregoing, all engineers of tug steamboats operating from the harbors of Port Arthur, Fort William and Sault Ste. Marie shall be paid 10% over the rates in the above four classes.

Ferry Steamboats.

All passenger ferry steamboats operating from Sault Ste. Marie, Ont., and requiring second class engineer: chief engineer, $170 a month; second engineer, $160 a month. For season of not less than 10 months.

All other passenger ferry steamboats requiring second class engineer: chief engineer, $160 a month. Minimum for season not to be less than $900.

All passenger ferry steamboats requiring third class engineer: chief engineer, $135 a month.

Canadian Vessels' Fate in Russia.—There is considerable speculation as to what has become of Canadian steamships sent to Archangel in the early stages of the war. The Earl Grey is reported sunk. The Minto and the J. D. Hazen were both sold to the Russian Government, but whether they were paid for is another question. It is stated the Bruce will return to go on her old route in the Newfoundland-Sydney service. It is said she was sent to Glasgow for repairs previous to the Russian debacle, and thus escaped falling into the hands of the revolutionists.

Bishop Navigation Co., Ltd., has been incorporated under the Dominion Companies Act, with $1,500,000 authorized capital and office at Montreal, to own and operate steam and other vessels and other navigation facilities, and to carry on a general navigation and transportation business.

Cost of Vessels to Be Built By United States Government.

Washington, D.C., from dispatch, Mar. 24.—Readjustment of shipbuilding costs to peace time production is expected by experts of the U.S. Shipping Board to establish a basic price in the neighborhood of $150 a ton for future contracts let to U.S. yards. Recent conferences here between General Manager Piez of the Emergency Fleet Corporation and representatives of Pacific coast builders are said to have developed virtual unanimity of opinion that high cost methods of production, which prevailed at a time when the national emergency demanded speed in production above everything else, should be eliminated as quickly as ness practice. Prospects of keen compossible to obtain a return to sound business practice. Prospects of keen competition in world trade, the western men were told, made it necessary to hold construction costs to a figure which would permit payment of dividends from competitive rates which would have to be established to get business.

Cancelled contracts will be replaced with new orders when the ways are empty, but the prices are expected to be considerably below those prevailing during the war, which sometimes ran as high as $450 a ton. Government assumption of labor and material hazards also will be abandoned. During hostilities, the Shipping Board adopted a policy of absorbing increased costs. Increases in wages and overtime pay alone amounted operators will assume the risk of a rise in the price of material or of demands for more pay, the government withdrawing its supervision over such questions.

Readjustment of production costs is expected to be facilitated by new prices for steel, though the reduction scarcely will affect that part of the shipbuilding programme now under construction. Most of the steel ships now being built were contracted for at a lump sum, but the Emergency Fleet Corporation is expected to benefit in the remaining contracts based on the cost plus system. It was said the Shipping Board regarded the cut in prices as likely to encourage more shipbuilding.

Government Vessel Insurance. — A Washington, D.C., press dispatch states that plans for the establishment of a Government agency in the U.S. for the writing of marine insurance, on the same lines as during the war, are being formulated by U.S. Shipping Board officials, it being stated that private companies' rates are too high. It has been suggested that the Dominion Government should adopt a similar course, with the view of meeting the excessive rate charged by insurance companies to cover navigation risks on the St. Lawrence.

The Shipmasters' Association, Halifax. N.S., is, we are advised, in good working order and about 45 new members have been admitted recently. It is the association's intention to be ready to furnish masters, mates and coast pilots at any time when requested. The association has a number of men who are good pilots in Canadian and Newfoundland waters and on the United States sea coast. Capt. Neil Hall, Port Warden, at Halifax, is Secretary.

"I'd like to know one thing, pop." "What is that, son?" "Do they pay the submarine crews from the sinking fund?" —Baltimore American.

Farrar Transportation Co's Claim for Insurance on s.s. Meaford.

The Farrar Transportation Co., Ltd., Toronto, issued the following circular to its shareholders recently:—There may be some of our shareholders who are not thoroughly conversant with the existing conditions relative to the apparently abnormal delay in the collection of the insurance money on the s.s. Meaford, the winding up of our company and the final cash distribution to the shareholders, and your executive committee beg to place the following information before you.

The Meaford went overseas in the fall of 1916 to be engaged in trading between the United Kingdom and Mediterranean ports, as permitted by the British Admiralty. In a circular that was mailed to the shareholders July 2, 1918, we advised you that on or about March 27, 1918, the Meaford was lost while on voyage from Gibraltar to Belfast, Ireland. The circumstances under which the Meaford disappeared, leaving no directly ascertainable cause of the disaster, have resulted in an extended delay in collecting the insurance. The chief difficulty has been that, owing to the existing conditions in Europe, business of this kind has been somewhat paralyzed and by reason of the Meaford being protected by two entirely different sets of insurance underwriters, one set covering the ocean marine insurance and the other set covering the war risk insurance, you can readily understand the number of parties who have to be conferred with and consulted to finally determine which set of insurance underwriters will pay us for the Meaford's loss. As the interests involved are large, it is a question for the two groups of underwriters to settle among themselves and this decision has been finally left to a board of arbitrators. This is in accordance with the custom which has been established in English insurance circles. The arbitrators usually decide the proportionate probabilities of the vessel being lost by marine or war risk and the respective underwriters agree to pay their proportion in accordance with the arbitrators' decision, say, 50% would be recoverable under marine policies and the other 50% under war risk policies, or it might be 25% and 75%, according to the view which the arbitrators take the facts of the case.

There has been considerable delay in the correspondence between the numerous interested parties in getting an acceptable arbitration agreement drawn up and procedure to be adopted agreed upon by all parties concerned. The form of agreement upon which the arbitration will take place has been prepared by our London legal advisers and has already been accepted by the solicitors on behalf of the marine risk underwriters and is now in the hands of the solicitors acting for the war risk group.

It is a source of regret to your directors that the circumstances of the Meaford's disappearance were such that we have not been able to obtain the customary settlement from the underwriters, which would have given no difficulty had we possessed a clear proof of loss by war risk. We need hardly add that this all important matter of securing a satisfactory settlement is receiving our unremitting attention, and everything possible has been and is being done to hurry the final adjustment of the insurance that will be the most advantageous to our shareholders.

Referring to the ultimate insurance settlement, we would ask you not to feel at all uneasy. The worst that can happen is that we may not have the use of the funds for some time yet. We would draw to your notice that while the Meaford was lost the last of March, 1918, she was not posted missing by Lloyd's, her principal underwriters, until June 18, and officially acknowledged lost by Lloyd's one month later. We also wish to draw your attention to the fact that no formal action regarding insurance claim could be taken by us until the steamer was posted missing, and no action was taken by the underwriters until July, when the vessel was officially acknowledged lost, hence our claim for the insurance has only had the underwriters' consideration for approximately six months.

Bill to Place Coast and Inland Water Vessels Under Board of Railway Commisioners.

J. E. Armstrong, M.P., of East Lambton, Ont., introduced in the House of Commons recently, a similar bill to those he has introduced in previous years and which were not passed, in part as follows:—

1.—Subsection 1 of section 30 of the Railway Act, Revised Statutes of Canada, 1906, chapt. 37, is amended by inserting the following paragraphs immediately after paragraph (g):—

"(ga) With respect to any privilege or concession given by any company or express company or by any person owning or controlling any such steamboat or vessel as is in the next paragraph mentioned, and where any privilege or concession is given by any such person or by any company or express company to any person or class of business or in any part of Canada, the board may order that such privilege or concession be discontinued or modified or granted to any other person or class of business, or in any other part of Canada, either the same or in a modified form.

"(gb) With respect to the traffic accommodation, classification of freight, traffic agreements, tolls and tariffs to be furnished, made, entered into and charged in connection with and by steamboats, and other vessels engaged on a regular route carrying passengers or freight or both from one port or place outside of Canada and with respect to the places along the line of route where such steamboats and vessels shall call for traffic, the time of call and duration of stay."

2.—All tariffs of tolls, tariffs, agreements, and classifications of freight charged, entered into or adopted in connection with any steamboat or vessel mentioned in paragraph (gb) of this act shall be submitted to the board.

In introducing the bill Mr. Armstrong said:—

This bill is for the purpose of compelling the boats on our inland waters and coastwise trade to come under the control of the Board of Railway Commissioners. At present the only boats that are under the control of that commission are those that are connected with the large railway corporations in our country. They are compelled to file their rates, tolls, tariff grievances, with the board, while the other 4,500 boats—because there are 4,500 on the Canadian Register—are allowed to charge whatever rates they please, call or not at any dock or port as they please, and are a law unto themselves. When we take into consideration the fact that the people of Canada have spent nearly $350,000,000 in deepening our waterways, buoying and lighting our harbors and rivers, building our docks, piers and canals throughout the country, and then find themselves without any control so far as government control is concerned, we cannot help realizing that we are placed in a somewhat humiliating position. This is, however, practically the only public utility in Canada that is not under some form of government control, and Canada is practically the only country in the world that has not absolute control over her shipping on inland waters and coastal trade. I hope, when this matter comes before the house, members will give it every consideration and that it will become law at the earliest possible date. I understand that a bill for the consolidation of the Railway Act has already been introduced into the Senate, and I hope it will come before the house in the near future. If it does, I trust I shall be allowed the privilege of placing an amendment in that bill containing the principles contained in this bill which I have now laid before the house.

Naval Service Vessels Sold.

The Naval Service Department has sold to the Anderson Co., of New York and Montreal, 60 steam trawlers, and some 80 wooden steam drifters, which were built in Canada during the war, for the British Government. The Anderson Co. is proceeding to dispose of these.

Amongst other vessels which the Department has disposed of, are seven of the type, which were known, during the war, by the designation P.V. followed by a number, from 1 to 7 inclusive. These have been sold to Hayes and Anderton, 50 Broad St., New York, who intend to use them in connection with their fishing operations, in addition to their present fishing fleet, which is said to be the largest on the Atlantic coast engaged in the Menhaden fishing industry. These vessels will bring their fish into the factories at various points from Wilmington, N.C., to Montauk. The seven vessels which they have now acquired, are claimed to be the largest, fastest and most modern of any vessels used in the industry. The Naval Service Department invited tenders for the purchase of these vessels, but all of the tenders received were rejected, as they were considered too low. The Department then opened negotiations with Hayes and Anderton, one of the original tenderers, and sold 6 of the vessels for $40,000 each, and 1 for $30,000, a total of $270,000. The original cost of these vessels to the government was $[illegible], after which, $144,917.22 was spent on alterations to fit them for service conditions, and $[illegible] for repairs.

The Cunard Steamship Co. is reported to be capitalizing about £[illegible] of its reserve fund, and is distributing the same amongst its shareholders, as a bonus. The dividend for 1918 was 20%. It is stated that the company is planning a large extension of its business, which may involve other shipping companies.

Canada Steamship Lines Limited, Annual Report and Meeting.

Following are extracts from the report for the calendar year 1918 to be presented at the annual meeting in Montreal Mar. 1, and which is over the signature of J. W. Norcross, who was elected President recently, to succeed Jas. Carruthers, resigned: —

The accounts show net earnings for the year of $4,338,079.88, leaving $2,324,098.15, after deduction of all fixed charges, including depreciation, and making provision for war tax. The company's general freight earnings, admittedly, have benefited by war conditions, but, on the other hand, passenger and packet freight business has suffered and operating costs have been abnormally high. Balancing one thing against the other, the directors on the whole, without being unduly sanguine, and keeping well in sight the necessity for ample provision against temporary setbacks, look forward to the future with confidence.

Canada, which has made giant strides during the last few years and months in world politics, is still a very young country from the point of view of its development; and its shipping, both inland and on the high seas, is in its infancy. Our practically unlimited natural resources are increasingly required in the markets of the world and our government is awake to the fact that they must be carried there. The dangers ahead are not of nature's making. With wise leadership and sane legislation the contrast between living conditions on this side and those on the other side of the Atlantic should be such as to cause a flow of immigration here, that will ensure the country's prosperity and the prosperity of the company for years to come.

The shareholders will be asked to confirm an amendment to bylaw 22, changing the number of its executive committee from 5 to 6.

There are two vacancies on the board caused by the resignations of Jas. Carruthers and J. C. Newman.

The physical assets have been thoroughly maintained and are in good condition.

Balance Sheet, Dec. 31, 1918.

Fixed assets:		
Vessels as at Dec. 31, 1917		$20,730,864.34
Less net deductions for year, being excess of vessels lost and sold over additions to fleet		652,288.36
		$20,078,575.98
Real estate, buildings, docks and wharves, as at Dec. 31, 1917	$5,511,682.93	
Add net additions for year	542,461.60	
		6,054,144.53
Other fixed assets as at Dec. 31, 1917	725,759.71	
Add net additions for year	308,889.50	1,034,649.21
		$27,167,369.72
Less depreciation reserve		3,506,190.29
		$23,661,179.43
Current and working assets:		
[illegible] and on [illegible]	$ 553,267.86	
[illegible]	[illegible]	
[illegible] able, [illegible]	1,614,313.53	
Adjusted losses due by underwriters	552,139.39	
[illegible]	[illegible]	
[illegible] accrued	[illegible]	
Inventories of stores and supplies	[illegible]	
		5,438,976.09
Charges deferred to future operations:		
Insurance unexpired	$ 520,931.46	
Repairs, etc., applicable to 1919	181,635.76	
Miscellaneous	20,809.45	
		723,376.67
Investments		427,139.50
Funds deposited with trustees for mortgage bonds and debenture stock		126,038.98
Adjusted losses due by underwriters payable to trustees		118,320.53
		$30,495,031.20
Leases, contracts and goodwill		8,424,646.79
		$38,919,677.99
Capital stock:		
125,000 shares 7% cumulative preference stock		$12,500,000.00
120,000 shares common stock		12,000,000.00
		$24,500,000.00
Funded debt:		
5% debenture stock	$7,120,506.66	
Less amount held in treasury $598,400.00		
Amount retired by operation of sinking fund 594,919.82	1,193,319.82	
	$5,927,186.84	
First mortgage bonds	757,020.02	6,684,206.86
Current and accrued liabilities:		
Accounts payable	$1,308,750.23	
Bond interest accrued	114,707.91	
Business profits war tax	960,516.71	
Preference dividend declared (payable Jan. 2, 1919)	218,750.00	
		2,602,724.85
Reserves:		
For freight and other claims	10,000.00	
For premium on redemption of bonds of Richelieu and Ontario Navigation Co.	2,409.42	
Surplus arising from sinking fund purchases of debenture stock	110,706.22	
		123,115.64
Surplus		5,009,630.64
Contingent liabilities—None ascertained.		
		$38,919,677.99

Operating Account.

Operating revenue:		
Vessels		$13,481,238.63
Docks and wharves		222,310.11
Miscellaneous		174,674.66
		$13,878,223.40
Other revenue		216,169.68
Total revenue		$14,094,393.08
Expenses		9,756,313.20
Net earnings		4,338,079.86
From which deduct:		
Interest on mortgage bonds	$ 58,303.02	
Interest on debenture stock	301,219.57	
Other interest	25,665.31	
Special bonus to employes	37,063.49	
Reserve for depreciation	1,146,730.34	
Reserve for doubtful debts and claims	20,000.00	
Directors fees	25,000.00	
Reserve for business profits war tax	400,000.00	2,013,981.73
Profit for year		$ 2,324,098.15

Surplus Account.

Balance Dec. 31, 1917		$ 2,374,754.12
Add:		
Profit for year 1918, as per operating account	$2,324,098.15	
Net profit on sales, etc., of fixed assets	1,276,136.38	3,600,234.53
		$ 5,974,988.65
Deduct:		
Balance of organization expenses charged off	90,358.01	
Dividends on preference stock 7% for year 1918	875,000.00	
		965,358.01
Surplus as per balance sheet		$ 5,009,630.64

The President, J. W. Norcross, in speaking at the annual meeting said: "Perhaps of special interest is the fact that the working capital hsa been increased to approximately $2,800,000. This has been effected by an increase in the current and working assets to $5,538,926, against $4,056,000, while the current liabilities have been reduced to approximately $2,600,000, against $3,800,000 a year ago. The company goes into the new year with a total surplus slightly in excess of $5,000,000, an increase of over $2,500,000 as compared with the previous year. The physical assets have been maintained at a high standard and are in an exceptionally satisfactory condition. This applies not only to our freight vessels, but likewise to the entire passenger fleet. General conditions since the cessation of hostilities have become so unsettled that it is almost impossible for anyone to forsee at all clearly the possibilities of the immediate future. It should be pointed out however, that the company's various lines are in an excellent position to handle all business offering and there is reason to expect that general tourist traffic, which has been a negligible factor during the past few years, will become a very important factor in the company's profits during the coming season.

All the directors were reelected, and Hon. Frank Carrell, of Quebec, was elected to succeed Jas. Carruthers, who resigned some little time prior to the annual meeting. The directors for this year are as follows: President and Managing Director, J. W. Norcross; Vice President and General Counsel, C. A. Barnard, K.C.; Vice President, M. J. Haney; Director of Transportation, W. E. Burke; Director of Finance, F. S. Isard; Director of Operation, H. W. Cowan, other directors: Edmund Bristol, K.C., M.P., Hon. F. Carrell, Hon. J. P. B. Casgrain, J. E. Dalrymple, D. B. Hanna, H. B. Smith, G. H. Smithers, J. P. Steedman.

Canadian Merchant Service Guild.—A bill has been introduced in the House of Commons to incorporate R. A. Batchelor, and others, as Canadian Merchant Service Guild, its objects being to unite fraternally all persons employed in ships operating in and out of Canadian waters, whether inland or deep sea waters and who are entitled to membership by the bylaws. To insure the members, or the dependent children of the members, in accordance with the provisions and subject to the limitations and requirements of The Insurance Act, 1917, relating to fraternal benefit societies. The Guild's office is to be at Vancouver.

Rhine Navigation.—French pilots, for the first time in 48 years, will soon be guiding French and German vessels up and down the Rhine. The men will be recruited from among the helmsmen and pilots of the high sea rover fleets of the French navy, and are being instructed under the jurisdiction of the Ministry of Marine. The pilots will take charge of steamboats, tugs and barges loaded with foodstuffs destined to the armies of occupation, and will also command squadrons of light gunboats charged with the "watch on the Rhine."

Coast, Lake and Steamship Officers for 1919.

The following appointments, made by navigation companies, engaged in Canadian navigation, for their various steamships and tugs, have been reported to Canadian Railway and Marine World. The first column gives the names of the vessels; the second, those of the captains; and the third, those of the chief engineers.

Algoma Central Steamship Line, Sault Ste. Marie, Ont.

Agawa	M. A. Livingstone	J. L. Smith
Home Smith	A. McIntyre	D. McLeod
J. Frater Taylor	J. D. Montgomery	W. T. Rennie
W. C. Franz	W. C. Jordan	A. M. MacInnes

Algoma Eastern Ry., Sault Ste. Marine, Ont.

Valcartier	J. A. Brown	J. G. MacHattie

British Columbia Salvage Co., Victoria, B.C.

Tees	J. M. Hewison	T W. Allan

Butler Freighting and Towing Co., Victoria, B.C.

Grainer	W. B. McCartney	H. Soper

Canadian Maritime Co., Montreal.

Gaspesian	T. E. Filmer	——
J. H. Plummer	S. W. H. Jeffery	Jas. Craig
Saskatoon	F. J. Shoemack	——
Steelton	J. Legeyt	W. Hutchinson

Canadian National Railways, Vancouver, B.C.

Canora	N. McKay	J. Blackaller

Canadian Pacific Car and Passenger Transfer Co., Prescott, Ont.

Charles Lyon	W. Henry	L. Black

Canadian Pacific Ry. Detroit River Car Ferries.

Michigan	H. Farrow	F. Merrill
Ontario	R. Brown	C. A. Sullivan

Canadian Pacific Ry. Great Lakes Steamship Service.

Alberta	John McIntyre	C. Butterworth
Assiniboia	Jas. McConnel	A. A. Cameron
Athabasca	M. McKay	F. Merrill
Keewatin	M. McPhee	W. Lewis
Manitoba	F. J. Davis	G. D. Adam

Canadian Robert Dollar Co., Vancouver, B.C.

Bessie Dollar	Jas. Abernethy	R. Greig
Harold Dollar	M. Ridley	W. Whitehill
Melville Dollar	W. Wright	D. Fraser
Stanley Dollar	John McClements	John Welton

Canadian Towing and Wrecking Co., Port Arthur, Ont.

A. B. Conmee	W. S. Nuttall	Jas. Keenan
A. F. Bowman	Angus McKay	G. Russell
Sarnia	G. Stitt	A. Williams

Hugh Cann and Son, Yarmouth, N.S.

Bruce Cann	I. A. Banks	J. B. Grieg
Keith Cann	A. L. McKinnon	H. E. Goodwin
Latour	F. E. Smith	C. R. Weddleton
Mary H. Cann	E. F. Peters	W. Amire
Percy Cann	E. Smith	B. Meagher
Robert G. Cann	W. E. Morris	B. Lumsden
Wanda	F. L. Nickerson	J. Nixon

Cape Breton Electric Co., Sydney, N.S.

Electronic	I. H. Lewis	C. H. Hanson
Hygeia	A. McLeod	D. E. Reid
Peerless	G. Dicks	J. Coghan

Chicago, Duluth and Georgian Bay Transit Co., Chicago, Ill.

North American	E. E. Taylor	J. F. Buritz
South American	G. M. Cummings	R. Zeitsch

Coastwise Steamship and Barge Co., Vancouver, B.C.

Amur	S. Snoddy	R. Middlemos
Marmion	J. McNaughton	A. Findley

Crystal Stream Steamship Co., St. John, N.B.

D. J. Purdy	F. Day	T. Fader
Majestic	H. Crabb	W. Hurder

Dartmouth Ferry Commission, Dartmouth, N.S.

Chebucto	W. Myser	A. McLeod
Dartmouth	C. Ozon	C. Short
Halifax	M. Murphy	W Case

Dominion Transportation Co., Sault Ste. Marie, Ont.

Caribou	A. A. Batten	J. Walters
Manitou	M. J. McCoy	J. Dyson

Donnelly Salvage and Wrecking Co., Kingston, Ont.

Cornwall	J. W. Phelix	C. A. McWilliam
Frontenac	G. Macdonald	T. Compeau
Johnston	T. Murphy	

Grand Trunk Ry. Car Ferries, Windsor, Ont.

Great Western	N. Bausette	Jos. Ladds
Huron	O. Lalonde	A. Cook
Lansdowne	John Jackson	W. Belsom

Great Lakes Transportation Co., Midland, Ont.

America	A. Monck	G. Jorsch
Brazil	A R. McLeod	C J. Adamson
G. A. Richardson	J. T. McCarthy	A. Whitehead
Glenfinnan	W. E. Lanton	J. S. Silverthorn
Glenisla	Jas. Tindall	F. Wilson
Glenlivet	R. Burke	P. Eagles
Glenlyon	A. A. Hudson	D Sinclair
Glenorchy	F. Burke	G. Price
Glenshee	W. Lavigne	F Goodwin
Major	S. Corson	E Hurl

Halifax and Canso Steamship Co., Halifax, N.S.

Scotia	R. Munroe	J. G Clarke

Howe Fish Co., Port Stanley, Ont.

Glen Erie	B. Howe	E. Pettitt

Imperial Oil Ltd., Toronto.

Imperial	H. C. Mimms	E. Brisbin
Imperoyal	W. R. Smeltzer	J. P. Davidson
Impoco	G. Findlay	
Iocolite	F. F. Foote	H. R Welch
Iocoma	G. T. Cross	C. Arnberg
Reginolite	D. Sutherland	John McDonald
Royalite	C. H. Harmanson	G. Robertson
Sarnolite	A. Geddes	J. H. Louden
Talaralite	T. N. Havard	

International Transit Co., Sault Ste. Marie, Ont.

Algoma	F. Frech	C. H. Innes

Keenan Towing Co., Owen Sound, Ont.

Keenan	F. Rush	W. Owens

Keystone Transportation Co., Montreal.

Keybell	L. Beaupre	R. J. Muchmore
Keynor	W. Smith	John Robertson
Keyport	John Mullen	G. Jarrell
Keyvive	G. Bunting	G. Baker
Keywest	A. Barrett	A. Horton

La Traverse de Lachine Ltd., Lachine, Que.

Hebron	J. B. Couillard	E. Marchand

La Have Steamship Co., West La Have, N.S.

Tussle	G. D. Prutz	H. A. Oakes

Lake Erie Navigation Co., Walkerville, Ont.

Marquette and Bessemer No. 1...	Jas. A. Patterson	H. Culp

Leonard Steam Trawlers Ltd., Montreal.

Baleine	Jas. Wyse	J. Monahan

Maritime Steamship Co., Blacks Harbor, N.B.

Connors Bros.	E. H. Warnock	G. Cowie

Marquette and Bessemer Dock and Navigation Co., Walkerville, Ont.

Marquette and Bessemer No. 2	John Vanbuskirk	T. Elliott.

Operated by U.S. Railroad Administration, under W. L. Mercereau, General Manager, Ludington, Mich.

Memphremagog Navigation Co., Georgeville, Que.

Anthemis	A. Clarke	——

Niagara, St. Catharines and Toronto Navigation Co., St. Catharines, Ont.

Dalhousie City	G. Blanchard	Jas. Brown

Northern Navigation Co., Sarnia, Ont.

Hamonic	A. M. Wright	John Smith
Huronic	E. Walkinshaw	G. Peel
Noronic	A. L. Campbell	S. Brisbin
Waubic	John Dube	F. Pringle

Northern Trading Co., Edmonton, Alta.

Northland Echo	E. J. Williscroft	L. Connibear
Northland Trader	John Matheson	J. A. Patterson

Ottawa Transportation Co., Ottawa, Ont.

Dolphin	Z. Lavigne	A. Madore
Florence	E. Lefebvre	A. Morinville
Glen Allan	A. G. Clark	F. Pintal
Hall	J. C Barclay	J A Legault
Ottawan	A. Mallette	N Lavigne
Scotsman	E. Francoeur	A Lavigne

P. Q. Towing Co., Dalhousie, N.B.

Grande Ligne	F. A Allard	A Bernard

Peace River Navigation Co., Edmonton, Alta.

Northland Call	E L. Davis	——

Pembroke Transportation Co., Pembroke, Ont.

Oiseau	J Tessier	J Trottier

Peninsula Tug and Towing Co., Wiarton, Ont.

Crawford	Jas Preston	R H Isbester

Port Colborne Tug Co., Port Colborne, Ont.

J. V. O'Brien	D McGrath	John Anderson
Meteor	John McGrath	John Miller

Port Huron and Sarnia Ferry Co., Port Huron.

Cheboygan	G Waugh	M Jameson
Hiawatha	F M Thomas	H Meyer
Omar D Conger	W S Major	R A Campbell

Prescott and Ogdensburg Ferry Co., Prescott, Ont.

Miss Vandenburg	S J Delaney	W Jeeto
	A Black	T Lavery

St. Joe Island and Sault Line, Sault Ste. Marie, Ont

Premier	I B Cannon	J Hewson

St. Lawrence Coal and Freighting Co., Brockville, Ont.

W. J. Carter	D Cody	J E Maxstead

Sincennes-McNaughton Line, Montreal.

Aurelie G	A Genest	D Vezina
Conqueror	A Montpetit	L Legendre
Emma L.	E Blais	E Lanneville
Ethel	A Rajotte	A Guilbault
F Dupre	J Bibeau	E Mongeon
Hudson	C Legault	A Boisvert
John Pratt	J Cournoyer	F Cournoyer
[illegible]	G Morneau	F [illegible]
Mathilda	U Latraverse	N Gingras
Mascallonge	Z Legault	A Barbeau
Myra	Z Cadieux	A Lemay
Nathalie R.	J Millette	J Demers
No. 47	L Lemay	A Desrochers
No. 48	F Bibeau	F Vigeant
No. 49	S Parisien	F Thuot
No. 50	O Provencal	W Provencher
No. 51	P Paulet	F Rousseau
Rival	W Bertrand	R Boulet
Rosalie L.	H Perusse	D Laforest
Spray	J Monceau	E Sauvageau
Stella A. K.	D Lemay	J Dupre
Yvon	Z Bibeau	A. Beaudet

Sparrow Lake Steamer Line, Sparrow Lake, Ont.

Glympse	I Stanton	G I Stanton

James Swift and Co., Kingston, Ont.

T J. Waffle	C Beaupre	P Laming

John Tackaberry, Lionshead, Ont.

Henry Pedwell	Perks	A Glendenning

City of Three Rivers, Que.

Le Progres	H Duval	A Frenette

Toronto, Hamilton and Buffalo Navigation Co., Hamilton, Ont.

Maitland No. 1	J. W Keeley	C. E. Sylvester

Union Steamship Co. of British Columbia, Vancouver, B.C.

Camosun	A. E. Dickson	A. Beattie
Cassiar	R. Wilson	P. J V Farina
Chasina	N. Gray	J. R. Rogers
Cheakamus	G. Gaisford	J. F Wilson
Chelohsin	J. F. Edwards	G. H Foster
Chilco	H. E. Lawrey	A. T. Roy
Chilliwack	J. A. Browne	J. Maitland
Coquitlam	C. B Smith	N. Tweedie
Cowichan	G. Whalen	L. P. Thomas
Venture	J. E. Noel	C. Arthur

Valley Steamship Co., Annapolis Royal, N.S.

Granville	B. S. Collins	H. Logan

Wabash Rd. Car Ferries, Windsor, Ont.

Detroit	F. A. Huntoon	H. Lowry
Transfer	G. W. Honner	W. Taylor
Transport	W. Norvell	F Robinson

Webster Steamship Co., Montreal.

Colin W.	E. Groulx	G. Fitzpatrick
Eric W.	T. Marchand	J. P. Brunelle
Howard W.	L. Daigneault	A Cote
Marian W.	J. Toupin	A. Ouzilleau
Muriel W.	J. E Ouellette	J. A Godin
Richard W.	J. B. Raymond	E. Sauvageau
Stuart W.	E Tremblay	E. Cantin

Western Transport Co., Nanaimo, B.C.

Alert	D. Martin	D. D. Mackie

Windsor and Pelee Island Steamship Co., Pelee Island, Ont.

Pelee	J N Sheats	J R Ferguson

G. A. Wootten, Halifax, N.S.

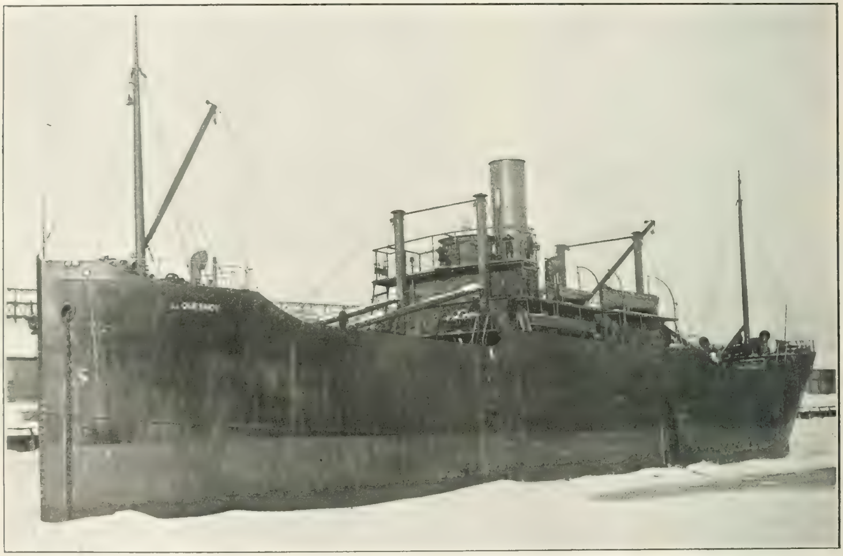
Ossifrage	F J. Stockwell	G Peel

Camouflaging Ships.—The system of "dazzle painting" applied to some 3,000 British merchant ships during the war as protection from U boat attack was demonstrated recently at the Naval Camouflage School, Burlington House, London, by Lieut.-Commander Norman Wilkinson, R.N.V.R. By reversing the system, and making ships more clearly visible, it is hoped to avoid collisions. Lieut.-Commander Wilkinson abandoned the idea of lessening the visibility of ships, his object being to puzzle the U boat commander, and make him lose time, by sending him on a wrong course. Therefore he painted ships in such a way that the direction in which they were going could not be made out through a periscope. By means of stripes of blue, black and grey on the sides, bridge, chart house, masts and funnel, he falsified the appearance of the ship, so that it was almost impossible to distinguish the bow from the stern. The lines of perspective were also falsified.

The public traffic regulations for the ports of Halifax and Sydney, N.S., necessitated by the war, have been rescinded.

General Shipbuilding Matters Throughout Canada.

Canadian Allis-Chalmers Ltd.—The report of the Canadian General Electric Co. for 1918 referred to operation of its railway, Canadian Allis-Chalmers Ltd., as follows: "Early in 1918 your directors formed the impression that the end of the war could not be long delayed and, therefore, the policy was adopted of casting about for new lines of manufacture that would keep our facilities employed after orders for munitions should cease, and fill the gap during the time intervening between the cessation of war orders and the reconstruction of trade channels through which we would again commence to receive orders in adequate volume for our normal output under prewar conditions. Having in mind that the mercantile marine of the allied countries had been steadily depleted and that many orders for cargo ships were being placed in Canada and the United States, we devoted our energies to securing orders for marine engines, boilers, and other auxiliaries. The great activity in the shipbuilding industry had resulted in the opening up of many new yards in both Canada and the United States, and while the old established plants were equipped to build the ship machinery required for their own requirements, the majority of the newly organized yards, and many of the older ones were compelled to enlist the cooperation of other machinery builders to enable them to meet the unusual demands and attain maximum production. As our plants in Toronto were well equipped for undertaking the manufacture of marine engines, in sizes ranging from 200 h.p. up to 4,000 h.p., and of Scotch marine boilers of the largest size required for ships up to 10,000 tons capacity, as well as practically all other ship auxiliaries, important contracts were secured during the year for machinery and equipment for installation in ships building both in Canada and the U.S. Including the machinery required for the four 3,500 ton steel cargo steamships building at our Niagara shipyard, but not including the ships, the orders for marine engines, towing engines, Scotch boilers, condensers, ships' winches, shafting, propellers, and other ship auxiliaries, at the end of the year amounted to $5,490,707.00, the contracts in question being received either directly from or for account of the following:—Imperial Munitions Board, Marine Departments, and Naval Service Depratment, $1,602,412; French Government, $853,487; U.S. Shipping Board, Emergency Fleet Corporation, U.S. Navy and U.S. Army Embarkation Service, $3,034,806. Total, $5,490,707, of that amount approximately $4,000,000 is carried forward into 1919.



Steel cargo steamship Le Quesnoy, 4,300 tons, built by Dominion Shipbuilding Co., Toronto, wintering in Louise Basin, Quebec, Que.

Dominion Shipbuilding Co., Toronto.—The steel cargo steamship Le Quesnoy, 4,800 tons d.w., which was launched at Toronto, Nov. 23, 1918, had her final dock trial on Mar. 10, and is ready for sea on the opening of navigation. She is wintering at shed 20, Louise basin, Quebec, Que., as shown in the accompanying illustration.

Foundation Co., Victoria, B.C.— The first two of the 3,000 ton wooden steamships which this company is building for the French Government, were to be launched towards the end of March. The Ogden Point assembling plant, which was used by the Imperial Munitions Board for the equipment of wooden vessels built on the B.C. coast, for the British Government, has been taken over by the Foundation Co., on payment of $60,000, and will be used for equipping the 20 wooden steamships being built by the company for the French Government. It was expected that additional machinery would be ready for installing during March, when the first of the 20 vessels would be ready for outfitting. It was anticipated that the first vessel will be ready for sea about the end of April, or early in May, and the other vessels at the rate of one every two weeks.

Halifax Shipyards Ltd., Halifax, N.S., started erecting the steel framework on its power plant building, Mar. 17, and the erection of the steel work of the plate shop was started a few days later. The excavation for the air compressor and stores building was completed towards the end of March, when the erection of the building was started.

J. E. Pettis, Spencers Island, N.S., launched the tern schooner Minas Prince, Mar. 4. She is of 457 tons register and is classed for 12 years with Bureau Veritas. The equipment includes hoisting power and all latest improvements. She is owned in Parrsboro, N.S., and is loading for the West Indies.

Polson Iron Works, Ltd., Toronto.

Early in March it was announced that J. B. Miller would continue as President of the company, but would relinquish the general managership, and that M. E. Forbes, formerly Vice President and General Manager, Dayton, Ohio, Production Co., and R. J. Cluff, of Cluff Bros., iron pipe and plumbers supplies, Toronto, had been appointed joint general managers, A. H. Jeffrey remaining with the company as Secretary. A report that there had been a change of ownership was denied. On Mar. 17 the company applied for a winding up order, which was granted, G. T. Clarkson, being appointed liquidator. The Toronto General Trust Co. applied for a declaration that as trustee under a debenture mortgage, and as holder of a debenture for $600,000, it was entitled to a charge on all the company's property and asked for the appointment of a receiver and mnaager. It is stated that the company's business will be carried on without interruption.

C. T. White and Sons, Alma, N.B., are building 2 schooners with auxiliary power. They will be sister vessels, 150 ft. long, 600 tons gross, 900 tons displacement, and they will be equipped with gas power, and the most modern cargo facilities.

Yarrows Limited, Victoria, B.C.—In reference to the report, mentioned in Canadian Railway and Marine World for March, that Yarrow & Co. Ltd., Scotstown, Glasgow, intended diminishing the output at its shipbuilding plant there and to increasing the production of its Vancouver, B.C., plant, we are advised by Yarrow & Co. Ltd., Scotstown, that it is under the impression that the Pacific Coast will advance rapidly, and that it wishes, as far as it can, to develop its Victoria works, with a view to having two strings to its bow.

Atlantic and Pacific Ocean Marine.

The Panama Canal was used in December by 166 ocean going ships; $537, 057 being collected in tolls.

The French General Trans-Atlantic Co., it is announced, will re-establish its steamship service with Canada, as soon as circumstances permit, so that the direct service between France and Canada, as given before the war, will be continued.

Furness Withy and Co's. s.s. Appenine ran aground at Witless Point, near St. John's, Nfld., Mar. 4, presumably being driven in by ice, which was packing on the coast. She sailed from Liverpool, Eng., Feb. 19 for St. John's and Halifax, and was overdue at the first named port.

Quebec, Que., press dispatch Mar. 25: –The Canadian Pacific Ocean Services Ltd. will renew its St. Lawrence passenger and freight business this spring with its two largest and finest ships, the Empress of Britain and the Empress of France, which was formerly named the Alsatian, which will make Quebec the chief summer Atlantic terminus. This regular ocean mail service will possibly be increased during the season.

Canadian Pacific Ocean Services, Ltd., has bought the steamships War Beryl and War Peridot in Great Britain. They are steel cargo steamships of 10,800 estimated d.w. tons each, and of the following dimensions: length 41 ft. 6 in., beam 55 ft. 2 in., depth 29 ft. The s.s. War Peridot left Liverpool, Eng., Mar. 15, for St. John, N.B., where she was expected to arrive Mar. 28. The s.s. War Beryl was expected to be delivered to the company about Mar. 28, and to sail for St. John a few days later.

The rumor has again been revived that the C.P.R., on behalf of Canadian Pacific Ocean Services Ltd., may shortly purchase the whole fleet of an important English steamship company, which controls a large proportion of the trade between Great Britain and the east, and that the company will make Quebec its main summer port for Canada. As we have before pointed out, the whole transoceanic businesses of the empire are in a state of flux, and for some time past, there have been amalgamations, absorptions, working agreements, etc., by, and between, the various steamship companies, and it is not conceivable that the C.P.R., with its world wide system, will be behind other companies in carrying out whatever extensions may be necessary and politic. The C.P.R., as a transportation company, is unique, and it will doubtless retain that position.

Maritime Provinces and Newfoundland.

The Boston and Yarmouth Steamship Co. resumed service between Yarmouth, N.S., and Boston, Mass., Mar. 6, with the s.s. Northland. The service was suspended during the war.

The House of Commons passed a resolution Mar. 19, authorizing the government to establish a government controlled steamship service between Pictou, N.S., and Magdalen Islands. The present service is given by a privately owned vessel, under a government subsidy, and it is stated to be unsatisfactory.

The s.s. Julienne was sold under a court order, at Halifax, N.S., recently to Farquhar and Co., Halifax, for $43,500. She was owned by Anderson and Co., New York, and was sold as the result of actions by the owners of cargo, for $320,000 for nonfulfillment of charter, and by the captain for $11,000 for wages and disbursements.

The Prince Edward Island Public Works Department is receiving tenders to Apr. 14, for the operation of a steamship of about 200 tons register, and certified for not less than 200 passengers, and maintaining a speed of not less than 10 knots an hour, from Charlottetown to Crapaud, to Orwell, to East River and to West River, once a week, for five years from the opening of navigation.

The Marine Department's s.s. Lansdowne, lying at the marine picr at Dartmouth, N.S., is reported to have been condemned. She was built at Maccan, N.S., in 1884, and is screw driven by engine of 80 n.h.p., Her dimensions are, length 188.6 ft., breadth 32.1 ft., depth 15.8 ft.; tonnage, 680 gross, 463 register. She served the Marine Department at the various maritime ports, and during the war was stationed at Sydney, N.S.

The Troja Steamship Co's. s.s. Troja, with a cargo of coal for St. John, N.B., ran ashore on the Old Proprietor, Grand Manan, N.B., Mar. 18, and is believed to be a total loss. The crew were all taken off by the s.s. Aberdeen and taken to St. John. The Troja was built in 1918 by the Dominion Shipbuilding Co., Toronto, and was classed 100 A1 at Lloyd's for trans Atlantic service. Her dimensions were, length over all 261 ft., breadth moulded 43½ ft., depth moulded 28 ft. 2 in.; deadweight tonnage, 4,300. She was equipped with triple expansion engines. The loss is stated to be covered by insurance, partly placed in Canada and partly in Europe. It is reported that as the result of a work commissioners enquiry the blame for the loss has been placed on the master of the vessel, Capt. Caine.

Province of Quebec Marine.

The Montreal, Valleyfield and Soulanges Navigation Co. Ltd., which operated the s.s. Hebron between the points named, has gone out of business, the vessel now being operated by La Traverse de Lachine Ltd., Lachine, Que.

Ontario and the Great Lakes.

The name of the steam tug D. J. Burke, owned by Canadian Stewart Co., Toronto, has been changed to Mary Stewart.

The Algoma Eastern Ry. s.s. Valcartier, which was, last year, operated by hte Algoma Steel Corporation, will this year, be under the Algoma Central Steamship Line's control.

The Toronto, Hamilton and Buffalo Navigation Co.'s. car ferry Maitland No. 1 was laid up recently for repairs and overhaul, after having been on the route between Port Maitland, Ont., and Ashtabula, Ohio, for a year, making a return trip every 15 hours, except when held up owing to freight shortage.

Judgment has been given against the Northern Navigation Co., as owner of the s.s. Majestic, for $500 and costs, in favor of F. McGibbon and Sons, Sarnia, for the loss of the old wooden steamship Cataract, when the Majestic took fire and drifted against the Cataract at Sarnia, Dec. 15, 1915. The Cataract has been practically a derelict since 1910.

The Detroit and Windsor Ferry Co. raised its rates for passengers recently from 10 tickets for 25c. to 8 tickets for 25c. on the ground that the increases in operating expenses made it necessary. Windsor City Council protested against this, and desired to send auditors to examine the company's books, but the company declined to allow this to be done.

The Central Canada Coal Co., Brockville, has sold its s.s. Samuel Marshall to Eliasoph and Co., Montreal, and during the forthcoming season will only operate the barge F. A. Georger. The s.s Samuel Marshall was built at Grand Haven, Mich., in 1888, and is screw driven by engine of 72 n.h.p. Her dimensions are, length 198 ft., breadth 33.4 ft., depth 14.6 ft.; tonnage, 772 gross, 540 register.

The United States Lake Survey reports the levels of the Great Lakes in feet above mean sea level, for February, as follows: Superior, 602.08; Michigan and Huron, 580.66; St. Clair, 575.02; Erie, 572.20; Ontario, 245.91. Compared with the average February levels for the past ten years, Superior was 0.83 ft. above; Michigan and Huron 0.79 ft. above; Erie 0.65 ft. above, and Ontario 0.50 ft. above.

British Columbia and Pacific Coast

The Union Steamship Co. of British Columbia's s.s. Cheakamus, after being thoroughly overhauled at Esquimalt, has resumed her service.

The C.P.R. s.s. Princess Beatrice was

taken off the Gulf route, Mar. 12, for her annual overhaul, her place being taken by the s.s. Princess Patricia.

The Prince Rupert Board of Trade has petitioned the Dominion Government for a mail subsidy for a purely local steamship service between Prince Rupert and coastal points within approximately 100 miles.

The Union Steamship Co. of British Columbia is operating the s.s. Chelohsin on the Rivers Inlet-Bella Coola route; the s.s. Camosun on the Prince Rupert Anyox route, and the s.s. Venture on the Surf Inlet, Prince Rupert and Naas route; all out of Vancouver.

The Grand Trunk Pacific Coast Steamship Co. is operating the s.s. Prince John on a fortnightly schedule on the Prince Rupert-Queen Charlotte Islands route, calling at Prince Rupert on the return from Massett before going to the South Islands. The s.s. Prince Albert is being operated in the general freight service, without schedule.

The C.P.R. has bought the steam tug Dola from MacDonald and Marpole, Vancouver, for its British Columbia Coast Service. The Dola was owned formerly by the Vancouver Tug and Barge Co. Ltd., and was built at Vancouver in 1907, her dimensions being, length 96.3 ft., breadth 21.8 ft., depth 10.9 ft.; tonnage, 176 gross, 120 register. She is screw driven by engine of 39 n.h.p.

The name of the s.s. Nellie G. Thurston, owned by the Vancouver Machinery Depot, Ltd., Vancouver, has been changed to Esdud. She was originally a sailing vessel, and was built at Gloucester, Mass., in 1883. She is driven by a screw, with engine of 19 n.h.p. Her dimensions are, length 79 ft., breadth 22.6 ft., depth 8.5 ft.; tonnage, 100 gross, 60 register. She was, at one time, owned by the British Columbia Transport Co. Ltd., London, Eng.

Judgment was delivered in favor of the C.P.R. Mar. 15, restraining the B.C. Workmen's Compensation Board from paying out further compensation to dependents of the company's employes who lost their lives in the sinking of the s.s. Princess Sophia in the Lynn Canal, Alaska, last year. The contention, on which the judgment was based, is that the Compensation Act does not extend to the scene of a wreck in foreign waters. It is stated that the judgment is being appealed against.

Cargo Steamship Building in Canada for British Government.

Steamships Under Construction.—Of the 43 steel steamships and 46 wooden steamships ordered in Canada by the Imperial Munitions Board on behalf of the British Government, 32 steel and 45 wooden ships have been launched. The ones still under construction are as follows:—British American Shipbuilding Co., Welland, Ont., War Racoon, 3,500 tons d.w.; Canadian Allis-Chalmers Ltd., Bridgeburg, Ont., War Vixen, War Wallaby, War Wombat, 3,500 tons each; J. Coughlan & Sons, Vancouver, B.C., War Chariot, War Column, War Company, 8,800 tons each; Midland Shipbuilding Co., Ont, War Fury, War Magic, 3,400 tons each; Polson Iron Works Ltd., Toronto, War Algoma, War Halton, 3,500 tonc each; a total of 11 steamships aggregating 54,200 tons. The one wooden steamship remaining is on order with Grant and Horne, St. John, N.B., and will be named War Moncton. It is the same type as adopted as standard for all the wooden steamships built in Canada for the British Government, and will be approximately 3,080 tons d.w.

Steamship Deliveries.—With the sailing of the steamships War Suquash and War Tanoo, towards the end of March, the last of the wooden steamships to be built on the Pacific Coast, for the British Government, under orders from the Imperial Munitions Board, left for Great Britain, where, after discharge of cargo, they will be handed over to John Hardie & Co., Glasgow, Scotland, to whom they have been assigned as managing owner by the British Ministry of Shipping. The first of these vessels to be launched on the Pacific Coast was the War Songhee, by the Foundation Co., Victoria, Dec. 28, 1917, and the first to be fully equipped and dispatched to Great Britain, was the War Yukon, by Cameron-Genoa Mills Shipbuilders Ltd., Victoria, which was launched Jan. 24, 1918.

Steamships Launched.—Following are particulars of cargo steamships ordered by the Imperial Munitions Board for the British Government, and which had been officially reported as launched up to Mar. 20, giving in each case the date of the launching, the name of the steamship, the name and address of the building company and the deadweight tonnage:—

May [illegible] 1917—War Dog, Wallace Shipyards, North Vancouver, B.C. 4,500
July [illegible] 1917—War Wasp, Nova Scotia Steel & Coal Co., New Glasgow, N.S. 1,800
Aug. [illegible] 1917—War Fish, Port Arthur Shipbuilding Co., Port Arthur, Ont. 4,300
Nov. 3, 1917—War Dance, Port Arthur Shipbuilding Co., Port Arthur, Ont. 3,400
Mar. 16, 1918—War Camp, J. Coughlan & Sons, Vancouver, B.C. 8,800
Mar. 23, 1918—War Power, Wallace Shipyards, North Vancouver, B.C. 4,600
Apr. 3, 1918—War Isis, Port Arthur Shipbuilding Co., Port Arthur, Ont. 3,400
May 8, 1918—War Wizard, Collingwood Shipbuilding Co., Collingwood, Ont. 2,900
May 21, 1918—War Bee, Nova Scotia Steel & Coal Co., New Glasgow, N.S. 2,400
May 27, 1918—War Osiris, Port Arthur Shipbuilding Co., Port Arthur, Ont. 3,400
June 8, 1918 War Earl, Canadian Vickers Ltd., Montreal 7,000
June 29, 1918—War Duchess, Canadian Vickers, Ltd., Montreal 7,000
July 20, 1918—War Hathor, Port Arthur Shipbuilding Co., Port Arthur, Ont. 3,400
July 29, 1918—War Charger, J. Coughlan & Sons, Vancouver, B.C. 8,800
Aug. 19, 1918—War Chief, J. Coughlan and Sons, Vancouver, B.C. 8,800
Aug. 21, 1918—War Weasel, British-American Shipbuilding Co., Welland, Ont. 3,500
Sept. 6, 1918—War Witch, Collingwood Shipbuilding Co., Collingwood, Ont. 2,900
Sept. 19, 1918—War Taurus, Polson Iron Works, Ltd., Toronto 3,500
Sept. 28, 1918—War Faith, Canadian Vickers Ltd., Montreal 7,000
Sept. 28, 1918—War Noble, J. Coughlan & Sons, Vancouver, B.C. 8,800
Sept. 28, 1918—War Storm, Wallace Shipyards, Ltd., Vancouver, B.C. 4,600
Oct. 5, 1918—War Horus, Port Arthur Shipbuilding Co., Port Arthur, Ont. 3,400
Oct. 15, 1918- War Hydra, Polson Iron Works, Ltd., Toronto 3,500
Oct. 24, 1918—War Fiend, Midland Shipbuilding Co., Midland, Ont. 3,400
Oct. 26, 1918 War Karma, Port Arthur Shipbuilding Co., Port Arthur, Ont. 3,400
Oct. 29, 1918--War Joy, Canadian Vickers, Ltd., Montreal 7,200
Dec. 18, 1918—War Convoy, J. Coughlan & Sons, Vancouver, B.C. 8,800
Dec. 22, 1918--War Hamilton, Polson Iron Works, Ltd., Toronto 3,500
Jan. 21, 1919—War Badger, British American Shipbuilding Co., Welland, Ont. 3,500
Feb. 8, 1919—War Timiskaming, Polson Iron Works, Ltd., Toronto 3,500
Mar. 3, 1919—War Leveret, Canadian Allis-Chalmers Ltd., Bridgeburg, Ont. 3,500
Mar. 15, 1919 War Cavalry, J. Coughlan and Sons, Vancouver, B.C... 8,800

Total 32 steel steamships 157,100

Wooden Steamships.

Dec. 28, 1917—War Songhee, Foundation Co., Victoria, B.C. 3,080
Jan. 4, 1918—War Nootka, Western Canada Shipyards, Vancouver, B.C... 3,080
Jan. 24, 1918—War Yukon, Cameron-Genoa Mills Shipbuilders, Ltd., Victoria, B.C. 3,080
Feb. 16, 1918—War Puget, Wm. Lyall Shipbuilding Co., Vancouver, B.C. 3,080
Mar. 6, 1918—War Selkirk, Western Canada Shipyards, Vancouver, B.C... 3,080
Apr. 10, 1918—War Caribou, Wm. Lyall Shipbuilding Co., Vancouver, B.C. 3,080
Apr. 11, 1918—War Comox, New Westminster Construction & Engineering Co. , New Westminster, B.C. 3,080
Apr. 11, 1918—War Masset, Foundation Co., Victoria, B.C. 3,080
Apr. 13, 1918—War Tyee, Pacific Construction Co., Coquitlam, B.C.... 3,080
Apr. 25, 1918—War Haida, Cameron-Genoa Mills, Victoria, B.C. 3,080
Apr. 27, 1918—War Cayuse, Wm. Lyall Shipbuilding Co., Vancouver, B.C. 3,080
May 11, 1918—War Mohawk, Quinlan & Robertson, Ltd., Quebec, Que..... 3,080
May 11, 1918—War Sioux, Port Arthur Dredging Co., Port Arthur, Ont. 3,080
May 21, 1918—War Atlin, Wm, Lyall Shipbuilding Co., Vancouver, B.C. 3,080
May 23, 1918—War Tatla, Western Canada Shipyards, Ltd., Vancouver, B.C. 3,080
June 12, 1918—War Skeena, Cameron-Genoa Mills Shipbuilders, Ltd., Victoria, B.C. 3,080
June 13, 1918—War Seneca, Quinlan & Robertson, Quebec, Que. 3,080
June 14, 1918—War Edensaw, New Westminster Construction & Engineering Co., B.C. 3,080
June 15, 1918—War Babine, Foundation Co., Victoria, B.C. 3,080
June 24, 1918—War Nicola, Wm. Lyall Shipbuilding Co., Vancouver, B.C. 3,080
June 28, 1918—War Quebec, Quebec Shipbuilding & Repairing Co., Quebec, Que. 3,080
June 29, 1918—War Ontario, Toronto Shipbuilding Co., Toronto 3,080
July 5, 1918—War Huron, Fraser, Brace & Co., Montreal 3,080
July 5, 1918—War Erie, Fraser, Brace & Co., Montreal 3,080
July 6, 1918—War Casco, Western Canada Shipyards, Ltd., Vancouver, B.C. 3,080
July 12, 1918—War Sumas, Pacific Construction Co., Port Coquitlam, B.C. 3,080
July 24, 1918—War Suquash, Wm. Lyall Shipbuilding Co., Vancouver, B.C. 3,080
July 27, 1918—War Gaspe, Quinlan & Robertson, Quebec, Que. 3,080
July 27, 1918—War Ottawa, Fraser, Brace & Co., Montreal 3,080
Aug. 5, 1918—War Chilkat, Western Canada Shipyards, Vancouver, B.C... 3,080
July 29, 1918—War Stikine, Cameron-Genoa Mills Shipbuilders, Victoria, B.C. 3,080
Aug. 22, 1918—War Tanoo, Western Canada Shipyards, Vancouver, B.C... 3,080
Aug. 24, 1918—War Fundy, Grant & Horne, St. John, N.B. 3,080
Aug. 26, 1918—War Kitimat, New Westminster Construction & Engineering Co., New Westminster, B.C. 3,080
Aug. 31, 1918—War Camchin, Foundation Co., Victoria, B.C. 3,080
Sept. 7, 1918—War Sorel, Quebec Shipbuilding & Repair Co., Quebec.... 3,080
Sept. 8, 1918—War Nanoose, Foundation Co., Victoria, B.C. 3,080
Sept. 19, 1918—War Niagara, Fraser, Brace & Co., Montreal 3,080
Sept. 21, 1918—War Halifax, Southern Sal-

vage Co., Liverpool, N.S. 3,080
Sept. 22, 1918—War Nipigon, Great Lakes Dredging Co., Port Arthur, Ont. 3,080
Sept. 23, 1918—War Matane, Quinlan & Robertson, Quebec, Que. 3,080
Sept. 26, 1918—War Ewen, New Westminster Construction & Engineering Co., New Westminster, B.C. 3,080
Oct. 15, 1918 War Mingan, Three Rivers Shipyards, Ltd., Three Rivers, Que. 3,080
Oct. 26, 1918- War Toronto, Toronto Shipbuilding Co., Toronto 3,080
Nov. 2, 1918—War Radnor, Three Rivers Shipyards, Ltd., Three Rivers, Que. 3,080

Total, 45 wooden steamships 138,600

Aggregate deadweight tonnage of 32 steel and 45 wooden steamships launched, 295,700 tons.

Canadian Allis-Chalmers Ltd., Bridgeburg, Ont.—The first of the four steel cargo steamships which this company is building for the British Government, under orders from the Imperial Munitions Board, was launched, Mar. 3, and christened War Leveret. She is of steel, with single screw, single deck, with straight stem and semielliptic stern, classed 100 A1 at Lloyd's, and according to the British Board of Trade regulations relating to freight steamships. She has a deadweight capacity of 3,500 tons, and has the following dimensions:—length between perpendiculars 251 ft., beam moulded 43½ ft, depth moulded 23 ft. The main engine is of the vertical, direct acting, triple expansion, surface condensing type, with cylinders 20 x 33 x 54 x 40 in. stroke, developing 1,400 h.p., and supplied with steam by 2 Scotch marine, single end, return tubular boilers, 14 ft. diar., by 12 ft. long, for a working pressure of 120 lbs. It is expected that the second vessel will be launched during April, and named War Vixen. Two other vessels remain to be launched to complete the order. They will be named War Wallaby and War Wombat respectively.

J. Coughlan and Sons, Vancouver, B.C., launched on Mar. 15, the sixth of the 9 steel steamships of 8,800 tons d.w., to be built for the British Government, under orders from the Imperial Munitions Board. She was named War Cavalry. Three other vessels of the same type and capacity, are still to be built by this company, and will be named War Chariot, War Column and War Company, respectively.

The s.s. War Convoy underwent her trial trips, Mar. 17, maintaining an average speed of 12.50 knots over a 6 mile course.

Prince Rupert Drydock & Engineering Co. Ltd., Prince Rupert, B.C., which is operating the Grand Trunk Pacific Ry. drydock and shipbuilding plants there, and which has contracts from the Marine Department to build 2 steel cargo steamships 8,100 tons d.w. each, advises us that it expects to lay the keel of the first ship, department's contract 42, builders' yard no. 1, about May 15, and for the second ship, department's contract 43, builders' yard no. 2, about Oct. 15, the approximate launching dates being Oct. 1, 1919 and Feb. 1, 1920 respectively. The officers of the company are: Chairman of Board, Newman Erb, New York, N.Y.; President, John L. Mullen, Pittsburg, Pa.; Vice President, F. F. Schellenberg, Prince Rupert, B.C.; Treasurer, H. M. Wadden, New York, N.Y.; Secretary, H. B. Blanchard, New York, N.Y.; Superintendent of Drydock, J. H. Pillsbury, Prince Rupert, B.C.; The Vice President and Superintendent of Drydock will be in active charge of the shipbuilding.

United States Vessels Going Out by St. Lawrence.

Quebec, Que., press dispatch Mar. 25:—Capt. E. Hough, representing the U.S. Shipping Board, who arrived in Quebec recently, to superintend the business attending the arrival of a large fleet of steamships built during the winter on the Upper Lakes for the board, that are due to arrive here within the coming month en route to U.S. ocean ports, says that the ships built average 3,500 tons register, and will stop at Montreal and Quebec for any repairs that might be needed in consequence of their trip through the canals. These ships will come here with port cargoes for Montreal and Quebec, each carrying 1,200 tons of coal, and as the canals between Lake Erie and the St. Lawrence River will be opened by April 15 or thereabouts, it is anticipated that there will be a big rush of ships down the St. Lawrence.

Protecting Devices for Canal Lock Entrances.

At the Dominion Marine Association's recent annual meeting, as reported in Canadian Railway and Marine World for March, the question of the necessity of providing protecting devices, such as spring buffers, at entrances to canal locks, was discussed. A. A. Wright, A. E. Mathews, and the association's Counsel, F. King, were appointed a committee to take the question up again with the Railways and Canals Department. As Mr. Wright has been urging action in this connection for several years, we asked him, recently, for his views on the matter, in response to which he has favored us with the following memorandum:

"As you are doubtless aware, steel steamships, using the Welland and St. Lawrence Canals, receive a great deal of damage from canalling, and suffer in addition, serious delays on account of the entrances to the locks being of stone or concrete. Many of these require practically new bows after two or three years canalling, unless they tie up every time it is blowing hard and only lock through in fine weather, and even then, on account of cross currents at some of the entrances, they receive a great deal of damage.

"I have repeatedly pointed out, in past years, that this could be avoided, if a cluster of spring piles was driven in from 75 to 100 feet from the entrance to each lock, so that a steamship would get her bow entered, and be practically stopped in there, and be held straight, so that she could go into the lock without striking the stone piers, save all damage to the ship, and also make sure that the head or foot gate would never be carried away, because the ship would be compelled to stop when she got between the piles and she would not have to proceed under full speed, as now has to be done, to be sure to make the entrance at all, when it is blowing hard across the canal.

"Where the bottom is rock, so that it would be impracticable to drive piles, cribs could be sunk, the same width apart as the entrance to the canal, and timbers, with coil springs behind them, to take up the shock, could be fixed to the timbers, to ease the blow to the ship and avoid damage, the distance of the cribs or spring piles from the entrance to the lock to be anywhere from 100 ft. down, according to local conditions.

"Engineers engaged in the construction of canals have never attempted to place anything of this kind and do not seem eager to try it, but there is absolutely no question that the lack of these protectors at the entrances to locks is serious, and causes vessel owners a very heavy bill, because the rate of insurance on canalers is very much higher than on ships not using canals, and, in addition, a great deal of the damake is not chargeable against underwriters and has to be borne by the owners. I hope I have made the matter clear, and I trust that the Railways and Canals Department will take it up and as early as possible."

Steamships for Canadian Export Trade.

London, Eng., cablegram to Montreal Gazette.—The Canadian Trade Mission is making every effort to secure shipping for Canadian exports, both by increasing the number of vessels on existing routes and creating new routes. Shipping facilities are still inadequate for the world's trade, but there is every prospect that Canada will shortly receive more attention.

For the West Indies trade there are two lines, the Quebec Steamship Co., from New York, and the Royal Mail Steam Packet Co. from Halifax. The former company had 4 steamships in pre-war days, but one, the Trinidad, was requisitioned by the British Government. The company has purchased a much larger boat to replace the Trinidad. Ninety per cent. of the trade of this company is Canadian. The Royal Mail Co. is subsidized by the Canadian Government, and also has a direct line from Great Britain to the West Indies, subsidized by the Imperial Government. The proposition has been made that a joint service from Southampton via Halifax to the West Indies be subsidized by both governments. This does not meet with the approval of Canadians, who desire their own service, and fear that complications might arise in the division of space between British and Canadian exporters.

The Elder-Dempster Co. is arranging a direct service from Montreal and Halifax to Cape Town. This is much desired by both Canadians and South Africans, and will be the subject of a joint conference as soon as General Botha and Sir Robert Borden finish their Peace Conference work.

For the Mediterranean trade expected with Serbia, Roumania, and Greece it will be possible to secure Greek tonnage for a direct line from Montreal to Greece until Canadian tonnage is available.

Australia has announced the inception of a government owned and operated steamship line from England to Australia, beginning Mar. 21.

Wireless Restrictions Removed.—All censorship regulations restricting the use of wireless telegraphy to and from ships in the west Atlantic and in the Pacific, are now completely removed. All ships are now permitted to exchange wireless messages in plain language, code or cypher, anywhere in the Pacific, and west of long. 40 deg. west in the Atlantic, such messages may also be exchanged with Canadian commercial coast stations. British naval stations no longer accept messages on ships' business free of coast charges.

Canadian Government Merchant Marine, Ltd., Shipbuilding, Operation, Etc.

Canadian Voyageur in Service.—The s.s. Canadian Voyageur, 4,300 tons d.w., the first of the steel cargo steamships built for the Marine Department, which left Quebec, Que., Jan. 21, and arrived at Halifax, N.S., Feb. 4, was transferred there by the Department to the Canadian Government Merchant Marine Ltd., and was subsequently turned over to the Royal Mail Steam Packet Co., for a voyage to Barbadoes. After loading a cargo of flour, lumber and general merchandise, she left Halifax, Mar. 2, at 5.15 p.m., arriving at Barbadoes, Mar. 11 at 7 a.m. She then proceeded to Port of Spain, Trinidad, and Georgetown, Demerara, leaving the latter place Mar. 21, for Barbadoes, intending to leave there about Mar. 28, and to arrive in New York about Apr. 5, with a cargo of sugar, etc.

Steamship Management.—Canadian Railway and Marine World for March gave the names and addresses of the managing owners of the steel and wooden steamships built in Canada for the British Government, through the Imperial Munitions Board. We are advised by the Director of Ship Management Branch, Transport Department, Ministry of Shipping, London, Eng., that the general terms of management of these steamships are that the details of managing owners are carried out by actual ship owners, under the instructions of the Ministry of Shipping as regards voyages.

Contracts Signed.—Since Canadian Railway and Marine World for March was published, the following additional contracts between the Marine Department and the Port Arthur Shipbuilding Co. were signed on Mar. 1. Department's contracts 19A and 20A, builders' yard nos. 41 and 42, two steel cargo steamships, 3,400 tons d.w. each; department's contracts 32 and 33, builders' yard nos. 43 and 44, two steel cargo steamships, 4,300 tons d.w. each.

Names of Ships.—Since Canadian Railway and Marine World for March was published, the following additional names for steel cargo steamships to be operated by Canadian Government Merchant Marine Ltd., have been decided on by the Marine Department. Canadian Aviator, Canadian Scout, Canadian Trader, Canadian Sailor, Canadian Navigator, Canadian Seigneur, Canadian Miller, Canadian Spinner, Canadian Planter, Canadian Beaver. Particulars showing the builders' name in each case, the department contract number, and the builders' yard number, are given in the full page table, "Orders for steel cargo steamships for Canadian Government Merchant Marine, Ltd.", on another page of this issue.

Prevention of Profiteering.—The acting Minister of Marine, in answering a question in the House of Commons recently, as to what steps the government had taken to prevent profiteering in the building of steel cargo steamships, and to ascertain the total cost of labor for construction, the total cost of material used, total overhead expenses, gross tonnage and net profit respectively, said: "By inspection, in order to determine if the specifications are being adhered to. All steel materials are purchased by the Marine Department. All other sub-contracts let by builders are submitted to the department for approval, wherever possible, being confined to the Dominion. The total cost of labor for each branch and the total cost of material entering into construction is estimated by the technical officers of the department before contracts are awarded. To the above is added overhead charges of the various firms, in some cases estimated, in others known from audited returns, to which is added approximately 10% for profit. Extra allowances are made for British Columbia districts, where labor and other conditions differ from conditions in Eastern Canada."

British American Shipbuilding Co.—Welland, Ont., which has contracts from the Marine Department for 2 steel steamships of 4,350 tons d.w. each, advised us March 13 that it was waiting for steel, but expected to lay the keel for department's contract 44, builders' yard no. 4, within a fortnight. The keel for department's contract 45, builders' yard no. 5, will not be laid until the launching of builders' yard no. 3, the s.s. War Racoon, 3,500 tons d.w., which the company is building for the British Government. This launching is expected to take place about the end of April.

Halifax Shipyards Ltd., which has contracts from the Marine Department for 2 steel cargo steamships of 8,100 tons each, and for 2 of 10,500 tons each, laid the keel for contract 21, builders' yard no. 1, of 8,100 tons, Feb. 24, and for contract 22, builders yard no. 2, of 8,100 tons, March 15, if the keel plates were received in time. The concrete foundations for the company's power plant building were being poured at the end of February, and the erection of the steel frame work was to start on March 6. The concrete foundations for the plate shop, 600 x 75 ft., were also being poured at the end of February, and it was expected to start the erection of the steel work about March 15. The erection of the air compressor and stores building was expected to be started during March. We were advised recently that it was impossible to state the launching dates for any of the vessels ordered, but that the company expected to fulfill its contracts in this regard, although some allowance may have to be made for the fact that it did not receive steel in time to lay the first keel in the middle of December, when the building berth was ready for it.

Harbor and Marine Co. Ltd.—Victoria, B.C., which is constructing a shipbuilding plant, to carry out the contract for 2 steel cargo steamships of 8,100 tons each for Canadian Government Merchant Marine Ltd., given to the Victoria Machinery Depot, Ltd., is reported to have awarded a contract to S. Cameron for the erection of a plate shop at Hospital Point. Building operations were expected to commence during March.

British Government Shipbuilding.—In reply to a question in the British House of Commons, recently, it was announced that the government, after full consideration, had decided not to retain the shipyards which it had built during war pressure as government undertakings, provided they could be disposed of on fair terms.

United States Merchant Ship-Building Statistics.

The total merchant shipping built in the U.S., including shipping for foreign nations, and officially numbered by the Commerce Department's Navigation Bureau, during 1918, was as follows:

	No.	Gross tonnage
Seagoing steel ships	460	1,861,321
Seagoing wooden ships	361	735,705
Total	821	2,597,026
Non-seagoing ships	1,061	124,255
Grand total	1,882	2,721,281

..**St. John, N.B., Harbor Work.**—Satisfactory progress is reported to have been made on the excavation of the dry dock at Courtenay Bay, and also on the construction of the breakwater. During the early part of March, three steam shovels were at work, and it was expected that another would be on the job later in the month. The hydraulic dredge No. 3, and the steam hopper barge Piper, have been taken over from the North Griffiths Construction Co., the former contractors, and the former, which is a 22 in. hydraulic pipe line discharge dredge, is being repaired, with new boilers, and being thoroughly overhauled preparatory to proceeding with the dredging work. The Piper has a capacity of 500 cu. yd. The general contractor for the whole work is the St. John Dry Dock and Shipbuilding Co., and the subcontractor, the Bedford Construction Co.

The White Star Line's war record is one on which the company has every reason to be proud. More than 300 of its vessel officers were attached to the Navy throughout the war and 36 decorations have been conferred on them, while praise is due to the men of lower ratings, whose courage, fidelity and skilled work fully matched the officers', thus making possible the regular crossing of the oceans with cargoes of munitions and food. Of the fleet, 9 large steamships, totalling 146,145 tons, were sunk by the enemy. During the war, the passenger vessels were used for carrying oil, in the deep tanks, a total of 88,000 tons being so carried, for which, the company received the Admiralty's thanks.

C. G. S. Canada.—The acting Minister of Marine, in answering a question in the House of Commons recently, said that the C.G.S. Canada had been employed in the Naval Service Department's work since the outbreak of war, refit repairs having cost as follows: 1914, nil; 1915-16, $14,435.63; 1916-17, $13,283.12; 1917-18, $30,572.53; 1918-19, $6,122.12. The vessel is able to carry out long steaming periods at moderate speed, and is at present due for refit, and cannot carry out long steaming periods at maximum speed.

Purchase of H.M.C.S. Mildred McColl.—The acting Minister of Marine, in answering a question in the House of H.M.C.S. Mildred McColl was bought by the government during the war, from the Canadian Sardine Co., for $4,000, and was used by the Naval Service Department, as a dispatch boat, in Halifax harbor. She was under repairs from Sept. 4 to Dec. 14, 1918, being delayed by waiting for new parts for the engine. The refit repairs cost in 1916-17, $762.87, and in 1917-18, $721.27

Orders for Steel Cargo Steamships for Canadian Government Merchant Marine Ltd.

The following is a complete list of steel cargo steamships whic the Dominion Marine Department has been authorized, by order in council, to place orders for, and which orders are to be carried out. Where a contract date is not given the contract had not been signed a the time of our latest official advice.

The following contractions are used in the column giving the type of the vessels to be built:—s.d., single deck; 2.d., two deck; 3.d., three deck; lake, lake type; p., poop; b., bridge; f'c's'le, forecastle.

Con-tract no.	Contract date	Builder	Yard no.	Tons d.w.	Price per ton d.w.	Total price	Type	Classifi-cation	Speed, knots	Approximate delivery date	Keel laid	Launched	Name
1	Mar. 4, 1918	Canadian Vickers Ltd., Montreal	66	4,300	$207.	$ 890,100	S.d., p., b. and f'c's'le......	Lloyd's	11	Dec. 31, 1918	June 10, 1918	Nov. 23, 1918	Canadian Voyageur
2	May 22, 1918	" "	67	8,100	180.	1,458,000	2.d., p., b. and f'c's'le......	"	11	Jan. 31, 1918	July 17, 1918	Dec. 3, 1918	Canadian Pioneer
3	May 18, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	61	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	May 1, 1919	....	Dec. 21, 1918	Canadian Warrior
4	Mar. 15, 1918	Wallace Shipyards Ltd., Vancouver, B.C.	100	4,300	207.	890,100	S.d., p., b. and f'c's'le......	Lloyd's	11	Mar. 31, 1919	Oct. 1, 1918	....	Canadian Volunteer
5	Nov. 25, 1918	" "	106	4,300	217.	933,100	S.d., p., b. and f'c's'le......	"	11	May 31, 1919	Nov. 15, 1918	....	Canadian Trooper
6	Nov. 25, 1918	" "	101	5,100	210.	1,071,000	S.d., p., b. and f'c's'le......	"	11	July 31, 1919	....	....	....
7	Nov. 25, 1918	" "	102	5,100	210.	1,071,000	S.d., p., b. and f'c's'le......	"	11	Sept. 30, 1919	....	....	....
10	July 5, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	62	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	May 15, 1919	June 3, 1918	....	Canadian Recruit
11	Oct. 17, 1918	" "	63	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 15, 1919	....	....	Canadian Signaller
12	Oct. 17, 1918	" "	64	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	....	....	Canadian Gunner
13	Aug. 9, 1918	Tidewater Shipbuilders Ltd., Three Rivers, Que.	5	5,100	200.	1,020,000	S.d., p., b. and f'c's'le......	Lloyd's	11	Aug. 1, 1919	Jan. 8, 1919	....	....
14	Aug. 9, 1918	" "	6	5,100	200.	1,020,000	S.d., p., b. and f'c's'le......	"	11	Sept. 1, 1919	Jan. 10, 1919	....	....
15	Jan. 24, 1919	" "	7	5,100	200.	1,020,000	S.d., p., b. and f'c's'le......	"	11	Nov. 15, 1919	....	....	....
16	Jan. 24, 1919	" "	8	5,100	200.	1,020,000	S.d., p., b. and f'c's'le......	"	11	May 15, 1920	....	....	....
17	Sept. 4, 1918	Davie Shipbuilding & Repairing Co., Lauzon, Que.	459	5,100	200.	1,020,000	S.d., p., b. and f'c's'le......	"	11	Nov. 1, 1919	....	....	....
18	Sept. 4, 1918	" "	460	5,100	200.	1,020,000	S.d., p., b. and f'c's'le......	"	11	Nov. 8, 1919	....	....	....
19	Sept. 4, 1918	Port Arthur Shipbuilding Co., Port Arthur, Ont.	39	3,400	205.	697,000	Lake, s.d., p., b. and f'c's'le	"	9	June 1, 1919	Dec. 9, 1918	....	....
19a	Mar. 1, 1919	" "	41	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Sept. 30, 1919	....	....	....
20	Sept. 4, 1918	" "	40	3,400	205.	697,000	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	Dec. 10, 1918	....	....
20a	Mar. 1, 1919	" "	42	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Oct. 31, 1919	....	....	....
21	Sept. 13, 1918	Halifax Shipyards, Ltd., Halifax, N.S.	1	8,100	195.	1,579,500	2.d., p., b. and f'c's'le......	"	10	Dec. 19, 1919	Feb. 24, 1919	....	....
22	Sept. 13, 1918	" "	2	8,100	195.	1,579,500	2.d., p., b. and f'c's'le......	"	10	Apr. 1920	....	....	....
23	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	73	4,300	215.	924,500	S.d., p., b. and f'c's'le......	"	11	May 27, 1919	....	....	Canadian Navigator
24	Oct. 11, 1918	" "	68	8,100	188.	1,522,800	2.d., p., b. and f'c's'le......	"	11	May 1, 1919	Aug. 26, 1918	....	Canadian Ranger
25	Oct. 11, 1918	" "	69	8,100	188.	1,522,800	2.d., p., b. and f'c's'le......	"	11	June 1, 1919	Nov. 30, 1918	....	Canadian Seigneur
26	Oct. 11, 1918	" "	70	8,100	188.	1,522,800	2.d., p., b. and f'c's'le......	"	11	July 1, 1919	Dec. 2, 1918	....	Canadian Miller
27	Oct. 11, 1918	" "	71	8,100	188.	1,522,800	2.d., p., b. and f'c's'le......	"	11	Aug. 1, 1919	....	....	Canadian Spinner
28	Oct. 11, 1918	" "	72	8,100	188.	1,522,800	2.d., p., b. and f'c's'le......	"	11	Sept. 1, 1919	....	....	Canadian Planter
29	Jan. 24, 1919	Victoria Machinery Depot, Victoria, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le......	"	11	Jan. 31, 1920	....	....	....
30	Jan. 24, 1919	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le......	"	11	Nov. 30, 1920	....	....	....
31	Dec. 11, 1918	Collingwood Shipbuilding Co., Kingston, Ont.	15	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	Nov. 1, 1919	....	....	Canadian Beaver
32	Mar. 1, 1919	Port Arthur Shipbuilding Co., Port Arthur, Ont.	43	4,350	215.	935,250	S.d., p., b. and f'c's'le......	Lloyd's	10½	Nov. 1, 1919	....	....	....
33	Mar. 1, 1919	" "	44	4,350	215.	935,250	S.d., p., b. and f'c's'le......	"	10½	Nov. 15, 1919	....	....	....
34	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	11	8,100	198.	1,603,800	2.d., p., b. and f'c's'le......	"	11	July 31, 1919	....	....	....
35	Nov. 22, 1918	" "	12	8,100	198.	1,603,800	2.d., p., b. and f'c's'le......	"	11	Aug. 31, 1919	....	....	....
36	Nov. 22, 1918	" "	13	8,100	198.	1,603,800	2.d., p., b. and f'c's'le......	"	11	Sept. 30, 1919	....	....	....
37	Nov. 22, 1918	" "	14	8,100	198.	1,603,800	2.d., p., b. and f'c's'le......	"	11	Oct. 31, 1919	....	....	....
38	Dec. 10, 1918	Halifax Shipyards Ltd., Halifax, N.S.	3	10,500	197½	2,073,750	3.d., p., b. and f'c's'l'e.......	"	12	Aug. 1, 1920	....	....	....
39	Dec. 10, 1918	" "	4	10,500	197½	2,073,750	3.d., p., b. and f'c's'l'e.......	"	12	Nov. 1, 1920	....	....	....
40		Nova Scotia Steel & Coal Co., New Glasgow, N.S.	5	2,800	210.	588,000	S.d., p., b. and f'c's'le......	"	8½	Oct. 1919	....	....	....
41		" "	6	2,800	210.	588,000	S.d., p., b. and f'c's'le......	"	8½	Nov. 1919	....	....	....
42	Feb. 21, 1919	Prince Rupert Dry Dock and Engineering Co., Prince Rupert, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le......	"	11	Feb. 1920	....	....	....
43	Feb. 21, 1919	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le......	"	11	June 1920	....	....	....
44	Jan. 22, 1919	British American Shipbuilding Co., Welland, Ont.	4	4,350	215.	935,250	S.d., p., b. and f'c's'le......	Brit. Corp.	10	Nov. 1919	....	....	....
45	Jan. 22, 1919	" "	5	4,350	215.	935,250	S.d., p., b. and f'c's'le......	"	10	June 1920	....	....	....
				263,850		$52,691,450							

Mainly About Marine People.

Capt. Andrew H. Allen, formerly General Assistant, H. & A. Allan, agents, Allan Line Steamship Co., and latterly in active service in the 245th Battalion, B.E.F., has been appointed Freight Manager for Great Britain and the European Continent, Canadian Pacific Ocean Services Ltd., London, Eng.

Capt. E. Anderson, who was, for about 35 years, in service with the old Beatty Line, on the Great Lakes, which was later incorporated with the C.P.R. Great Lakes Steamship Service, and also with the Northern Navigation Co., died at Sarnia, Ont., Mar. 15, as the result of a stroke. He retired from active service about two years ago.

Hon. C. C. Ballantyne, M.P., Minister of Marine, and of the Naval Service, was sufficiently recovered from his operation, and subsequent illness, to leave the Royal Victoria Hospital, Montreal, Feb. 22. After resting at his house in Montreal, he left there March 10 for Atlantic City, N.J., expecting to remain about three weeks and then to return to Ottawa.

G. M. Bosworth, Chairman, Canadian Pacific Ocean Services Ltd., and Mrs. Bosworth, visited Virginia Hot Springs early in March. They are expected to sail for England by the s.s Grampian, on April 25.

Duncan Cameron, formerly in C.P.R. service and latterly with Dodwell and Co., agents (Blue Funnel Line), Vancouver, has been appointed their manager, there, vice H. B. Davenport, transferred to the company's head office at Seattle, Wash.

Jas. Carruthers ,ex President, Canada Steamship Lines Ltd., returned to Montreal Mar. 3, from a trip to the Pacific Coast.

George C. Dew, who has been appointed Asiatic Freight Agent, Canadian Pacific Ocean Services Ltd., Montreal, was born at Toronto, Aug. 9, 1886, and entered transportation service in Mar., 1907, as stenographer to Assistant Freight Traffic Manager, C.P.R., Toronto, and later, on the removal of that office, at Montreal, and in Jan., 1909, he was transferred to the Traffic Vice President's office, where he was successively, secretary, clerk, and chief clerk,.until 1914, when he was appointed Contracting Freight Agent, Asiatic and Australian Freight Traffic, and in Jan., 1917, he was appointed Asiatic Freight Agent, which position he held until his transfer to Canadian Pacific Ocean Services Ltd., Mar. 1.

Leonard C. Hanna, for many years active head of M. A. Hanna and Co., owners of one of the largest fleets on the Great Lakes, died recently at Cleveland, Ohio.

Alex. Johnston, Deputy Minister of Marine, left Ottawa, March 5, with Thos. Ahearn, President, Ottawa Electric Ry., to spend some weeks at Coronada Beach, Cal.

Mrs. C. Gardner Johnson, wife of Lloyd's Agent at Vancouver, B.C., expects to leave there early in April, for an extended visit to England.

Capt. H. St. George Lindsay will, according to an Ottawa press dispatch, resume his position as General Superintendent, River St. Lawrence Pilotage, at Quebec, shortly. During the early part of the war, he was acting under the Militia Department in connection with transport matters, and as a result of the enquiry into the Halifax pilotage commission, subsequent to the disastrous explosion of Dec. 1917, he was appointed Superintendent of Pilotage at Halifax, N.S.

William Thomas Marlow, who has been appointed General Sreight Agent, Canadian Pacific Ocean Services, Ltd., Montreal, was born at Limerick, Ireland, Oct. 25, 1872, and entered transportation service in Sept., 1886, since when he has been to Apr., 1888, junior in dispatcher's office, C.P.R., Toronto; May, 1888, to Mar., 1889, junior clerk, Assistant Superintendent's office, C.P.R., Toronto; Mar., 1889, to Feb., 1896, clerk, Assistant Freight Traffic Manager's office, C.P.R., Toronto; Feb. 1896, to Mar. 1897, chief tariff clerk, C.P.R., Montreal; Mar. 1897 to Nov. 1902, clerk, General Freight Agent's office, C.P.R., Hong Kong, China; Apr. 1903 to Mar. 1904, Assistant to Foreign Freight Agent, C.P.R., Montreal; Mar. 1904 to Aug. 1914, Import Freight Agent, C.P.R., Montreal; Aug. 1914 to Sept. 1918, Assistant Director, Overseas Transport, Dominion Government, Montreal; Sept. 1918 to Mar. 1919, Deputy Director General, British Ministry of Shipping (Canada), Montreal.

Lieut.-Col. Bartlett McLennan, D.S.O., formerly President, Montreal Transportation Co., who was killed in France, Aug. 3, 1918, left an estate of $903,593. Among his bequests was one of $5,000 to L. L. Henderson, Managing Director, Montreal Transportation Co.

Brevet Col. G. Patterson Murphy, C.M.G., of the Canadian Army Service Corps, and President, Ottawa Transportation Co., left Ottawa, early in March, with Mrs. Murphy, to spend a few weeks at Atlantic City, N.J.

H. M. Perry, Purchasing Agent, Shipbuilding Department, Imperial Munitions Board, did not remove from Ottawa to Montreal, with the other officials of the department recently. He is now with the Imperial Munitions Board in Toronto, attending to various matters in connection with its liquidation.

S. I. Preston, Agent for Lloyd's Register, at Quebec, Que., sincce Nov., 1918, has been transferred to Kobe, Japan, and sailed from New York, Mar. 15, to take up his new duties. Until another appointment is made, the work is being undertaken by the Montreal Agency.

Capt. A. H. Reed, harbor master at Vancouver, B.C., who has been on active service with the Royal Navy, since about the commencement of the war, has returned to Canada. During his war service he was in charge of one of, what were known as, the Q boats, dealing with enemy submarines.

Senator H. W. Richardson, President, Great Lakes Transportation Co., who died at Kingston, Ont., some months ago, left $100,000 for hospital buildings, or assisting hospital work for consumptives; also $5,000 to the Kingston Orphans Home, for building purposes.

Guy D. Robinson, who has been appointed European Freight Agent, Canadian Pacific Ocean Services Ltd., Montreal, was born at St. John, N.B., Dec. 7, 1877, and entered transportation service in Nov. 1895, since when he has been, to Aug. 1907, junior clerk, Travelling Freight Agent and chief clerk to General Freight Agent, C.P.R., St. John, N.B.; Aug. 1907 to Jan. 1909, chief clerk, General Foreign Freight Agent's office, C.P.R., Montreal; Jan. 1909 to May 1915, Assistant Export and Import Freight Agent, C.P.R., Toronto; May 1915 to May 1917, Export Freight Agent, C.P.R., Montreal; May 1917 to May 1918, in chrage of grain transports, Overseas Transport Department, Dominion Government, Montreal; May to Sept. 1918, in charge of ocean steamships, Overseas Transport Department, Dominion Government, Montreal; Sept. 1918 to Mar. 1919, director, ocean steamship department, British Ministry of Shipping (Canada), Montreal.

H. B. Smith, of Owen Sound, Ont., President, Collingwood Shipbuilding Co., has been spending a short holiday in Florida.

Mrs. Steedman, wife of J. A. Steedman, one of the directors of Canada Steamship Lines, died suddenly at Hamilton, Ont., Mar. 25.

J. W. Troup, Manager, British Columbia Coast Service, C.P.R., Victoria, who suffered a breakdown in health late in February, is in California, and is expected to be away for some time. During his absence, Capt. C. D. Neroutsos is acting as Manager at Victoria, James McGowan at Vancouver, and Capt. P. J. Hickey as Marine Superintendent.

Lorne C. Webster, President, Webster Steamship Co., and Mrs. Webster, left Montreal, early in March, for Old Point Comfort, Va.

Canadian Trawlers in War Service.—The acting Minister of Marine, in answering a question in the House of Commons recently, said that 12 Canadian trawlers were in the Naval Service Department's service during the period of the war. Of these, six, Messines, Ypres, Vimy, St. Julien, St. Eloi and Festubert, were built by Polson Iron Works, Toronto, at a cost of $176,194.65. The cost of refits were as follows: Festubert, $3,987.92; Messines, $5,373.83; St. Eloi, $3,987.70; St. Julien, $3,960.34; Vimy, $3,869.95; Ypres, $5,706.58. They have not at all times been ready for patrol service. In 1918 certain repairs were necessary to them, the carrying out of which was protracted, due to the scarcity of labor prevailing at that time. The repairs were due in part to the Halifax disaster of Dec. 6, 1917. Since repairs were completed the vessels were brought forward for service. A log of each trawler can be obtained, showing the number of hours they did at sea.

Purchase of H.M.C.S. Stadacona.—The acting Minister of Marine, in answering a question in the House of Commons recently, said that the H.M.S. Stadacona was bought by the government, during the war, from J. H. Ladew, for $70,000, and was employed in connection with naval service work. The refit repairs since her purchase by the Government were as follows: Refittings, $39,025.14; 1915-16, $7,529.57; 1916-17, $11,262.57; 1917-18, $17,844.01; 1918-19, $7,465.67.

Chartering of s.s Prince George.—The acting Minister of Marine, in answering a question in the House of Commons recently, said that the Naval Service Department chartered the s.s. Prince George from Aug. 8 to Sept. 23, 1914, from the Grand Trunk Pacific Ry., at $500 a day, for use as a hospital ship on the Pacific Coast. The total cost was $47,569.52; viz: charter, $23,500; refit repairs, $5,467.15; other expenses, $18,602.37.

The Canadian Naval Service's Part in the War.

The following is taken from "Canada's Part in the Great War," a booklet issued by the Dominion Government recently:—

Cruisers.—At the outbreak of war in 1914 the Canadian Government possessed only 2 naval vessels, the Niobe, a cruiser of 11,000 tons displacement, with a main armament of sixteen 6-in. guns, stationed at Halifax, N.S., and the Rainbow, a small cruiser of 3,600 tons displacement, armed with two 6-in., six 4.7 in., and four 12-pounder guns, stationed at Esquimalt, B.C. The Rainbow, which was ready for sea, patrolled, with other ships on the Pacific station, as far south as Panama, and captured several ships carrying contraband of war. After the entry of the United States into the war, she became depot ship on the Pacific coast. The Niobe was made ready for sea in Sept. 1914, and remained in commission one year, during which she steamed 30,000 miles on patrol duty. She afterwards became depot ship at Halifax.

Smaller Vessels.—At the beginning of hostilities, various small craft were taken over by the Naval Department from the Marine and Customs Department, and were armed and manned from the R.C.N.V.R. for the performance of patrol dutis off the Atlantic coast. Two submarines, which were bought just befor the declaration of war, patrolled the approaches to Victoria and Vancouver, and helped in keeping Admiral von Spee's squadron away from the Pacific ports. H.M. sloop Shearwater was taken into the Canadian service, as mother ship to these submarines, and, in the summer of 1917, these three vessels went, by way of the Panama canal, to Halifax.

Trawlers and Drifters.—A patrol and mine-sweeping service has been carried on since the outbreak of war. The vessels used at first were government and private vessels, which were taken over and equipped for the purpose. Some of these were placed at the Government's disposal free of charge. Early in 1917 the Naval Service Department undertook to have 60 trawlers and 100 drifters built in Canada for the Imperial Government. They were built at various places on the St. Lawrence and the Great Lakes; many of them were in service, in Canadian and European waters in 1917, and all were in service in 1918. The area patrolled under the department stretched from the Straits of Belle Isle to the Bay of Fundy, and from Quebec to east of the Virgin Rocks. Within this area the department had control of patrols, convoys, mine-sweeping, the protection of fishing fleets, etc., Only one large vessel was lost by enemy attack in this area. At the date of the armistice the vessels in the Canadian Naval Service were as follows:—

On the Pacific.—H.M.C.S. Rainbow, depot and training ship; H.M.C.S. Shearwater, submarine depot ship, and 2 submarines; H.M.C.S. Grilse, torpedo-boat destroyer; 9 auxiliary patrol ships, 47 armed trawlers, 58 armed drifters, 11 armed mine-sweepers and tugs, and a large flotilla of motor launches.

The crews of these vessels consisted of men from all parts of Canada, principally members of the Royal Canadian Naval Volunteer Reserve. At the date of the armistice the personnel of the service was:—Officers and men of Royal Canadian Navy, 749; Officers and men of Royal Canadian Naval Volunteer Reserve, 4,374.

Naval College.—Canada is fortunate in the possession of a small but excellent Naval College. More than 50 officers, who passed out of the college as cadets, are serving in either the Imperial or Canadian navy. Many of them have gained distinction, and four lost their lives in the battle of Coronel.

Canadians in Imperial Naval Forces.—In addition to the men serving on Canadian vessels, over 1,700 have been recruited in Canada for the Imperial Navy, and are on service in European waters; 73 surgeon probationers and a number of hydrographic survey officers have been sent from Canada and 580 Canadians were enrolled as probationary flight lieutenants in the Royal Naval Air Service, before recruiting for the Royal Air Force began in Canada. More than 500 Canadians holding commissions in the Royal Naval Volunteer Reserve are in the British Auxiliary Patrol and similar services.

The Royal Canadian Naval Air Service was established in the summer of 1918, with stations at Halifax and North Sydney. It has co-operated with the United States Naval Aviation Corps in patrolling the coast and escorting convoys through the danger zone.

The Canadian Radiotelegraph Service controls about 200 stations ashore and afloat. Several new stations have been erected or taken over by the Naval Service Department, and there is now an unbroken chain of radio communication from St. John's, Newfoundland, to Demerara. The department opened a training school for wireless operators, from which about 200 men have been sent out for service in all parts of the world.

Dockyards.—Important refitting, repairing, and supply work has been done by Canadian dockyards. Large refits of Imperial and other ships were made at Esquimalt, including H.M.S. Kent, after the battle of the Falkland Islands, and the Japanse battleship Asama, after grounding on the coast of lower California. Several large cruisers were refitted at Halifax and Montreal. Other work included the defensive armament of merchant ships, the refitting of transports for troops, horses, and special cargo, and the loading and securing on ships' decks of 600 launches, tugs, etc., of large size. The Halifax dockyard was seriously damaged by the explosion in the harbor on Dec. 6, 1917, but immediate steps were taken to enable the services of the yard to be carried on.

Stores.—The Canadian Naval Service provided supplies for the ships of the Royal Canadian Navy and for a number of Imperial and allied ships in Canadian waters, as well as many of the requirements of H.M. dockyards at Bermuda and Hong Kong. Large supplies were shipped from Halifax dockyard for provisioning the fleets in European waters. A large coaling depot was established at Sydney, N.S., for the use of patrolling vessels and of all convoys leaving the St. Lawrence.

The growth of the Naval Service since the outbreak of war is shown by the increase in the quantites of stores purchased in the last three fiscal years:—

1915-16	$ 2,500,000
1916-17	7,500,000
1917-18	10,000,000

Overseas Transport. By arrangement with the Admiralty and the British Ministry of Shipping, the Director of Overseas Transport appointed by the Canadian Government controlled the inland traffic, by rail or otherwise, in food supplies and munitions for transport overseas, the reception and storage at ports of shipment, the allocation of cargo and its stowage on board the ships. The average monthly export was: in 1915, 50,000 tons; in 1916, 170,000 tons; in 1917, 331,000 tons; and in 1918 (to Dec. 1), 387,000 tons. From Jan. 1, 1915, to Dec. 1, 1918, over 11,250,000 tons of freight was shipped.

Shipbuilding.—The Naval Service had the following vessels built for various governments during the war:

For Imperial Government.—Twelve submarines, 60 armed trawlers, 100 armed drifters, 550 coastal patrol motor boats, and 24 steel lighters for use in Mesopotamia, which were shipped in sections.

For French Government.—Six armed trawlers and 36 coastal patrol motor boats.

For Italian Government.—Six submarines.

For Russian Government.—One large armed icebreaker and some submarines.

German Warships Suggested for Hudson Bay Commercial Service.

M. Taylor, of Hamilton, wrote recently, as follows:—I note a news dispatch from London, concerning a suggestion for the conversion of some of the German warships into refrigerator meat carriers for the Australian meat trade. It has occurred to me that some of these vessels might be usefully adapted and employed in Canada for the grain trade in Hudson Bay with some structural alterations.

The writer, who is a civil engineer, and whose specialty is harbor work, made the trip to and from Hudson Bay by water in 1912, spending 11 days in the ice on the way up, about the end of June, and returning in November, which gave an opportunity to note navigation conditions in Hudson Bay and Strait at both ends of the open season.

I would propose removing the guns and gun turrets, and heavy deck and other unnecessary equipment, both internal and external, and also the removal of the heavy side and deck armor plate, and its replacement by say 2 in. plate on the sides. Structurally the ships are built very strongly to resist gun shock, and the bottoms are double. They have also very high engine power, and their rudders and propellers are protected, having what is known as the cruiser type of stern, which would protect them from the ice. They are oil burners, which increases the space available for cargo. The removal of the crew's quarters, ammunition space, etc., and the consequent general lightening up of the vessel by the removal of dead weight, which is unnecessary if they should be used for commercial purposes, would increase their cargo carrying capacity. A vessel of 25,000 tons should, if thus remodeled, carry a large amount of grain. Traveling at low speed they could be operated economically.

With their heavy engine power, they would be able to act as self icebreakers and fight their way through any ice floes, and their heavy build would protect them against ice shoves. Beyond the cost of remodeling them, the capital expenditure on them would be nothing, and this would make it economically possible to lay them up during the winter with just enough crew to care for them, and consequently there would be no overhead expense in the winter.

This is the great argument against the construction of special vessels for use in Hudson Bay, it being claimed that vessels of sufficient strength to use that route under ice conditions could not be used economically on other routes in winter, and would have to be laid up, with consequent loss of earnings to their owners.

A dozen of such converted vessels would move an enormous quantity of grain from the terminal elevator at Port Nelson in the open season in Hudson Strait. Ordinary ice breakers would be comparatively useless in Hudson Strait, as the currents carry the ice about in all directions and soon block up the small channel which such a vessel makes in order to assist other vessels through the ice.

Each vessel must be able to force its own way through the ice when necessary, especially at the beginning of the open season.

I am writing this in order to give the idea publicity and so as to invite criticism. It certainly seems a tremendous economic waste if these vessels cannot be used to advantage somewhere, and this might be a possible means of solving the embarassing question of how to get rid of them without scrapping them or retaining them for their present use.

Electric Welding in Shipbuilding.

Electric welding in connection with the building of steel ships by the U.S. Government was discussed at some length recently by C. A. Adams, President, American Institute of Electrical Engineers. Both the processes of spot welding and arc and electric welding are applied to shipbuilding. A committee appointed by the A. I. E. E. to make an investigation concluded that the operator is the principal factor in arc-welding, the type of current regulation being of relatively small importance compared with his skill in manipulating the arc. In a test of 15 different makes of arc-welding appliances, no appreciable difference in the strength of the weld was found, all showing a strength of at least 94% of that of the plate itself.

The test showed also that the strength of the weld was increased to a certain degree as a stronger current was used and that apparently it made no difference whether the current was alternating or direct.

Another point that was deduced from the test is that it apparently makes no difference in the results whether the electrode used is of absolutely pure iron or of an iron containing small impurities, since the characteristics of the metal change in going across the arc.

Particular investigation as to the effect of vibrations in producing fatigue of the metal of the welds was made, and in one set of tests alone the committee used 20 tons of samples. The relative strength of 94% of the value of the plate as produced by arc-welding can be appreciated when compared with that of a riveted point, which ranges from 50 to 70%, depending upon whether one, two or three rows of rivets are used.

Spot-welding as compared with arc-welding has the disadvantage that very heavy machinery is required. For welding a ½-in. plate, the machine will weigh about 3 tons, and consume a large amount of electric current. It, however, requires less time and labor, and the reason for the heavy weight is the necessity for producing a pressure of approximately 25 tons when ½-in. plate is being welded. For spot-welding, the power requirements range from 400 to 700 k.w. in the commercial machines, and a machine is being used experimentally which is rated at 2000 kilowatts.

The Underwriters' Classification Committee, which passes on metals before they are insured, has approved of arc-welding for the minor parts of ships, of which there are about 500,000 on each vessel produced in yards like that at Hog Island.

Acquirement and Disposition of the s.s. Tuna.—The acting Minister of Marine, in answering a question in the House of Commons recently, said that the s.s. Tuna was donated by J. K. L. Ross to the Dominion Government, and was taken over by the Naval Service Department, Sept. 24, 1914. The refits and repairs from the date of her commissioning to the date she was sold, were: $44,885. She was sold to C. Brister & sons Ltd., for $800, as a hulk, after machinery and fittings had been removed.

Sale of
Surplus Military and Naval Stores

Dry Goods, Camp Supplies, Food Hardware, Scrap Metal, Junk

Cloth; new and second-hand clothing, equipment, hardware, tents, blankets, camp supplies, etc.

Flour, jam, canned evaporated milk, tea, coffee, etc.

Condemned clothing, junk, old brass, metals, leather, rubber, etc.

Sales Will Be Made By Sealed Tender

Persons desiring to tender are requested to communicate with **THE SECRETARY OF THE WAR PURCHASING COMMISSION, BOOTH BUILDING, OTTAWA,** stating the items in which they are interested, whether new or second-hand or both.

Arrangements will be made to have samples on exhibition at places throughout Canada; specifications, full details, and tender forms will be mailed when ready to those who have registered as suggested above.

IF INTERESTED PLEASE APPLY NOW

Institutions May Make Direct Purchase Without Tender

Dominion, Provincial, and Municipal departments, hospitals, charitable, philanthropic, and similar institutions which are conducted for the benefit of the public and not for profit may purchase goods without tender at prices established by the War Purchasing Commission.

All communications should be addressed to the Secretary, War Purchasing Commission, Booth Building, Ottawa, who will be glad to supply lists and further details to those interested.

Shipbuilding Discussion in the Dominion Parliament.

In moving the address in reply to the speech from the throne at the opening of the Dominion Parliament's current session, R. J. Manion, M.P. for Fort William and Rainy River, said among other things:—"In shipbuilding, including ships built to the order of the Imperial Munitions Board and other private contracts, we built 103 ships, with a dead weight carrying capacity of 367,000 tons. We built for the Imperial Government over 700 small armed trawlers and drifters of various types; for the French Government over 40 armed trawlers, and coastal patrol motor boats. Why, in my own inland port city of Fort William, 1,500 miles from the Atlantic coast, up there on the shores of Lake Superior, which were explored 200 years ago by French voyageurs and courieurs des bois, we built for the native land of these Frenchmen 12 armed trawlers, which sailed down the lakes and rivers of what was originally New France, on their way to the shores of Old France. What a historical romance for the pen of a Parker!"

The Minister of Public Works, Hon. F. B. Carvell, in a subsequent debate, said: "The government is spending a large amount of money this year—I am not sure as to the exact amount, but I imagine it must be $20,000,000 or $25,000,000—and it expects to spend about $30,000,000 during the next fiscal year in the construction of steel ships in Canada. I know there will be criticism of this; at least, I assume there will during the session, because criticism has already been launched in the public press, and, so far as I am concerned, I want to meet it here and to give my views very plainly. It is always a very easy matter to be wise after the event. A year ago there was nothing which the civilized world needed so much as shipping. Shipping was more vital to winning the war than were men or shells or anything else. The greatest cry of the allied armies a year ago was for ships, ships to carry United States soldiers across the ocean, and ships to carry food to the allied armies. The Canadian Government decided to undertake a shipbuilding programme which involved the construction of 52 ships varying in size from 3,500 tons d.w. to 10-000 tons d.w. One of these has already been completed and is in service. I do not deny—I do not for a moment try to conceal the fact that those ships are going to cost more than they would have, had the Government gone out into the open market after peace was declared and bought them. But buying the ships after peace was declared would not have helped furnish ships in order to carry on the war; and if the war had continued, as most people expected it would, over another winter and another summer, two-thirds or at least one-half of those ships would have been at the service of the country. Even today, while we admit that the war is over and the crying necessity for those ships has ceased to exist, the construction of them plays an important part in many portions of Canada in furnishing labor to the unemployed, a task which I look upon as the paramount duty of this government and of the government of every province and every municipality at present. So far as I am concerned—and I speak for my colleagues, so far as we are concerned collectively—in the allocation of the public moneys, we have taken into consideration practically altogether the probable requirements to take care of unemployment in the labor world generally, rather than the advantage which a particular work or expenditure of money will be to the people in the vicinity in which the work is done or the money expended. That has been the underlying principle in the making up of the estimates. The ships are being built today at Montreal, at Toronto, at the head of the Great Lakes, at Port Arthur and Fort William, and at Vancouver and Victoria. Were those works not going on in those localities, especially on the Pacific coast, you would find a very different condition of affairs from what exists today. I, therefore, make no apology. No apology is required. I am simply pointing out that we are doing this in order to try to meet the pressing requirements of the moment and to place the country in a position to get back to a peace basis."

Mr. Carvell was evidently in error in saying that vessels for the Canadian Government Merchant Marine are being built in Toronto, as no orders have been given to Toronto builders.

J. H. Sinclair, M.P. for Guysborough, N.S., said:—"The Minister of Public Works referred to the construction of ships. He told us the government had embarked on a policy of building ships, and that a very large sum of money was to be expended. He admitted he could go into the market at present and buy ships cheaper than he could possibly build them. If that be true, why pay more than they are worth? As far as my information goes, I believe that the government is paying under these contracts about four times the normal value for the ships it is proposing to build. In normal times ships can be built for about $50 a gross ton, but in the contracts I have seen the government is paying something like $200 a ton. [Editor's note: This is per ton d.w.] The government will never see its money again; I fear it is an improvident proposal. It took the government four years finally to make up its mind to build ships. The time to have built ships, if they were to be of service in the war, was in 1914, when war broke out, but the government waited until the war was about over, and then embarked on a very expensive programme of building ships for which it proposes to pay four times the normal price. Such a policy is not at all likely to promote the building of ships in Canada. If the government could devise a way of promoting and assisting shipbuilding in Canada, that would be a very wise and proper move to make, but to build ships at four times the normal price is certainly not likely to stimulate the building of ships by private enterprise. I am not in favor of government ownership of tramp vessels; I do not think the policy is a wise one, and I do not think it will do much to solve the problem of providing employment which I understand the minister to say was the main reason for its adoption. If this is the government's object, I can say that I know of no other industry that gives so little employment of labor for the amount of money expended as the building of steel ships. The government could easily have found some other industry where it could have employed a larger number of people with a smaller expenditure of money. Is there not something we can do in this country that would bring us in some return? Would it not better, for instance, to buy tractors and plough up the western prairies and produce wheat?"

Michael Clark, M.P. for Red Deer, Alta.:—"We would need the ships to carry the wheat."

J. H. Sinclair:—"I am afraid if we make the rates of freight correspond with the outlay on the ships the wheat would be too expensive. Would it not be a saner policy to expend part of this money in building branch lines of railway lines in Nova Scotia? I can show him places in my own constituency where by the construction of a branch line, he would open up the country and encourage production and help at the same time to make the Intercolonial Ry. profitable. Building branch lines of railway where they are needed would be doing something for the country, and would be a far better policy than buying expensive ships for which there does not seem to be any future to justify the expenditure involved."

Canadian Merchant Service Guild Recommendations.

The Canadian Merchant Service Guild, at an executive meeting in Toronto recently, decided to make the following recommendations to the parliamentary committee:—

That the Dominion Government be asked to create a fund which will give seamen free hospital attention, when necessary, the same privilege to be extended to fishermen and lighthouse keepers.

That all bridges across Canadian rivers and canals be provided with suitable signals to inform those in charge of a vessel that such will be opened before approaching close enough to endanger life and property.

That every Canadian vessel be officered by Canadians, and that every such vessel leaving port be in charge of a certified person.

That every Canadian vessel of 500 tons or over be provided with a master, first officer and second officer, and that every Canadian vessel less than 500 tons and operating more than 12 hours a day, with the exception of vessels employed solely in fishing, shall be provided with a master and one officer, these officers to be recognized as such by the government.

That every Canadian vessel be manned as may be found necessary to the safety of public life and property afloat.

That Canadian coastwise trade be reserved solely for vessels truly and without fraud owned by the [illegible] of Canada.

That the Canada Shipping Act be revised to conform to the [illegible] of our mercantile marine.

That every master, pilot and officer who considers himself not fairly dealt with by our courts of inquiry shall have the privilege of appealing to the Admiralty Court for final decision.

That a ruling be given regarding the article supplied to our coasting vessels as it contains the insignia of the British Empire, and at present people do not seem to understand its importance.

That the government be asked to introduce legislation which will give all seamen of Canada the use of their franchise.

That Otter Head light, on the north

shore of Lake Superior, be immediately put into commission, and a fog signal installed at that point.

That the government without further delay take up the matter of installing life-saving stations, equipped with wireless, and especially along the north shore of Lake Superior.

It was decided that the nautical school in Collingwood be put under the guild's auspices, and that similar educational institutions be inaugurated throughout the Dominion as soon as the progress of the institution will allow.

The Reid Newfoundland Co's. Steamship Services.

Reports were current recently that the s.s. Bruce, formerly owned by the Reid Newfoundland Co., and sold some time ago to the Russian Government, and which happened to be in Glasgow, Scotland for repair, at the time of the Russian revolution, was likely to return to that company's ownership, and that she would be replaced in service between Port aux Basques, Nfld., and North Sydney, N.S. We are officially advised that the s.s. Bruce is not now owned by the company, and it is therefore not interested in the matter. The company's steamship services at present in operation, are as follows:

Port aux Basques and North Sydney, daily, steamships Kyle and Sagona, when North Sydney is a closed port, on account of ice, the vessels call at Louisburg, N.S.; Port aux Basques and Placentia, Nfld., weekly, s.s. Glencoe; Placentia Bay, Nfld., weekly to each side of the bay, s.s. Argyle; St. John's and North Sydney, s.s. Meigle, and other vessels; during the heavy traffic movement it was necessary to charter steamships for this service. On the opening of navigation in the bays, the following steamship service will be given in addition to the forgoing:—Trinity Bay, two trips weekly, s.s. Petrel; Notre Dame-Bonavista Bay, two trips weekly, steamships Clyde and Dundee; Green Bay, weekly, s.s. Home; Humbermouth-Battle Harbor, weekly, s.s. Ethie. Between June 1 and Oct. 1, a service is given between St. John's and ports of call on Labrador.

The Chats Falls Navigation Co., Ltd., has been incorporated under the Dominion Companies Act, with $50,000 authorized capital and office at Ottawa, Ont., to own and operate steam and other vessels, wharves, docks and other navigation facilities, and to carry on a general navigation business. W. J. Graham, O. Martin, L. G. Roy, C. Emery and W. J. Carson, Ottawa, and H. Keaey, Fitzroy Harbor, Ont., are the incorporators. It is reported that a contract has been placed in Aylmer, Que., for the construction of a vessel 90 ft. long, and 22 ft. wide, for $15,000, for a service of two trips daily between Britannia Bay and Fitzroy Harbor. The company has purchased the tug Fashion from the Public Works Department, as hauled out at the Victoria Island shipyard at Ottawa. She was built at West Bay City, Mich., in [illegible], and is equipped with compound engine with cylinders 14 and 24 in. diar. by 13 in. stroke, 24 n.h.p., supplied with steam by a boiler 70 in. diar. by 105 in. long, jet condenser, duplex feed pump and 6 ft. propeller. Her dimensions are: length 52 ft., beam 16 ft., draft 7½ ft.; tonnage, 43 gross, 27 register. The hull was recently condemned.

Canadian Bulk Freight Steamships On The Great Lakes.

Following is a list of Canadian bulk freight steamships trading on the Great Lakes, which were enrolled in the Dominion Marine Association for 1918. Those marked with an asterisk were not operating on the Great Lakes at the close of 1918, having been transferred to ocean service, chiefly for overseas service:

*A. E. Ames, *A. E. McKinstry, Advance, Arabian, *Atikokan, Barge No. 41, *Beaverton, Bickerdike, Cadillac, *Canadian, City of Hamilton, City of Ottawa, E. B. Osler, Easton, Emperor, *Glenellah, Glenmount, *H. M. Pellatt, Haddington, Hamonic, Huronic, Imperial, Iocolite, Iocoma, Ionic, J. H. G. Hagarty, Joyland, *Kenora, Laketon, Mapleton, Martian, Midland King, Midland Prince, Noronic, *Paipoonge, *Renvoyle, Riverton, *Rosedale, *Royalite, Sarnian, *Sarnolite, Seguin, W. D. Matthews, W. Grant Morden, Westmount, *Winona, Yorkton.

It will be noticed that the list shows the steamships Atikokan and Paipoonge, as not being operated on the Great Lakes at the end of 1918. During that year, both vessels were sold to foreigners, and were cut in two, to allow of the passage through the Welland Canal. After this was done, the foreign purchasers defaulted in payment, and by sale under an order of the court, the vessels returned to Canadian ownership, being bought by the Collingwood Steamship Co.

A Dream Come True.—The London, Eng., Daily Mail rhapsodizes on the enthusiasm of the Toronto populace as the troopships pull along the quaysides with their loads of returning soldiers. Toronto will, probably, be an ocean port one day, but the current season was opened by the customary steamship from Hamilton.

Public Works Department's Work.—The Minister of Public Works, Hon. F. B. Carvell, in speaking in the House of Commons recently, said: "In the department's engineering branch, we are doing repair work and maintaining the works. There were some places, particularly down in the lower St. Lawrence, where tremendous damage was done by storms last year. In such cases repairs must be made, but I may as well tell the house that we are not putting in new works of a very extensive character, simply because we believe we can expend the money on other work, such as highways, railways and canals, shipbuilding and such things as these which will produce better results and give more employment."

Compensation for British Ships Sunk.
Col. Leslie Wilson, is credited with saying that the amount paid by the British Government to shipowners in compensation for British ships sunk by the enemy while under government requisition and at direct government risk, between Aug. 4, 1914, and the armistice, was $520,156,355. The first cost to the owners of these ships was estimated at $255,584,030. In addition $5,844,125 was paid in respect of 25 ships whose first cost is not known. There are also a few cases not yet settled. No taxation is levied on these sums, which represent capital, not income, and are required to replace the vessels. Building costs are now from two to three times what they were before the war.

A Little Bit of Nonsense.

"Circumstances alter not only cases but words as well."

"Explain yourself."

"When the captain of a vessel ships a cook he hires him; but when a housewife ships her cook she fires her."—Boston Transcript.

Wines are terribly scarce in Great Britain just at present, and are likely to remain so for some time owing to the reduction of tonnage. Our ships, however, are doing their best to make port as quickly as possible.

Shipping Federation of Canada, Annual Report and Meeting.

At the Shipping Federation of Canada's annual meeting, in Montreal, recently, John Torrance, who presided, referred to the death of the President, Andrew A. Allan, who was elected to the position in 1909, and filled it ably and satisfactorily. Following are extracts from the annual report:—

"The total number of sea-going vessels which arrived at Montreal during 1918 was 674, of 1,933,482 tons register, an increase of 27, compared with 1917. The past season was the busiest ever experienced at Montreal, the export shipments were the heaviest on record. A unique fature was the large number of U.S. Emergency Fleet Corporation ships which visited the port. these vessels were all built on the lakes and the greater part of them loaded cargo at Montreal for U.S. Atlantic ports and others for Europe direct.

"As regards shipping conditions during 1918, it is true the government increased the "blue book rates," in the early part of the year, but even with this increase, shipowners are not receiving what they should, in comparison with the services they have rendered to the nation. Now that the war has been victoriously won, pressure is being brought to bear on the government to demobilize shipping as soon as possible, and it is understood that the government is making arrangements to release shipping under its control after March 1. It is obvious that when owners are permitted to manage their own business and order the ships they require, then the work of reconstructing their trades and fleets can commence. It is not an easy task nor a quick one, but if shipowners are left to themselves, I am certain they can accomplish it. All shipowners recognize more or less that competition from our allies and neutrals will be keen, and the least the government can do is to give the shipping industry a free hand, by withdrawing the restrictions which are now preventing it from expanding."

"It is needless for me to say that the St. Lawrence Power Co's. application for permission to dam the St. Lawrence river at the Long Sault Rapids was strenuously opposed by the federation, acting in conjunction with other commercial bodies interested in the welfare of the St. Lawrence route. A similar scheme was brought out in 1910, but at that time we were fortunate enough to have the measure defeated. This time, however, the power company was backd by the U.S. War Department, and, in view of this, the International Joint Commission, as an interim measure, granted the petitioners permission to construct and maintain a dam for five years, or until the termination of the war, whichever shall come first. Now that the war is over, it is to be expected that our government will immediately take steps to have a sufficient supply of water to accommodate the largest vessels which visited this port throughout the season."

A total of 190 vessels of 1,119,828 gross tons were entered with the federation during 1918, an increase of 295,433 tons over 1917.

The officers of 1918 were re-elected for 1919, John Torrance succeeding the late A. A. Allan as President, and A. E. Cooke being added to the executive council.

The Minister of Marine on Government and Other Shipbuilding.

The Minister of Marine, Hon. C. C. Ballantyne, M.P., is reported to have said in an interview at Montreal, March 6, just before leaving for Atlantic City to recuperate after his serious illness, as follows:—

"I intend to make a full statement in the House of Commons on my return to Ottawa, and therefore do not care to say much regarding this now. When I announced in the house last session the government's shipbuilding programme, I explained Canada's great need for ships at that time, more particularly to work in conjunction with the Canadian National Railways. I also stated that the government hoped that shipbuilding would be permanent. Since then many difficulties have arisen. The cost of skilled and unskilled labor has greatly increased, as well as the cost of all materials that enter into the building of ships, which will make it more difficult to maintain shipbuilding in Canada on a permanent foundation.

"However, I am in hopes that these conditions will change for the better, within the near future, and that it may be possible for Canada, at least in some of our best yards, to continue permanently to build ships. The government made no mistake in going in for shipbuilding, and I will go into all the details regarding this when I make my statement to parliament. In the meantime all the yards in Canada have government contracts to keep them fully occupied all this year, and possibly a part of next, with the exception of one or two yards which have been building ships for the British Government through the Imperial Munitions Board.

"My colleague, the Minister of Public Works, Mr. Carvell, stated in the house the other day that the government is building ships in order to give employment. Undoubtedly he had reference to the necessity of giving employment at present. This was not the reason the government entered into shipbuilding at the time it did, but, on the contrary, because, owing to the world's great shortage of tonnage, and the impossibility of ships being contracted for in any country, and England and other countries being willing to place large contracts in Canadian shipyards at greatly advanced prices over what the government was paying, it would have been an unwise policy in the interests of Canada had she not gone in for shipbuilding on her own account. Further details will, however, be given when I return to the house. I cannot say more at present as to the shipbuilding policy. As to the future of shipbuilding, it will be discussed fully by the cabinet on my return to Ottawa."

"I have nothing to say regarding Canada's naval policy at the present time," said the minister, in answer to a query, "although I have my own views on this important subject. It would be unwise, in fact, for me to make any statement at present until after Admiral Lord Jellicoe's visit, and before the cabinet decides what its policy will be."

Shovelling and Trimming Charges at Grain Elevators.

These matters were dealt with in the Dominion Marine Association's annual report recently (Canadian Railway and Marine World for March, pg. 166). The Board of Grain Commissioners' Secretary wrote the Dominion Marine Association's Counsel on March 11 as follows:

"So far as shovelling is concerned, the board has decided that it is not policy for it to acquire any jurisdiction over this charge, as quite a percentage of the grain received at the eastern public elevators is of United States origin, over which the board has no jurisdiction. The board therefore prefers to leave the matter of the shovelling charge to be arranged between the elevators and the carriers.

"As the government has decided to place the trimming of western grain into vessels at Fort William and Port Arthur under the board's jurisdiction for the purposes of eliminating any profiteering, the board is of opinion that the best way to handle the matter would be to license the trimmers, subject to certain rules and regulations. Part of the regulations would of necessity, include the approval of the rates to be charged for this service, and as the U.S. lake carriers, along with all the other Canadian carriers, with the exception of the Canada Steamship Lines, have advised the board that they are willing for the board to make whatever rules and regulations they think proper, the board feels that it will hardly be necessary to call a session for the discussion of this matter."

Telegraph, Telephone and Cable Matters.

E. N. Hurley, President U.S. Shipping Board, predicts that New York business men soon will be taking and placing orders in South American ports by wireless telephone.

Marconi is reported to have said that wireless telephone communication between New York and London will be in effect within three months. Three minute conversation will cost $5.

The Marconi Wireless Telegraph Co. has, according to a Montreal press dispatch, established wireless telephone communication between Newcastle, N.B., and Lyons, France, and also with Belmar, N.Y.

The Quebec Public Utilities Commission has authorized the National Telephone Co., operating in L'Islet County, to raise its rates considerably to the following figures: Branch lines, business, $25; house, $20. Party lines, business, $18; house, $15.

The Marconi Wireless Telegraph Co. resumed wireless telegraph service across the Atlantic Mar. 10., for the general public. Until further notice the service will be for full rate traffic only. During the war, official messages only were handled.

The C.P.R. Co's. Telegrph Department is stringing a new copper wire from Halifax to Montreal, and the work is expected to be completed very shortly. As there are 800 miles in the telegraph route and it takes 210 lb. of wire a mile, the total weight of the wire is 168,000 lb., or 84 tons. In addition, a number of other copper wires will be strung on different parts of the system this year.

The Marconi Wireless Telegraph Co. has, according to a Montreal press dispatch, completed arrangements for supplying airgrams to aviators who may attempt to cross the Atlantic. A complete series of bulletins about weather conditions over the area to be traversed will be compiled from advices of ships at sea and will be sent out from the company's Glace Bay, N.S., station, to be picked up by the aviators.

The Great North Western Telegraph Co. has opened offices at Burlington, and Pass Lake, Ont.; Eaton, and Madison, Sask.; and has closed offices at Cap Rouge station, Cartierville, Little Metis lighthouse, Neuville station, Perthuis, and Portage du Fort, Que.; Camp Mohawk, Chaffeys Locks, Melbourne, and Mitchell, Ont.; and Dropmore and Hodgsen, Man. The name of its office at River Henry, Que., has been changed to Henry River.

The Pacific Cable Board is considering representations made to it by Canadian and U.S. interests, for a duplication of the cable between Canada and Australia. It is pointed out that during the war the cable facilities were greatly overtaxed, and there appears to be no diminution in the traffic. In this connection, it is reported that the Marconi Wireless Telegraph Co. has made a proposal to certain Australian newspapers for a British news service on a 10 year contract at 50c a word, which is stated to be for too long a term and at too high a rate. It it is however stated that the Marconi proposal may mean the life or death of the Pacific cable, but it is considered that there is sufficient traffic for both cable and wireless.

Among the Express Companies.

G. Ford, General Superintendent, Dominion Express Co., Winnipeg, has been on a trip to California.

R. C. Mellish has been appointed 1st express freight agent, Canadian Ex. Co., Toronto.

M. W. Corrigan has been appointed 1st express freight agent, Canadian Ex. Co., Winnipeg.

V. J. Smith has been appointed cashier, Canadian Ex. Co., Windsor, Ont., vice J. V. Yeoman promoted.

J. T. Madigan has been appointed route agent, Canadian Ex. Co., Hamilton, Ont., a new position.

W. B. Bray has been appointed agent, Canadian Ex. Co., Sydney, N.S., vice A. C. Millar resigned.

W. J. Tretaway has been appointed agent, Canadian Northern Ex. Co., Quebec, Que., vice M. G. Donnelly deceased.

R. H. Jones, heretofore route agent, has been appointed Assistant to Superintendent, Canadian Ex. Co., Toronto.

S. H. Bellett, heretofore agent, Windsor, Ont., has been appointed route agent, Canadian Ex. Co., Toronto, vice R. H. Jones promoted.

J. V. Yeoman, heretofore cashier, has been appointed acting agent, Canadian Ex. Co., Windsor, Ont., vice S. H. Bellett, agent, promoted.

The board of conciliation appointed to deal with complaints of the Canadian Ex. Co's. messengers, helpers, drivers, clerks, porters and other employes, filed its report with the Dominion Labor Department at Ottawa, Mar. 18. The enquiry covered the whole system, and the award favors an eight hour day, with increases in wages ranging from 10 to 15%, with time and a half for overtime and legal holidays.

The American Railway Ex. Co. reports that after a 30 days campaign for the better packing and marking of express matter, concrete results have been achieved. At a meeting of the company's local employes at Montreal, Mar. 13, it was stated that not only were packages received in better condition, but there was a noticeable falling off in consignments that were sent to the "no mark" bureau, the decrease being about 50%. The company thanked the local merchants for their co-operation. The campaign is being continued in Canada, and meetings are being held at various points, with the view of instructing both employes and the public on the advantage of greater care in packing and marking.

Trade and Supply Notes.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers distinctly to understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

Independent Pneumatic Tool Co., Chicago, Ill., and 334 St. James St., Montreal, has issued circular 30, describing and illustrating Thor pneumatic tools.

Metal & Thermit Corporation, 120 Broadway, New York, and 15 Emily St., Toronto, has issued a wall calendar for 1919, which contains a map showing the new railway time zones in the United States, which went into effect Jan. 1, together with the continuation of these zones in Canada.

The Canadian Ingersoll-Rand Co. has absorbed the Jenckes Machine Co. of Sherbrooke, Que., and now has two plants, the Rand plant and the Jenckes plant. The products of the "Jenckes plant" will continue to be structural and plate work; tanks, penstocks, etc.; mining machinery and equipment, ore crushers, cars, cages, etc., and pulp and paper equipment such as barkers, grinders, water wheels, etc. The Canadian Ingersoll-Rand Co's. headquarters are at 260 St. James St., Montreal.

Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries unless otherwise stated:

Belleville Railway Men's Educational Club—[illegible] 7.30 p.m. F. A. Pinkston, Belleville, Ont.

Canadian Car Service Bureau—W. J. Collins, Manager, 401 St. Nicholas Building, Montreal.

Canadian Electric Railway Association—Acton Burrows, [illegible] Street, Toronto.

Canadian Freight Association (Eastern lines)—G. C. Ransom, Canadian Express Building, Montreal.

Canadian Freight Association (Western lines)—W. E. Campbell, [illegible] Winnipeg.

Canadian Railway Club—J. Powell, St. Lambert, Que. Meetings at Montreal 2nd Tuesday, each month [illegible] p.m., except June, July and August.

Canadian Railway War Board—W. M. Neal, Montreal.

Dominion Marine Association—F. King, Counsel, Kingston, Ont.

Canadian Ticket Agents' Association—E. de la Hooke, London, Ont.

Eastern Canadian Passenger Association—G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Montreal—R. W. H. Smith, 9 Beaver Hall Square, Montreal.

Engineers' Club of Toronto—R. B. Wolsey, 94 King Street West, Toronto.

Engineering Institute of Canada—F. S. Keith, 176 Mansfield St., Montreal.

Express Traffic Association of Canada—C. N. Ham, Montreal.

Great Lakes and St. Lawrence River Rate Committee—James Morrison, Montreal.

Hydro-Electric Railway Association of Ontario—T. J. Hannigan, Guelph, Ont.

International Water Lines Passenger Association—M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee—James Morrison, Montreal.

Quebec Transportation Club—A. F. Dion, Quebec.

Shipping Federation of Canada—Thos. Robb, Manager, 42 St. Sacrament Street, Montreal.

Toronto Transportation Club—W. A. Gray, 143 Yonge Street, Toronto.

Transportation Club of Vancouver—H. W. Schofield, 556 Church Street, Vancouver, B.C.

NOTICE TO CONTRACTORS.

The Timiskaming and Northern Ontario Railway Commission.

Toronto, Ont., March 26th, 1919.

SEALED TENDERS for the works (other than steel bridges) necessary to the complete construction of the roadbed, ready for the ties and rails, also the tracklaying, ballasting and fencing, upon that section of the Timiskaming and Northern Ontario Commission's railway, extending from Timmins to Mattagami River, a distance of two (2) miles, will be received at the office of the Secretary Treasurer of the Commission, 56 Church Street, Toronto, until twelve o'clock (noon) on the 15th day of April, 1919.

On receipt of a request in writing, a copy of each of the following documents:

Instructions to Bidders.
Form of Tender
Specifications.
Form of Contract

will be furnished to intending bidders at the office of the Secretary Treasurer of the Commission, Toronto; or at the office of the Chief Engineer of the Commission, North Bay, where plans and profiles pertaining to the work may also be seen.

The right is reserved to reject any or all bids.

(Sgd.) W. H. MAUND,
Secretary Treasurer, Timiskaming and Northern Ontario Railway Commission.

CANADIAN NATIONAL RAILWAYS.

Eastern Lines, Ontario District.

SEALED TENDERS addressed to the undersigned and endorsed "Tender for Concrete Abutments, piers and culverts, Nipigon Subdivision," will be received at this office until twelve o'clock noon, Wednesday, April 9th, for the construction of four abutments, two piers and two culverts on the Nipigon Subdivision, between Jellicoe and McKirdy.

Drawings, specifications and form of contract may be seen and form of tender obtained at the office of the Engineer, Maintenance of Way, no. 7 Adelaide St. East, Toronto.

Tenders will not be considered unless made on the form supplied by the Railway Company and accompanied by an accepted cheque on a Chartered bank for the sum of Three Thousand Dollars ($3,000.00), payable to the order of the Treasurer of the Canadian National Railways.

NOTE: Blue print copies of the drawings may be obtained at the office of the Engineer, Maintenance of Way, by depositing an accepted bank cheque for the sum of Ten Dollars ($10.00) payable to the Treasurer, Canadian National Railways, the said cheque to be returned if the intending tenderer submits a regular tender.

The lowest or any tender not necessarily accepted.

A. F. STEWART,
Chief Engineer,
Eastern Lines.
Canadian National Railways,
27 Wellington St. East,
Toronto.

CANADIAN PACIFIC RAILWAY COMPANY.

NOTICE TO SHAREHOLDERS.

The Thirty-eighth Annual General Meetnig of the Shareholders of this Company, for the election of Directors to take the places of the retiring Directors and for the transaction of business generally, will be held on Wednesday, the seventh day of May next, at the principal office of the Company, at Montreal, at Twelve o'clock noon.

The Common Stock Transfer Books will be closed in Montreal, New York and London at 3 p.m. on Tuesday, the fifteenth day of April. The Preference Stock Books will be closed in London at the same time.

All books will be re-opened on Thursday, the eighth day of May.

By order of the Board,
ERNEST ALEXANDER,
Secretary.
Montreal, March 19th, 1919.

FOR SALE.
Light Draught Tug.
250 Ton Tow Barge.
2 Sand Pumping Outfits on Scows.
Marine Engine, Boiler Propeller and Shaft.
Apply
Eastern Equipment Co.
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Montreal, Que.
'Phone Main 3925.

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SEND PRINTS FOR PRICES
CANADA FOUNDRIES & FORGINGS, LIMITED
WELLAND, ONT.

Shipbuilding Discussion in the Dominion Parliament.

In moving the address in reply to the speech from the throne at the opening of the Dominion Parliament's current session, R. J. Manion, M.P. for Fort William and Rainy River, said among other things:—"In shipbuilding, including ships built to the order of the Imperial Munitions Board and other private contracts, we built 103 ships, with a dead weight carrying capacity of 367,000 tons. We built for the Imperial Government over 700 small armed trawlers and drifters of various types; for the French Government over 40 armed trawlers, and coastal patrol motor boats. Why, in my own inland port city of Fort William, 1,500 miles from the Atlantic coast, up there on the shores of Lake Superior, which were explored 200 years ago by French voyageurs and courieurs des bois, we built for the native land of these Frenchmen 12 armed trawlers, which sailed down the lakes and rivers of what was originally New France, on their way to the shores of Old France. What a historical romance for the pen of a Parker!"

The Minister of Public Works, Hon. F. B. Carvell, in a subsequent debate, said: "The government is spending a large amount of money this year—I am not sure as to the exact amount, but I imagine it must be $20,000,000 or $25,000,000—and it expects to spend about $30,000,000 during the next fiscal year in the construction of steel ships in Canada. I know there will be criticism of this; at least, I assume there will during the session, because criticism has already been launched in the public press, and, so far as I am concerned, I want to meet it here and to give my views very plainly. It is always a very easy matter to be wise after the event. A year ago there was nothing which the civilized world needed so much as shipping. Shipping was more vital to winning the war than were men or shells or anything else. The greatest cry of the allied armies a year ago was for ships, ships to carry United States soldiers across the ocean,\ and ships to carry food to the allied armies. The Canadian Government decided to undertake a shipbuilding programme which involved the construction of 52 ships varying in size from 3,500 tons d.w. to 10-000 tons d.w. One of these has already been completed and is in service. I do not deny—I do not for a moment try to conceal the fact that those ships are going to cost more than they would have, had the Government gone out into the open market after peace was declared and bought them. But buying the ships after peace was declared would not have helped furnish ships in order to carry on the war; and if the war had continued, as most people expected it would, over another winter and another summer, two-thirds or at least one-half of those ships would have been at the service of the country. Even today, while we admit that the war is over and the crying necessity for those ships has ceased to exist, the construction of them plays an important part in many portions of Canada in furnishing labor to the unemployed, a task which I look upon as the paramount duty of this government and of the government of every province and every municipality at present. So far as I am concerned and I speak for my colleagues, so far as we are concerned collectively—in the allocation of the public moneys, we have taken into consideration practically altogether the probable requirements to take care of unemployment in the labor world generally, rather than the advantage which a particular work or expenditure of money will be to the people in the vicinity in which the work is done or the money expended. That has been the underlying principle in the making up of the estimates. The ships are being built today at Montreal, at Toronto, at the head of the Great Lakes, at Port Arthur and Fort William, and at Vancouver and Victoria. Were those works not going on in those localities, especially on the Pacific coast, you would find a very different condition of affairs from what exists today. I, therefore, make no apology. No apology is required. I am simply pointing out that we are doing this in order to try to meet the pressing requirements of the moment and to place the country in a position to get back to a peace basis."

Mr. Carvell was evidently in error in saying that vessels for the Canadian Government Merchant Marine are being built in Toronto, as no orders have been given to Toronto builders.

J. H. Sinclair, M.P. for Guysborough, N.S., said:—"The Minister of Public Works referred to the construction of ships. He told us the government had embarked on a policy of building ships, and that a very large sum of money was to be expended. He admitted he could go into the market at present and buy ships cheaper than he could possibly build them. If that be true, why pay more than they are worth? As far as my information goes, I believe that the government is paying under these contracts about four times the normal value for the ships it is proposing to build. In normal times ships can be built for about $50 a gross ton, but in the contracts I have seen the government is paying something like $200 a ton. [Editor's note: This is per ton d.w.] The government will never see its money again; I fear it is an improvident proposal. It took the government four years finally to make up its mind to build ships. The time to have built ships, if they were to be of service in the war, was in 1914, when war broke out, but the government waited until the war was about over, and then embarked on a very expensive programme of building ships for which it proposes to pay four times the normal price. Such a policy is not at all likely to promote the building of ships in Canada. If the government could devise a way of promoting and assisting shipbuilding in Canada, that would be a very wise and proper move to make, but to build ships at four times the normal price is certainly not likely to stimulate the building of ships by private enterprise. I am not in favor of government ownership of tramp vessels; I do not think the policy is a wise one, and I do not think it will do much to solve the problem of providing employment which I understand the minister to say was the main reason for its adoption. If this is the government's object, I can say that I know of no other industry that gives so little employment of labor for the amount of money expended as the building of steel ships. The government could easily have found some other industry where it could have employed a larger number of people with a smaller expenditure of money. Is there not something we can do in this country that would bring us in some return? Would it not better, for instance, to buy tractors and plough up the western prairies and produce wheat?"

Michael Clark, M.P. for Red Deer, Alta.:—"We would need the ships to carry the wheat."

J. H. Sinclair:—"I am afraid if we make the rates of freight correspond with the outlay on the ships the wheat would be too expensive. Would it not be a saner policy to expend part of this money in building branch lines of railway lines in Nova Scotia? I can show him places in my own constituency where by the construction of a branch line, he would open up the country and encourage production and help at the same time to make the Intercolonial Ry. profitable. Building branch lines of railway where they are needed would be doing something for the country, and would be a far better policy than buying expensive ships for which there does not seem to be any future to justify the expenditure involved."

Canadian Merchant Service Guild Recommendations.

The Canadian Merchant Service Guild, at an executive meeting in Toronto recently, decided to make the following recommendations to the parliamentary committee:—

That the Dominion Government be asked to create a fund which will give seamen free hospital attention, when necessary, the same privilege to be extended to fishermen and lighthouse keepers.

That all bridges across Canadian rivers and canals be provided with suitable signals to inform those in charge of a vessel that such will be opened before approaching close enough to endanger life and property.

That every Canadian vessel be officered by Canadians, and that every such vessel leaving port be in charge of a certified person.

That every Canadian vessel of 500 tons or over be provided with a master, first officer and second officer, and that every Canadian vessel less than 500 tons and operating more than 12 hours a day, with the exception of vessels employed solely in fishing, shall be provided with a master and one officer, these officers to be recognized as such by the government.

That every Canadian vessel be manned as may be found necessary to the safety of public life and property afloat.

That Canadian coastwise trade be reserved solely for vessels truly and without fraud owned by the [illegible] of Canada.

That the Canada Shipping Act be revised to conform to the necessities of our mercantile marine.

That every master, mate and officer who considers himself not fairly dealt with by our courts of enquiry shall have the privilege of appealing to the Admiralty Court for final decision.

That a ruling be given regarding the articles supplied to our coasting vessels, as it contains the [illegible] of the British Empire, and at present [illegible] do not seem to understand its [illegible].

That the government be asked to introduce legislation which will give all [illegible] of Canada the use of their [illegible].

That Otter Head light, on the north

shore of Lake Superior, be immediately put into commission, and a fog signal installed at that point.

That the government without further delay, take up the matter of installing life-saving stations, equipped with wireless, more especially along the north shore of Lake Superior.

It was decided that the nautical school in Collingwood be put under the guild's auspices, and that similar educational institutions be inaugurated throughout the Dominion as soon as the progress of the institution will allow.

The Reid Newfoundland Co's. Steamship Services.

Reports were current recently that the s.s. Bruce, formerly owned by the Reid Newfoundland Co., and sold some time ago to the Russian Government, and which happened to be in Glasgow, Scotland for repair, at the time of the Russian revolution, was likely to return to that company's ownership, and that she would be replaced in service between Port aux Basques, Nfld., and North Sydney, N.S. We are officially advised that the s.s. Bruce is not now owned by the company, and it is therefore not interested in the matter. The company's steamship services at present in operation, are as follows:

Port aux Basques and North Sydney, daily, steamships Kyle and Sagona, when North Sydney is a closed port, on account of ice, the vessels call at Louisburg, N.S.; Port aux Basques and Placentia, Nfld., weekly, s.s. Glencoe; Placentia Bay, Nfld., weekly to each side of the bay, s.s. Argyle; St. John's and North Sydney, s.s. Meigle, and other vessels; during the heavy traffic movement it was necessary to charter steamships for this service. On the opening of navigation in the bays, the following steamship service will be given in addition to the foregoing:—Trinity Bay, two trips weekly, s.s. Petrel; Notre Dame-Bonavista Bay, two trips weekly, steamships Clyde and Dundee; Green Bay, weekly, s.s. Home; Humbermouth-Battle Harbor, weekly, s.s. Ethie. Between June 1 and Oct. 1, a service is given between St. John's and ports of call on Labrador.

The Chats Falls Navigation Co., Ltd., has been incorporated under the Dominion Companies Act, with $50,000 authorized capital and office at Ottawa, Ont., to own and operate steam and other vessels, wharves, docks and other navigation facilities, and to carry on a general navigation business. W. J. Graham, O. Martin, L. G. Roy, C. Emery and W. J. Carson, Ottawa, and H. Keoey, Fitzroy Harbor, Ont., are the incorporators. It is reported that a contract has been placed in Aylmer, Que., for the construction of a vessel 90 ft. long, and 22 ft. wide, for $15,000, for a service of two trips daily between Britannia Bay and Fitzroy Harbor. The company has purchased the tug Fashion from the Public Works Department, as hauled out at the Victoria Island shipyard at Ottawa. She was built at West Bay City, Mich., in 1893, and is equipped with compound engine with cylinders 14 and 24 in. diar. by 13 in. stroke, 24 n.h.p., supplied with steam by a boiler 70 in. diar. by 105 in. long, jet condenser, duplex feed pump and 6 in. propeller. Her dimensions are: length 52 ft., beam 16 ft., draft 7½ ft.; tonnage, 43 gross, 27 register. The hull was recently condemned.

Canadian Bulk Freight Steamships On The Great Lakes.

Following is a list of Canadian bulk freight steamships trading on the Great Lakes, which were enrolled in the Dominion Marine Association for 1918. Those marked with an asterisk were not operating on the Great Lakes at the close of 1918, having been transferred to ocean service, chiefly for overseas service:

*A. E. Ames, *A. E. McKinstry, Advance, Arabian, *Atikokan, Barge No. 41, *Beaverton, Bickerdike, Cadillac, *Canadian, City of Hamilton, City of Ottawa, E. B. Osler, Easton, Emperor, *Glenellah, Glenmount, *H. M. Pellatt, Haddington, Hamonic, Huronic, Imperial, Iocolite, Iocoma, Ionic, J. H. G. Hagarty, Joyland, *Kenora, Laketon, *Mapleton, Martian, Midland King, Midland Prince, Noronic, *Paipoonge, *Renvoyle, Riverton, *Rosedale, *Royalite, Sarnian, *Sarnolite, Seguin, W. D. Matthews, W. Grant Morden, Westmount, *Winona, Yorkton.

It will be noticed that the list shows the steamships Atikokan and Paipoonge, as not being operated on the Great Lakes at the end of 1918. During that year, both vessels were sold to foreigners, and were cut in two, to allow of the passage through the Welland Canal. After this was done, the foreign purchasers defaulted in payment, and by sale under an order of the court, the vessels returned to Canadian ownership, being bought by the Collingwood Steamship Co.

A Dream Come True.—The London, Eng., Daily Mail rhapsodizes on the enthusiasm of the Toronto populace as the troopships pull along the quaysides with their loads of returning soldiers. Toronto will, probably, be an ocean port one day, but the current season was opened by the customary steamship from Hamilton.

Public Works Department's Work.—The Minister of Public Works, Hon. F. B. Carvell, in speaking in the House of Commons recently, said: "In the department's engineering branch, we are doing repair work and maintaining the works. There were some places, particularly down in the lower St. Lawrence, where tremendous damage was done by storms last year. In such cases repairs must be made, but I may as well tell the house that we are not putting in new works of a very extensive character, simply because we believe we can expend the money on other work, such as highways, railways and canals, shipbuilding and such things as these which will produce better results and give more employment."

Compensation for British Ships Sunk.—Col. Leslie Wilson, is credited with saying that the amount paid by the British Government to shipowners in compensation for British ships sunk by the enemy while under government requisition and at direct government risk, between Aug. 4, 1914, and the armistice, was $520,156,355. The first cost to the owners of these ships was estimated at $255,584,030. In addition $5,844,125 was paid in respect of 25 ships whose first cost is not known. There are also a few cases not yet settled. No taxation is levied on these sums, which represent capital, not income, and are required to replace the vessels. Building costs are now from two to three times what they were before the war.

A Little Bit of Nonsense.

"Circumstances alter not only cases but words as well."

"Explain yourself."

"When the captain of a vessel ships a cook he hires him; but when a housewife ships her cook she fires her."—Boston Transcript.

Wines are terribly scarce in Great Britain just at present, and are likely to remain so for some time owing to the reduction of tonnage. Our ships, however, are doing their best to make port as quickly as possible.

Shipping Federation of Canada, Annual Report and Meeting.

At the Shipping Federation of Canada's annual meeting, in Montreal, recently, John Torrance, who presided, referred to the death of the President, Andrew A. Allan, who was elected to the position in 1909, and filled it ably and satisfactorily. Following are extracts from the annual report:—

"The total number of sea-going vessels which arrived at Montreal during 1918 was 674, of 1,933,482 tons register, an increase of 27, compared with 1917. The past season was the busiest ever experienced at Montreal, the export shipments were the heaviest on record. A unique fature was the large number of U.S. Emergency Fleet Corporation ships which visited the port. these vessels were all built on the lakes and the greater part of them loaded cargo at Montreal for U.S. Atlantic ports and others for Europe direct.

"As regards shipping conditions during 1918, it is true the government increased the "blue book rates," in the early part of the year, but even with this increase, shipowners are not receiving what they should, in comparison with the services they have rendered to the nation. Now that the war has been victoriously won, pressure is being brought to bear on the government to demobilize shipping as soon as possible, and it is understood that the government is making arrangements to release shipping under its control after March 1. It is obvious that when owners are permitted to manage their own business and order the ships they require, then the work of reconstructing their trades and fleets can commence. It is not an easy task nor a quick one, but if shipowners are left to themselves, I am certain they can accomplish it. All shipowners recognize more or less that competition from our allies and neutrals will be keen, and the least the government can do is to give the shipping industry a free hand, by withdrawing the restrictions which are now preventing it from expanding."

"It is needless for me to say that the St. Lawrence Power Co's. application for permission to dam the St. Lawrence river at the Long Sault Rapids was strenuously opposed by the federation, acting in conjunction with other commercial bodies interested in the welfare of the St. Lawrence route. A similar scheme was brought out in 1910, but at that time we were fortunate enough to have the measure defeated. This time, however, the power company was backd by the U.S. War Department, and, in view of this, the International Joint Commission, as an interim measure, granted the petitioners permission to construct and maintain a dam for five years, or until the termination of the war, whichever shall come first. Now that the war is over, it is to be expected that our government will immediately take steps to have a sufficient supply of water to accommodate the largest vessels which visited this port throughout the season."

A total of 190 vessels of 1,119,828 gross tons were entered with the federation during 1918, an increase of 295,433 tons over 1917.

The officers of 1918 were re-elected for 1919, John Torrance succeeding the late A. A. Allan as President, and A. E. Cooke being added to the executive council.

The Minister of Marine on Government and Other Shipbuilding.

The Minister of Marine, Hon. C. C. Ballantyne, M.P., is reported to have said in an interview at Montreal, March 6, just before leaving for Atlantic City to recuperate after his serious illness, as follows:—

"I intend to make a full statement in the House of Commons on my return to Ottawa, and therefore do not care to say much regarding this now. When I announced in the house last session the government's shipbuilding programme, I explained Canada's great need for ships at that time, more particularly to work in conjunction with the Canadian National Railways. I also stated that the government hoped that shipbuilding would be permanent. Since then many difficulties have arisen. The cost of skilled and unskilled labor has greatly increased, as well as the cost of all materials that enter into the building of ships, which will make it more difficult to maintain shipbuilding in Canada on a permanent foundation.

"However, I am in hopes that these conditions will change for the better, within the near future, and that it may be possible for Canada, at least in some of our best yards, to continue permanently to build ships. The government made no mistake in going in for shipbuilding, and I will go into all the details regarding this when I make my statement to parliament. In the meantime all the yards in Canada have government contracts to keep them fully occupied all this year, and possibly a part of next, with the exception of one or two yards which have been building ships for the British Government through the Imperial Munitions Board.

"My colleague, the Minister of Public Works, Mr. Carvell, stated in the house the other day that the government is building ships in order to give employment. Undoubtedly he had reference to the necessity of giving employment at present. This was not the reason the government entered into shipbuilding at the time it did, but, on the contrary, because, owing to the world's great shortage of tonnage, and the impossibility of ships being contracted for in any country, and England and other countries being willing to place large contracts in Canadian shipyards at greatly advanced prices over what the government was paying, it would have been an unwise policy in the interests of Canada had she not gone in for shipbuilding on her own account. Further details will, however, be given when I return to the house. I cannot say more at present as to the shipbuilding policy. As to the future of shipbuilding, it will be discussed fully by the cabinet on my return to Ottawa."

"I have nothing to say regarding Canada's naval policy at the present time," said the minister, in answer to a query, "although I have my own views on this important subject. It would be unwise, in fact, for me to make any statement at present until after Admiral Lord Jellicoe's visit, and before the cabinet decides what its policy will be."

Shovelling and Trimming Charges at Grain Elevators.

These matters were dealt with in the Dominion Marine Association's annual report recently (Canadian Railway and Marine World for March, pg. 166). The Board of Grain Commissioners' Secretary wrote the Dominion Marine Association's Counsel on March 11 as follows:

"So far as shovelling is concerned, the board has decided that it is not policy for it to acquire any jurisdiction over this charge, as quite a percentage of the grain received at the eastern public elevators is of United States origin, over which the board has no jurisdiction. The board therefore prefers to leave the matter of the shovelling charge to be arranged between the elevators and the carriers.

"As the government has decided to place the trimming of western grain into vessels at Fort William and Port Arthur under the board's jurisdiction for the purposes of eliminating any profiteering, the board is of opinion that the best way to handle the matter would be to license the trimmers, subject to certain rules and regulations. Part of the regulations would of necessity, include the approval of the rates to be charged for this service, and as the U.S. lake carriers, along with all the other Canadian carriers, with the exception of the Canada Steamship Lines, have advised the board that they are willing for the board to make whatever rules and regulations they think proper, the board feels that it will hardly be necessary to call a session for the discussion of this matter."

Telegraph, Telephone and Cable Matters.

E. N. Hurley, President U.S. Shipping Board, predicts that New York business men soon will be taking and placing orders in South American ports by wireless telephone.

Marconi is reported to have said that wireless telephone communication between New York and London will be in effect within three months. Three minute conversation will cost $5.

The Marconi Wireless Telegraph Co. has, according to a Montreal press dispatch, established wireless telephone communication between Newcastle, N.B., and Lyons, France, and also with Belmar, N.Y.

The Quebec Public Utilities Commission has authorized the National Telephone Co., operating in L'Islet County, to raise its rates considerably to the following figures: Branch lines, business, $25; house, $20. Party lines, business, $18; house, $15.

The Marconi Wireless Telegraph Co. resumed wireless telegraph service across the Atlantic Mar. 10., for the general public. Until further notice the service will be for full rate traffic only. During the war, official messages only were handled.

The C.P.R. Co's. Telegrph Department is stringing a new copper wire from Halifax to Montreal, and the work is expected to be completed very shortly. As there are 800 miles in the telegraph route and it takes 210 lb. of wire a mile, the total weight of the wire is 168,000 lb., or 84 tons. In addition, a number of other copper wires will be strung on different parts of the system this year.

The Marconi Wireless Telegraph Co. has, according to a Montreal press despatch, completed arrangements for supplying airgrams to aviators who may attempt to cross the Atlantic. A complete series of bulletins about weather conditions over the area to be traversed will be compiled from advices of ships at sea and will be sent out from the company's Glace Bay, N.S., station, to be picked up by the aviators.

The Great North Western Telegraph Co. has opened offices at Burlington, and Pass Lake, Ont.; Eaton, and Madison, Sask.; and has closed offices at Cap Rouge station, Cartierville, Little Metis lighthouse, Neuville station, Perthuis, and Portage du Fort, Que.; Camp Mohawk, Chaffeys Locks, Melbourne, and Mitchell, Ont.; and Dropmore and Hodgsen, Man. The name of its office at River Henry, Que., has been changed to Henry River.

The Pacific Cable Board is considering representations made to it by Canadian and U.S. interests, for a duplication of the cable between Canada and Australia. It is pointed out that during the war the cable facilities were greatly overtaxed, and there appears to be no diminution in the traffic. In this connection, it is reported that the Marconi Wireless Telegraph Co. has made a proposal to certain Australian newspapers for a British news service on a 10 year contract at 5c a word, which is stated to be for too long a term and at too high a rate. It it is however stated that the Marconi proposal may mean the life or death of the Pacific cable, but it is considered that there is sufficient traffic for both cable and wireless.

Among the Express Companies.

G. Ford, General Superintendent, Dominion Express Co., Winnipeg, has been on a trip to California.

R. C. Mellish has been appointed lost express freight agent, Canadian Ex. Co., Toronto.

M. W. Corrigan has been appointed lost express freight agent, Canadian Ex. Co., Winnipeg.

V. J. Smith has been appointed cashier, Canadian Ex. Co., Windsor, Ont., vice J. V. Yeoman promoted.

J. T. Madigan has been appointed [illegible] agent, Canadian Ex. Co., [illegible], Ont., a new position.

W. B. Bray has been appointed Agent, Canadian Ex. Co., Sydney, N.S., vice A. C. Millar resigned.

W. J. [illegible] has been appointed agent, Canadian Northern Ex. Co., Quebec, Que., vice W. G. [illegible] deceased.

R. H. Jones, heretofore traffic agent, has been appointed Assistant to Superintendent, Canadian Ex. Co., Toronto.

S. H. Bullett, heretofore agent, Windsor, Ont., has been appointed traffic agent, Canadian Ex. Co., Toronto, vice R. H. Jones promoted.

J. V. Yeoman, heretofore cashier, has been appointed acting agent, Canadian Ex. Co., Windsor, Ont., vice S. H. Bullett, agent, promoted.

The board of conciliation appointed to deal with complaints of the Canadian Ex. Co's. messengers, helpers, drivers, clerks, porters and other employes, filed its report with the Dominion Labor Department at Ottawa, Mar. 18. The enquiry covered the whole system, and the award favors an eight hour day, with increases in wages ranging from 10 to 15%, with time and a half for overtime and legal holidays.

The American Railway Ex. Co. reports that after a 30 days campaign for the better packing and marking of express matter, concrete results have been achieved. At a meeting of the company's local employes at Montreal, Mar. 13, it was stated that not only were packages received in better condition, but there was a noticeable falling off in consignments that were sent to the "no mark" bureau, the decrease being about 50%. The company thanked the local merchants for their co-operation. The campaign is being continued in Canada, and meetings are being held at various points, with the view of instructing both employes and the public on the advantage of greater care in packing and marking.

Trade and Supply Notes.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers distinctly to understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

Independent Pneumatic Tool Co., Chicago, Ill., and 334 St. James St., Montreal, has issued circular 30, describing and illustrating Thor pneumatic tools.

Metal & Thermit Corporation, 120 Broadway, New York, and 15 Emily St., Toronto, has issued a wall calendar for 1919, which contains a map showing the new railway time zones in the United States, which went into effect Jan. 1, together with the continuation of these zones in Canada.

The Canadian Ingersoll-Rand Co. has absorbed the Jenckes Machine Co. of Sherbrooke, Que., and now has two plants, the Rand plant and the Jenckes plant. The products of the "Jenckes plant" will continue to be structural and plate work; tanks, penstocks, etc.; mining machinery and equipment, ore crushers, cars, cages, etc., and pulp and paper equipment such as barkers, grinders, water wheels, etc. The Canadian Ingersoll-Rand Co's. headquarters are at 260 St. James St., Montreal.

Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries, unless otherwise stated:

Belleville Railway Men's Educational Club. Meets each Tuesday, 7.30 p.m. F. A. Pinkston, Belleville, Ont.

Canadian Car Service Bureau—W. J. Collins, Manager, 401 St. Nicholas Building, Montreal.

Canadian Electric Railway Association—Acton Burrows, [illegible] Toronto.

Canadian Freight Association, Eastern lines—G. C. Ransom, Canadian Express Building, Montreal.

Canadian Freight Association, Western lines—W. E. Campbell, [illegible], Winnipeg.

Canadian Railway Club—J. Powell, St. Lambert, Que. Meets at Montreal, 2nd Tuesday, each month, 8.30 p.m., except June, July and August.

Canadian Railway War Board—W. M. Neal, Montreal.

Dominion Marine Association—F. King, Counsel, Kingston, Ont.

Canadian Ticket Agents' Association—E. de la Hooke, London, Ont.

Eastern Canadian Passenger Association—G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Montreal—R. W. H. Smith, 9 Beaver Hall Square, Montreal.

Engineers' Club of Toronto—R. B. Wolsey, 94 King Street West, Toronto.

Engineering Institute of Canada—F. S. Keith, 176 Mansfield St., Montreal.

Express Traffic Association of Canada—C. N. Ham, Montreal.

Great Lakes and St. Lawrence River Rate Committee—James Morrison, Montreal.

Hydro-Electric Railway Association of Ontario—T. J. Hannigan, Guelph, Ont.

International Water Lines Passenger Association—M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee—James Morrison, Montreal.

Quebec Transportation Club—A. F. Dion, Quebec.

Shipping Federation of Canada—Thos. Robb, Manager, 42 St. Sacrament Street, Montreal.

Toronto Transportation Club—W. A. Gray, 143 Yonge Street, Toronto.

Transportation Club of Vancouver—H. W. Schofield, 556 Church Street, Vancouver, B.C.

NOTICE TO CONTRACTORS.

The Timiskaming and Northern Ontario Railway Commission.

Toronto, Ont., March 26th, 1919.

SEALED TENDERS for the works (other than steel bridges) necessary to the complete construction of the roadbed, ready for the ties and rails, also the tracklaying, ballasting and fencing, upon that section of the Timiskaming and Northern Ontario Commission's railway, extending from Timmins to Mattagami River, a distance of two (2) miles, will be received at the office of the Secretary Treasurer of the Commission, 56 Church Street, Toronto, until twelve o'clock (noon) on the 15th day of April, 1919.

On receipt of a request in writing, a copy of each of the following documents:

Instructions to Bidders.
Form of Tender
Specifications.
Form of Contract

will be furnished to intending bidders at the office of the Secretary Treasurer of the Commission, Toronto; or at the office of the Chief Engineer of the Commission, North Bay, where plans and profiles pertaining to the work may also be seen.

The right is reserved to reject any or all bids.

(Sgd.) W. H. MAUND,
Secretary Treasurer, Timiskaming and Northern Ontario Railway Commission.

CANADIAN NATIONAL RAILWAYS.

Eastern Lines, Ontario District.

SEALED TENDERS addressed to the undersigned and endorsed "Tender for Concrete Abutments, piers and culverts, Nipigon Subdivision," will be received at this office until twelve o'clock noon, Wednesday, April 9th, for the construction of four abutments, two piers and two culverts on the Nipigon Subdivision, between Jellicoe and McKirdy.

Drawings, specifications and form of contract may be seen and form of tender obtained at the office of the Engineer, Maintenance of Way, no. 7 Adelaide St. East, Toronto.

Tenders will not be considered unless made on the form supplied by the Railway Company and accompanied by an accepted cheque on a Chartered bank for the sum of Three Thousand Dollars ($3,000.00), payable to the order of the Treasurer of the Canadian National Railways.

NOTE: Blue print copies of the drawings may be obtained at the office of the Engineer, Maintenance of Way, by depositing an accepted bank cheque for the sum of Ten Dollars ($10.00) payable to the Treasurer, Canadian National Railways, the said cheque to be returned if the intending tenderer submits a regular tender.

The lowest or any tender not necessarily accepted.

A. F. STEWART,
Chief Engineer,
Eastern Lines.

Canadian National Railways,
27 Wellington St. East,
Toronto.

CANADIAN PACIFIC RAILWAY COMPANY.

NOTICE TO SHAREHOLDERS.

The Thirty-eighth Annual General Meetnig of the Shareholders of this Company, for the election of Directors to take the places of the retiring Directors and for the transaction of business generally, will be held on Wednesday, the seventh day of May next, at the principal office of the Company, at Montreal, at Twelve o'clock noon.

The Common Stock Transfer Books will be closed in Montreal, New York and London at 3 p.m. on Tuesday, the fifteenth day of April. The Preference Stock Books will be closed in London at the same time.

All books will be re-opened on Thursday, the eighth day of May.

By order of the Board,
ERNEST ALEXANDER,
Secretary.

Montreal, March 19th, 1919.

FOR SALE.

Light Draught Tug.
250 Ton Tow Barge.
2 Sand Pumping Outfits on Scows.
Marine Engine, Boiler Propeller and Shaft.

Apply

Eastern Equipment Co.
Limited
Room 404, McGILL BUILDING
Montreal, Que.
'Phone Main 3925.

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CANADA
FOUNDRIES & FORGINGS, LIMITED
WELLAND, ONT.

Canadian Railway and Marine World

May, 1919

The Economics of Electric Operation of Railways.

By W. G. Gordon, Transportation Engineer, Canadian General Electric Co.

Much has been written descriptive of the different railways now operating electrically, wholly or in part, and of the results as compared with steam operation. I will present some of the latest figures regarding the economies effected by electric operation. At the American Institute of Electrical Engineers convention last year, E. W. Rice said:—"Electric locomotives have been so improved and simplified that they are competent to haul the heaviest train that can be held together with the present train construction; to operate at the highest speed permissible by the alignment of the road and independent of its grades; and the electric locomotives can meet, in the most efficient and adequate manner, the transportation problems confronting the country, and offer better results than are now obtained or seem possible with steam locomotives. It should not be forgotten that steam locomotives burn about 25% of the entire coal mined in the United States, and that 12% of the entire ton mileage movement of freight and passengers carried, is represented in cars and tenders required to haul coal to supply steam for the locomotives." This percentage is shown from the following table (1) of one year's ton mile movement:

	Millions ton miles	Per cent. of total
Revenue coal	204,600	12.56
Railway coal	52,000	4.96
Revenue freight	372,040	35.60
Railway freight	5,600	0.55
Locomotives	148,200	14.20
Locomotive tenders	74,630	7.14
Passenger cars	186,890	17.90
	1,043,960	100.00

The comparative percentages for the different classifications are very close to those given above for the operation of our steam railways in Canada.

Where a trunk line is electrically operated from water power stations, it means that the total movement for railway coal and locomotive tenders is eliminated, and even if partially or wholly operated from steam power stations, the movement for locomotive tenders is eliminated, and the movement for railway coal greatly decreased. The benefit is self evident, of being able to apply this ton mileage, at present absorbed by steam operation, in the movement of revenue tonnage.

The cost of maintenance of the electric locomotive is very much less than that of the steam locomotive. Table 2 gives the cost of maintenance in cents per locomotive mile for a number of roads, these costs being for the years they have been operating electrically to 1917, inclusive. The costs are given for an average of 5 years for 3 roads, and average of 4 years for 2 roads and an average of 2 years for the Chicago, Milwaukee & St. Paul Ry. The average locomotive weight in tons is given for each road, and in order to obtain a comparison, I have given the cost also on the basis of the locomotives weighing 100 tons in each case.

Table 2. Cost of Maintenance of Electric Locomotives.

Road.	Average loco. wt. in tons	Average maint. per loco. mile	Average maint. on basis of loco. weighing 100 tons.	No. of years.
Baltimore & Ohio Rd.	98	5.13	5.24	5
Butte, Anaconda & Pacific Ry.	80	5.66	7.08	4
Chicago, Milwaukee & St. Paul Ry.	290	8.94	3.09	2
Michigan Central Rd.	108	4.39	4.06	4
New York Central Rd.	118	4.12	3.5	5
Pennsylvania Rd.	156	5.3	3.4	5
General average		5.59	4.39	

The cost of maintenance per locomotive mile for steam locomotives, compared with the above, will be from 10c to 20c or higher, depending on the capacity and service of the locomotive.

A very interesting comparison is given in Table 3, showing comparative results between steam and electric operation on the Butte, Anaconda & Pacific Rd. In 1913 the operation was entirely steam; since then it has been gradually superseded by electric. The figures for electric operation are averaged for 3 years, and as there was still a considerable amount of steam operation during these 3 years, the figures do not show full credit to the benefit of electric operation.

Table 3. Comparative Results, Steam and Electric Operation, B. A. & P. Rd.

	Steam 1913	Electric average for 3 yrs.	Saving in amount	Elec. Operation %
Fuel & power	$294,820	175,165	119,665	40.59
Loco. repairs	97,492	57,881	39,611	40.61
Loco. men, wages	99,611	74,036	25,575	25.67
Loco. house expenses	28,342	16,703	11,639	41.06
Lubricant	9,345	5,444	3,901	41.76
Water	4,491	2,084	2,407	53.59
Other supplies	5,435	4,308	1,127	20.73
Total	$539,546	$336,621	$202,925	37.8
Revenue ton miles hauled	153,168,648	169,553,405	16,384,757	10.70

Table 3 shows a saving in electric operation of 37.8%, and at the same time an increase in the revenue ton miles hauled of 10.7%. Had this increased ton miles been hauled in 1913, the total cost would have been $597,277, so that the actual saving in electric operation is 44%. On this road 17 electric locomotives were in operation in 1914, 24 in 1916, and at present there are 28.

Where mountain divisions are electrically operated, a further marked economy is effected by regenerative braking. This is obtained by exciting the fields of the motors on the locomotive on down grades, so that the counter electro-motive force builds up higher than the line voltage, and returns power to the line, this action retarding the train to whatever extent desired, without the use of the air brakes, as well as supplying power to other trains running on the level, or up grades. This action, of course, reduces the total demand on the substations, with consequent reduction in the power demand on the primary source of supply.

Table 4 which shows the saving thus obtained on the Chicago, Milwaukee & St. Paul Ry. is the result of careful tests just worked up by General Electric Co.'s engineers.

The above results are of extreme interest. The runs were taken in both directions, over the total electrified distance of 437.6 miles, with trains as high as 2,853 tons trailing load, giving a general average in watt hours per ton mile, without regenerative braking, of 24.06; and with regenerative braking of 19.72; or a reduction in power due to regenerative braking of 18.04%. As a direct result of regenerative braking, a large saving is effected in brake shoe wear, apart from the elimination of wrecks caused by overheating of the brake shoes, brake heads and wheels, where heavy trains are handled on long down grades. The air brakes are only required for emergency, as the braking is all done by the locomotive. It has been estimated that on the Chicago, Milwaukee & St. Paul Ry. the saving in

Table 4. Chicago, Milwaukee & St. Paul Ry. Tests. Watt Hours Per Ton Mile

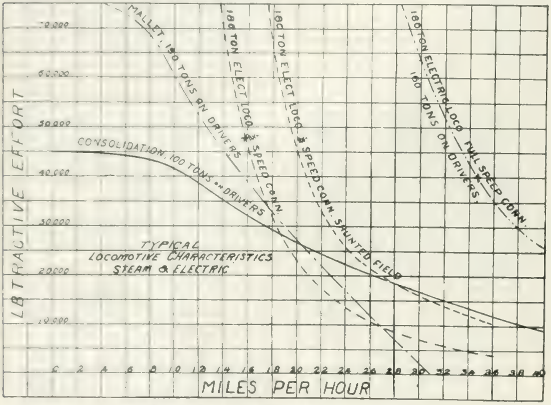
[illegible] from watt hour meter readings taken [illegible] which include [illegible] of road and helper locomotives.

Run No.		No. of cars	Trailing tonnage	Ton mile trip including locos.	[illegible]	[illegible]	[illegible]	[illegible]
	Missoula Division 111.? miles							
[illegible]	Avery to Deer Lodge	[illegible]	2497-2457	586485	[illegible]	[illegible]	[illegible]	[illegible]
7	Avery to Deer Lodge	[illegible]	2767	656516	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	Avery to Deer Lodge	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	Deer Lodge to Avery	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	Deer Lodge to Avery	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Average Values.							
	Avery to Deer Lodge					[illegible]		[illegible]
	Deer Lodge to Avery					[illegible]		[illegible]
	Round trip average Missoula Division					[illegible]		[illegible]
	Rocky Mountain Division [illegible] miles.							
4	Deer Lodge to [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11	Deer Lodge to [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible] to Deer Lodge	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
12	[illegible] to Deer Lodge	[illegible]	2767	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Average Values							
	Deer Lodge to [illegible]					[illegible]		[illegible]
	[illegible] to Deer Lodge					[illegible]		[illegible]
	Round trip average Rocky Mt. Div.					[illegible]		[illegible]
	General average					[illegible]		[illegible]
	Reduction [illegible]				[illegible]			

grade, brake shoe wear alone is close to $7,000 on the Denver & Rio Grande Ry. 4% grade between Soldier Summit and Thistle, the instructions are with steam operation not to exceed 8 to 10 miles per hour and to stop every 5 to 6 miles, for from 15 to 20 minutes, to cool brake shoes and wheels. Under these conditions the energy dissipated between rail, brake shoes and wheel may be as high as 2,000 h.p., and it is readily seen that even on small mileage grades of long extent the brake shoe wear, with steam operation, is a serious factor of expense.

The steam locomotive is a power plant, which, owing to physical limitations, can attain only a certain capacity and efficiency. On the other hand, the electric locomotive, itself very efficient, can draw any amount of power desired from a system fed by hydro electric plants, or highly efficient steam electric plants. The continuous draw bar pull of the electric locomotive is limited only by the strength of the draft rigging on the cars. By means of the various series-parallel combinations of the motors, a wide range of running speeds can be obtained, without rheostatic losses. This range can be further varied by shunting the motor fields. Due to the power input available, draw bar pulls can be maintained at speeds impossible with steam locomotives. This means that over any line, trains of heavier tonnage can be hauled at a much better schedule speed than with steam locomotives. In the case where a single track steam line has reached its capacity, and would have to be double tracked to handle increased ton mileage, electric operation will obviate the necessity of double tracking and permit of a large expansion in ton mileage handled. The accompanying diagram sheet giving typical locomotive characteristics, steam and electric, shows a comparison of pounds tractive effort, at various speeds, of 2 steam locomotives, a Mallet with 150 tons on drivers and a consolidation with 100 tons on drivers, with an electric locomotive having 180 tons on drivers. It will be noted that the tractive effort of the Mallet drops off rapidly above 8 miles an hour, while the tractive effort of the consolidation drops off steadily, though not so rapidly, above 10 miles per hour. Curves are given for 3 of the 6 running speeds of the electric locomotive. At 16 miles an hour the continuous tractive effort which the electric locomotive can exert is greater than that of either of the steam locomotives, while at about 35 miles an hour the continuous tractive effort of the electric locomotive is more than three times the tractive effort of the consolidation.

With regard to collection of current, experience has shown that with the slider type of pantograph 1,000 amperes can be taken sparklessly from a single trolley wire. Using 2 trolley wires suspended side by side, as on the Chicago, Milwaukee & St. Paul Ry., 2,000 amperes can be collected. This at 3,000 volts is 6,000 k.w., or over 8,000 h.p. As there is no sparking, the wear on the trolley wire is exceedingly slight, as may be judged from the fact that here in Canada we are getting a life of from 10,000 to 12,000 miles from a single wearing strip on the pantograph.



Typical Locomotive Characteristics, Steam and Electric.

As regards substations, a further decided economy is now credited to electric operation, through the perfection of automatic control. One serious operating condition was the flashing over of the generators from some short circuit outside the station. This might be severe enough to necessitate cleaning up the brush rigging and commutators. Continuity of operation required an attendant at each substation, while the generating sets were in operation. This trouble has been entirely overcome by the use of a high speed circuit breaker, which will open a short circuit, of many times the normal full load value of the generators, in less than eight thousandths of a second. With the further use of flash barriers on the commutators, flashing over of direct current generators is absolutely eliminated. With automatic control, the sets are stopped and started through the voltage drop reaching a definite value at any point on the system. In addition to doing away with sub-station attendants, this also improves the all-day efficiency of the generator sets, as they are shut down during periods where they are not automatically started up to maintain the line voltage at a fixed value. With the refinements now available for substation operation, it can be confidently asserted that the substation equipment is now 99% efficient.

The question of load factor on the power supply lines of the Chicago, Milwaukee & St. Paul Ry. electrification is of considerable importance, since the price of energy per k.w. hour is based upon an assumed load factor of 60%. In case the ratio of the average to the maximum load is less than this amount, the price is somewhat higher. Because of the desirability of maintaining a relatively high load factor, there has been designed and installed, a power limiting and indicating system, which automatically limits the maximum load to certain predetermined peaks, and also indicates to the dispatcher the exact amount of power which the whole system is receiving at any instant. This apparatus is installed in the dispatcher's office at Deer Lodge, and in each of the substations, which are connected to the main office by pilot wires. Two totalizing k.w. meters are located over the dispatcher's desk, indicating respectively the amount of power being drawn by the 200 miles east and the 220 miles west. By means of the pilot wire control, acting upon the motor-generator sets in the substations, the trolley voltage is reduced temporarily on the overloaded substations, so that the total k.w. consumption on the totalizing meters never exceeds the predetermined maximum. By careful dispatching, it is thus possible to keep the maximum load within reasonable limits, without materially slowing up the movement of trains.

As to the reliability of the modern electric locomotive for continuous service, the returns for 1918 just made public by the New York Central Rd. show that the locomotives were inspected after each 3,000 miles of running and that they averaged 33,000 miles per detention.

In changing to electric operation there is practically no upsetting of the regular steam organization, as the locomotive crews, under instruction, readily become highly efficient in the operation of electric locomotives.

Proposed Bridge over St. Lawrence River at Montreal.

Some of the municipalities on the south shore of the River St. Lawrence, opposite Montreal, have taken up recently the question of securing the building of a bridge across the St. Lawrence between Montreal and the south shore, crossing St. Helens Island. A plan, issued by the Montreal Harbor Commissioners in 1914, showed such a bridge, as part of the proposed works in connection with the harbor improvements, provision to be made for steam and electric railway, vehicular and foot traffic. We are advised that no plans have been prepared for the bridge, nor has any charter been applied for. So far the Harbor Commissioners have not given any consideration to the construction of the bridge, but it is felt by south shore municipalities that it should be built in the near future to give them better access to Montreal, it being claimed that the G.T.R. Victoria bridge is congested. A deputation from the south shore municipalities waited on the Canadian National Rys. directors in Toronto recently, to enlist their co-operation.

The Winnipeg Board of Trade has established a Traffic Department, in charge of P. G. Denison, to give service to members of the board.

Canadian Pacific Railway Company's Annual Report.

The C.P.R's. annual report has been issued over President E. W. Beatty's signature as follows:

The accounts for the year ended Dec. 31, 1918, show the following results:

Gross earnings		$157,537,698.05
Working expenses		123,035,310.38
Net earnings		$ 34,502,387.67
Deduct fixed charges		10,177,512.98
Surplus		$ 24,324,874.69
Contribution to pension fund		500,000.00
		$ 23,824,874.69
Deduct net earnings of commercial telegraph, Jan. and Feb., transferred to special income acct.		193,976.64
		$ 23,630,898.05
From this there has been charged a half-yearly dividend on preference stock of 2%, paid Oct. 1, 1918	$1,613,638.42	
And three quarterly dividends on ordinary stock of 1¾%, each, paid June 29, Oct. 1 and Dec. 31, 1918	13,650,000.00	15,263,638.42
		$ 8,367,259.63
From this there has declared a second half-yearly dividend on preference stock, payable April 1, 1919	$1,613,638.42	
And a fourth annual dividend on ordinary stock of 1¾%, payable April 1, 1919	4,550,000.00	6,163,638.42
Leaving net surplus for the year		$ 2,203,621.21

(which amount has been placed taxes imposed by Dominion in reserve to meet special Government.

In addition to the above dividends on ordinary stock, 3% was paid from special income.

Special Income for the year ended Dec. 31, 1918.

Bal. at Dec. 31, 1917	$15,785,750.86	
Less: dividend paid Apr. 1, 1918	1,950,000.00	
		$13,835,750.86
Net revenue from investments and available resources		1,928,183.50
Interest on deposits, and interest and dividends on other securities		2,779,854.22
Net earnings ocean and coastal steamship lines		1,214,869.22
Net earnings commercial telegraph and news department, rentals and miscellaneous		2,205,544.57
		$21,964,502.37
Less: payments to shareholders in dividends: June 29, Oct. 1, and Dec. 31, 1918		5,850,000.00
		$16,114,502.37
From this a dividend has been declared payable Apr. 1 1919		$ 1,950,000.00

The working expenses for the year were 78.10% of the gross earnings, and the net earnings 21.90%, compared with 69.46 and 30.54% respectively in 1917.

There were no sales during the year of 4% consolidated debenture stock, 4% preference stock, or other capital securities.

In consequence of the provisions of the order of the Governor General in council passed in Mar., 1918, imposing special taxes upon the company, the net surplus from railway operations for the year has been placed in reserve to meet such special taxes, and a notation to that effect appears in the accounts.

The sales of agricultural land in the year were 842,191 acres for $15,375,996, an average of $18.25 an acre. Included in this area were 64,124 acres of irrigated land which brought $42.94 an acre, so that the average price of the balance was $16.22 an acre.

Pursuant to the policy adopted by your directors in 1916, 100 farms for returned soldiers were prepared for occupation and qualified men have already been placed on a number of them. In your directors' opinion it is desirable that the company should continue, as conditions warrant, the preparation of farms and the sale of them on favorable terms to soldiers who have served in the Canadian or Imperial forces and to Canadians who have served in the allied armies.

At the outbreak of hostilities your company had in commission in Atlantic and Pacific service 38 steamships, with an aggregate gross tonnage of 342,000 tons. Since Aug., 1914, the construction of 4 steamships previously authorized, having a gross tonnage of 54,000 tons, has been completed, and 12 steamships of 69,000 gross tonnage have, in the same period, been purchased. During the war 15 steamships were lost by enemy action or through accidents at sea, and 9 have been sold to the British Admiralty, after having been requisitioned. The construction at the Fairfield Shipbuilding Co's yards of a ship 625 ft. long between perpendiculars, having a gross tonnage of 21,000 tons, is to be proceeded with pursuant to the authorization previously given, and three passenger ships of what is known as the intermediate class, for Atlantic service, two of which have been previously authorized, will be put under construction as soon as possible at John Brown & Son and the Fairfield Shipbuilding Co's. yards. At the end of the fiscal year your company had in ocean service 28 steamships having a gross tonnage of 264,000 tons, and 6 steamships under order or purchased but not delivered having a gross tonnage of about 80,000 tons. On their delivery the total tonnage of the fleet will be slightly in excess of aggregate tonnage of the vessels in commission on Aug. 3, 1914.

In May, 1918, in consequence of the demands for increases in wages made to the United States Railroad Administration, substantial increases in all wage scales on U.S. lines were authorized, and were accompanied by increases in freight and passenger rates. Demands for wage increases were likewise made in Canada, and, by orders in council, passed under the War Measures Act in July, 1918, what is known as the McAdoo scale of wages was made effective in Canada, and increases in freight rates generally similar to those granted in the U.S. were made effective on all Canadian railways.

There will be submitted for your consideration and approval a lease of the Kaslo and Slocan Ry., extending from a junction with the Whitewater Creek Branch of the Nakusp and Slocan Ry. at Retallack to Kaslo, B.C., a distance of 17.7 miles, the control of which was secured by your company with your approval under agreement with the Province of British Columbia in 1912. With your approval the directors in 1893 concluded an agreement for the leasing of Nakusp and Slocan Ry. at a rental of 40% of the gross earnings. Bonds of the Nakusp and Slocan Ry. Co. for £132,960 were issued, guaranteed as to principal and interest by the Province of British Columbia and matured on July 1, 1918. The rental paid by this company has not been sufficient to pay the interest on the bonds, and $321,698 had been advanced by the province for this purpose up to Dec. 31, 1917. The lease of Nakusp and Slocan Ry. will expire in 1920, and during its existence your company has expended very substantial amounts in necessary betterments and improvements. In consequence of representations made by the B.C. Government your directors have agreed to the purchase by the company from the government of Nakusp and Slocan Ry. Co's. bonds to the above amount at the actual cost to the province of acquiring them, but not exceeding their face value, upon conditions which involve the extinguishing of all claims of the province against the railway. All the issued capital stock of the Nakusp and Slocan Ry. Co. is held by your company, and the arrangement is, in the opinion of your directors, warranted by the value of the railway as a traffic contributor to your company's system.

Subject to your approval your directors have concluded an agreement with the Grand Trunk Pacific Ry. Co. providing for the use by that company of your company's railway from a point east of Sutherland to a point west of Saskatoon, together with the use of your company's passenger, express, and freight facilities at Saskatoon station. The agreement is for 21 years from Sept. 2, 1918, the rental payable by the G.T.P. being based upon interest at the rate of 5% per annum on half the agreed capital account and the payment of maintenance expenses on a wheelage basis.

You will be asked to sanction the issue and sale of consolidated debenture stock to defray the cost of construction of the portion of the Moose Jaw Southwesterly Branch from mileage 35 to mileage 66 to an amount not exceeding £6,000 a mile.

Your directors are of the view that the construction of additional branch line mileage in the west will be necessary in the near future, and your authority will be asked for proceeding with the construction of the following lines when conditions warrant such construction, and for the issue and sale of a sufficient amount of 4% consolidated debenture stock to meet the expenditure, viz: Empress to Milden Branch, 132 miles; Empress to Acme Branch, 132 miles; Vidora east Branch, 35 miles; Russel north Branch, 15 miles; Lanigan north Branch, 150 miles.

Subject to your approval your directors have authorized expenditures on capital account during the present year of $4,482,000, apportioned to the following works, namely:

Replacement and enlargement of structures in permanent form	$ [illegible]
Additional stations, locomotive houses, freight sheds, ice houses and extensions to existing buildings	[illegible]
Additional terminal and side track accommodation	[illegible]
Tie plates, rail anchors and miscellaneous roadway improvements	[illegible]
Lining tunnels British Columbia District	[illegible]
Automatic block signal protection	[illegible]
Surveys for new lines and power possibilities	[illegible]
Miscellaneous improvements and additions designed to improve facilities and effect operating economies	[illegible]
Improvement in connection with telegraph service	[illegible]

Your company subscribed to $17,000,000 of the second Victory Loan and was allotted $12,447,000 of its subscription. Included in this latter amount was $4,866,666 allotted in exchange for the surrender by the company of £1,000,000 Do-

[illegible] of Canada [illegible] bonds maturing [illegible].

The gross earnings of your transportation system in the fiscal year exceeded those of any previous year in the history of your company, and exceeded those of 1917 by $[illegible], but the net earnings decreased by $12,043,630. This large addition of $17,191,993 to the working expenses is principally due to the great advance in wages, though the increased cost of fuel and materials of every description also added a substantial amount to the year's expenses.

The Board of Railway Commissioners having amended in certain respects the [illegible] train and interlocking rules effective over the lines of all railway companies subject to the Dominion Parliament's jurisdiction, appropriate changes in the company's existing bylaws will be submitted for your confirmation and approval.

Lord Shaughnessy, who has been President of the company for the past 19 years, expressed his desire to retire from office in Oct., 1918, and his resignation was accepted with the deepest possible regret. During his tenure of office the company has enjoyed extraordinary and uninterrupted prosperity and now stands among the foremost transportation companies in the world. Your directors appreciate that this result has been due to Lord Shaughnessy's able and most devoted services, which have earned the admiration of the community and the gratitude of the shareholders. Your directors learned with gratification of Lord Shaughnessy's willingness to continue as Chairman of the company, and that the benefit of his counsel and advice will not therefore be lost to the company. E. W. Beatty was elected President. You will be asked to approve verbal amendments to bylaws passed by your directors and made necessary by the separation of the positions of Chairman of the company and President.

In order to give his entire time to your steamship interests, G. M. Bosworth, who for [illegible] years has been in charge of the company's freight traffic and for 17 years Vice President in charge of traffic, resigned his office and will hereafter be exclusively identified with the company's steamship enterprises as Chairman of the Canadian Pacific Ocean Services Ltd. W. R. MacInnes formerly Freight Traffic Manager, was appointed Vice President, in charge of traffic in succession to Mr. Bosworth.

Vice President Sir George Bury, after a service of over 35 years, during which he held many positions of increasing responsibility and importance, and in all of which he showed energy and ability of a very high order, resigned from the company's service in Oct., 1918. He, at the same time retired from the board and from the executive committee. Grant Hall, Vice President of Western Lines, was elected Vice President, a member of the board of directors and of the executive committee, in succession to Sir George Bury.

The following directors will retire from office at the approaching annual meeting. They are eligible for re-election: R. B. Angus, Sir Edmund B. Osler, Sir Herbert S. Holt, Brig.-Gen. F. S. Meighen.

The Alberta and Great Waterways Ry. announced recently that it would receive at Edmonton, Alta., less than carload shipments destined for points on its line between Lac la Biche and McMurray, Alta.

The Filing of Railway Correspondence.

By F. W. Lambert, Chief Clerk to General Superintendent and Chief Engineer, Algoma Central and Hudson Bay Ry., Sault Ste. Marie, Ont.

I read with interest the article by W. H. Mathews in Canadian Railway and Marine World for February, on the filing of correspondence in railway offices. In my opinion the general idea of a filing system should be so to arrange the index that all reliance upon memory is removed. The personnel of the office force changes from time to time, and when memory is responsible to any extent for the locating of files, the papers relating to matters a few months, or years, past are most difficult to find. It would appear, therefore, that the only manner in which this can be overcome is by the construction of a filing system using subjects as a guide.

As I understand Mr. Mathews' system, the unit system of filing correspondence is exactly the reverse. The memory must be relied upon to call to mind car numbers, locomotive numbers, mileages, etc., before the correspondence can be found. I infer that correspondence regarding locomotive engine failure would be filed under some combination of numbers constructed from the number of the locomotive, date, or mileage, regardless of the nature of the failure. I cannot see how it would be possible to find the papers at a later date, when these various numbers have passed from the memory of those in charge, or when the office force has undergone changes in its personnel.

Mr. Mathews states that the proper place to file correspondence regarding car delays or pilfering, etc., is under a file number constructed from the car number. Let me suggest a situation which might arise. Some articles are lost from car 123,456, and the file is closed and filed away in file 56, these being the last two numbers. Six months later, the general superintendent requires the file, the company's police officer having located the missing articles. The chief clerk does not remember the car number, or, perhaps he may be a new man. The general superintendent most regretably has also forgotten the car number. It has departed from the memory of the file clerk and is forgotten by the company's police office. I presume the file remains in the archives. Would it not be much easier to locate the papers had they been filed under "Loss and damage?"

There is on the market a book on railway filing, the Williams Filing Classification on Railway Correspondence. This is constructed on somewhat similar lines to the Classification of Accounts issued by the Interstate Commerce Commission. It is subdivided under several headings, including Roadway and Structures; Equipment and Shops; Transportation and Storage, etc. These are again subdivided into various subjects, which in their turn are split up once more. While perhaps this, if adopted in its entirety, would not be practicable in every office, in my opinion it forms the basis upon which a filing system can be constructed. The one feature which recommends it most strongly is that memory is not relied upon. When a file of correspondence is required, it calls for no effort of memory to recall the subject, as were the subject not known the correspondence would njever be requested. Moreover it seems to me to be logical that all correspondence relating to various subjects should be assembled and filed, not necessarily in one file, but in one place in the filing system. The subjects, as mentioned, can be subdivided according to local requirements.

It may be that I do not understand Mr. Mathews' system correctly, but upon reading the summary given in the article referred to, I cannot see but that the whole system relies upon the memory of individuals, whereas the filing of correspondence under its proper subjects places the responsibility with the chief clerk for determining the subject under which the papers should be filed. If the chief clerk is competent to hold his position this part of his duties should not be beyond his ability.

I am at present chief clerk to the General Superintendent and Chief Engineer, Algoma Central and Hudson Bay, and have held positions of file clerk, general superintendent's accountant, and chief clerk in terminal office. [Editor's note: This is a very important and interesting subject, and we would be glad to get the views of other chief clerks in regard to it.]

Regulations With Respect to Railway Safety Appliance Standards.

The Board of Railway Commissioners passed general order 261, Mar. 18, as follows: The general order 102, Feb. 17, 1913, approving regulations with respect to railway safety appliance standards. Whereas reports made to the board show a large number of accidents, sometimes resulting fatally, to railway employes, because of defective coupler attachments used by railway companies; and whereas the Master Car Builders' Association has approved of equipment dispensing with the use of links, clevises, or chains. Upon reading what has been filed by the different railway companies affected, and for the purposes of uniformity and the safety of railway employes, it is ordered that the "Regulations with respect to railway safety appliance standards" approved under general order 102, be amended by adding at the end of the provision under the heading "Uncoupling levers", at the top of page 12, the following, viz: "Cars built after June, 1919, must be equipped with coupler operating lever, connected direct with coupler lock of lock lift without the use of links, clevises, or chains."

Central Railway of Canada Refused Sanction of Agreements.

The Board of Railway Commissioners passed order 28,167, Mar. 17, as follows: Re application on behalf of Central Railway Co. of Canada, for a recommendation by the board to the Governor in council for sanction of agreements made between the company and the Central Counties, the Ottawa River, the Carillon and Grenville, and the Ste. Agathe Branch Railway Companies, and the Ottawa River Navigation Co. Upon hearing the application at Ottawa, Mar. 4, in the presence of counsel and representatives for the applicant company, counsel for the Imperial Bank of Canada, and other creditors, it is ordered that the application be dismissed.

The Hamilton, Ont., Board of Trade, is urging the Grand Trunk Ry. to improve the passenger service between Hamilton, Allandale and Collingwood.

Financial Results of Operation of Railways By United States Government.

The U.S. Railroad Administration has issued the following statement:—The financial results of the operation of railways by the U.S. Railroad Administration during Dec., 1918, and for the entire year 1918, in comparison with those of the same period of 1917, are shown in a compilation just completed for the Director General by the operating statistics section of the Division of Operation. The figures apply only to class 1 roads under federal control—that is, those roads having annual operating revenues in excess of $1,000,000. They will not correspond exactly with the final figures to be issued by the Interstate Commerce Commission as the commission's summary includes a few railways not under federal control, as well as a few terminal and switching roads.

In the month of December there are ordinarily many adjustments in the accounts, so that overestimates or underestimates in previous months (in those accounts which are conducted monthly on a basis of "accruals,") may be corrected to correspond with actual receipts and expenditures. This is in accordance with the accounting regulations of the Interstate Commerce Commission (which permit monthly accruals in certain accounts, but require that adjustments must be made before the end of the year, so that the complete figures for the 12 months will represent the actual results). These adjustments in Dec., 1918, particularly in charges for retroactive wage payments, have resulted in distorting the figures in comparison with Dec., 1917, but the results for the 12 months as a whole are comparable.

In considering the results for 1918 it should be borne in mind that that year was almost wholly one of war conditions. It was necessary to move freight expeditiously, in many cases regardless of cost. Preference had to be given to munitions traffic, and this naturally militated against economies. In addition, the railways were compelled in many instances to employ inexperienced and inefficient labor, due to the inroads made upon their forces by the demands of the military service. It should not be overlooked in this connection that the railways had to supply the demands of the military service generally, just as other industries did, but had the special demand made upon it of supplying men for the military railways of France. Therefore, in considering comparisons with the previous years, the fact that 1918 was one of war conditions should be constantly borne in mind.

The results for Dec., 1918, compared with Dec., 1917, were as follows:—

[Figures preceded by minus marks represent decreases.]

	Month of December 1918	1917	Increase or decrease Amount	Per cent
Operating revenues	[illegible]	[illegible]	[illegible]	30.[illegible]
Operating expenses	388,201,080	[illegible]	[illegible]	57.7
Net operating revenues	[illegible]	[illegible]	[illegible]	-46.7
Operating ratio	89.[illegible]	74.[illegible]	[illegible]	20.6
Net Federal income corresponding to standard return guaranteed by Government	$31,503,259	[illegible]	-$33,367,091	[illegible]
Standard return for 1 month	74,194,649			

For the year the results were as follows:—

[Figures preceded by minus marks represent decreases.]

Calendar Year. Increase or decrease	1918	1917	Amount	Per cent.
Operating revenues	$4,842,695,884	[illegible]	[illegible]	21.4
Operating expenses	3,939,315,122	[illegible]	[illegible]	40.[illegible]
Net operating expenses	903,360,762	[illegible]	-276,901,958	23.5
Operating ratio	81.3	[illegible]	10.9	[illegible]
Net Federal income corresponding to standard return guaranteed by Government	688,200,083	[illegible]	[illegible]	[illegible]

NOTE. Standard return for year $890,335,68[illegible], so that the "Net federal income" for the year fell short of the standard return by $202,13[illegible].

The wage increases which were authorized throughout the year had the effect of increasing the 1918 operating expenses by approximately $583,000,000, which represents an increase of about 32 per cent over what would have been the wages if there had been no increases in 1918. The increased cost of materials also added heavy burdens to operating expenses. The increased cost of locomotive fuel alone was equivalent to adding approximately $125,000,000 to the cost of transportation expenses. In 1918 operating expenses took 81.3 per cent of operating revenues, compared with 70.4 per cent in 1917.

The 1918 results were adversely affected by the extreme weather conditions of Jan. and Feb., 1918, and the extreme traffic congestion which obtained at that time. In January operating expenses took 95 per cent of operating revenues; in Feb. the operating ratio was 90 per cent. In comparison with the same months of 1917, the decrease in net federal income in Jan. and Feb., 1918, was $100,000,000.

The results of freight train operation for Dec., 1918, compared with Dec., 1917, were as follows:—

[Figures preceded by minus marks represent decreases.]

	Month of December – 1918	1917	Increase or decrease Amount	Per cent
Miles of road operated	229,250	229,675	-425	[illegible]
Revenue and nonrevenue ton miles (thousands)	33,659,507	31,960,171	1,699,336	[illegible]
Loaded freight car miles (thousands)	1,129,960	1,101,427	28,533	[illegible]
Total freight car miles (thousands)	1,714,168	1,553,277	160,891	[illegible]
Freight train miles (thousands)	50,402	51,586	-1,184	[illegible]
Averages:				
Train load (tons)	668.0	620.0	48.0	[illegible]
Carload (tons)	29.8	29.0	.8	[illegible]
Per cent of loaded to total car miles	65.9	70.9	-5.0	[illegible]

The increase in freight traffic of 5.3 per cent shown above was handled with actually less freight train miles; in fact, the train miles were 2.3 per cent less than in December, 1917. This result was accomplished by better car and train loading.

The results for the year were as follows:—

[Figures preceded by minus marks represent decreases.]

	1918	1917		
Miles of road operated	228,729	228,633	96	[illegible]
Revenue and non revenue ton miles (thousands)	[illegible]	15,815,601	-887,298	[illegible]
Loaded freight car miles (thousands)	[illegible]	427,341,924	7,656,004	[illegible]
Total freight car miles (thousands)	22,056,329	22,532,507	-476,178	[illegible]
Freight train miles (thousands)	637,924	654,580	-16,656	[illegible]
Averages:				
Train load	682.0	653.0	[illegible]	[illegible]
Carload	29.1	27.0	[illegible]	[illegible]
Per cent of loaded to total car miles	67.7	70.2	[illegible]	[illegible]

The figures for the year are more interesting than those for December, as the former reflect the results of freight operations during the first year of federal control, in comparison with those of the last year under private management. In making the comparison, consideration should be given to the fact that the 1918 figures were adversely affected by the severe weather conditions and the traffic congestion of January and February. Notwithstanding the heavy losses during the first two months under federal control, the summary for the year shows that the 228,729 miles of railway produced 435 billions of ton miles in 1918, compared with 427 2-3 billions, [illegible].

This increase in traffic was handled with an actual decrease in train miles and in loaded car miles. The train miles were 2.5% less than in 1917 and the loaded car miles were 5.6% less than in 1917. This was accomplished through an increase of 4.4% in the train load and 7.8% in the carload, as indicated in the above statement.

The decrease in the percentage of loaded to total car miles was due principally to the relatively greater proportion of empty car miles, as a result of the policy of the U.S. Railroad Administration to move the empties in solid trains to the regions where they would be needed for prospective traffic, such as grain needed for war purposes. This policy, while somewhat increasing the empty car mileage, had the favorable result of ameliorating the car shortage and of expediting the movement of traffic

The passenger traffic for the year will show an increase in passengers carried 1 mile of approximately 9%. The complete figures for the 12 months are not yet available. Those for the 11 months ended Nov. 30 show that in that period of 1918 the railways under federal control carried 39 billion passengers 1 mile, an increase of 3¼ billions over the corresponding period of 1917. These figures include the movement of troops and other military passenger traffic.

Grand Trunk Ry. Employes at Belleville, Ont., have formed an amateur athletic association with W. D. Robb, Vice President, Transportation and Maintenance, and J. D. McMillan, Superintendent, Belleville Division, as honorary President and honorary Vice President respectively. H. M. Gain, Trainmaster, is President.

Railway Histories.—An interesting sale of 450 volumes of railway history of the world, took place in New York, recently. The collection included manuscript journals of George Stephenson and I. K. Brunel, among the more important volumes, and a copy of the Grand Trunk Ry. rules dated 1857, among the minor ones.

Birthdays of Transportation Men in May.

Many happy returns of the day to:

[illegible], Superintendent, Halifax & South Western Ry. (Canadian National Rys.), Bridgewater, N.S., born at Pictou, N.S., May 24, [illegible]

W. R. Baker, C.V.O., ex-Secretary, C.P.R., Montreal, born at York, Eng., May [illegible]

B. A. Bourgeois, Assistant to Comptroller and Treasurer, Canadian Government Railways, Moncton, N.B., born there May 24, 1869.

G. S. Cantlie, ex-General Superintendent of Car Service, C.P.R., Montreal, born there, May 2, 1867.

B. T. Chappell, General Superintendent, Prairie District, Western Lines, Canadian National Rys., Saskatoon, Sask., born at Charlottetown, P.E.I., May 1, 1878.

R. Crosby, Car Foreman, Canadian Northern Ry., Moose Jaw, Sask., born at Hawick, Scotland, May 2, 1886.

N. R. DesBrisay, District Passenger Agent, C.P.R., St. John, N.B., born at Minneapolis, Minn., May 18, 1888.

A. E. Duff, ex-District Passenger Agent, G.T.R., Toronto, now of Winnipeg, born at Sherbrooke, Que., May 1, 1872.

G. C. Dunn, Division Engineer, Grand Trunk Pacific Ry., Winnipeg, born at Quebec, May 13, 1862.

G. E. Graham, General Manager, Dominion Atlantic Ry., Kentville, N.S., born May, 1870.

G. H. Hedge, Works Manager, Canadian National Rys., Winnipeg, born at Neath, Wales, May 26, 1865.

G. A. Hoag, Superintendent, Nipissing Division, Ontario District, Canadian National Rys., Capreol, Ont., born at Walters Falls, May 31, 1866.

J. Irwin, Superintendent, Division 4, Western District, Canadian National Rys., Calgary, Alta., born at Clinton, Ont., May 28, 1866.

J. N. Murphy, Roadmaster, C.P.R., Brandon, Man., born at Mooretown, Ont., May 10, [illegible]

Sir Augustus M. Nanton, President, Winnipeg Electric Ry., and director, C.P.R., Winnipeg, born at Toronto, May 7, 1860.

A. V. Redmond, District Engineer, Central District, Canadian National Rys., Winnipeg, born at Kingston, Ont., May [illegible]

[illegible], Passenger Department C.P.R., Montreal, born at Detroit, Mich., May 12, [illegible]

W. H. Snell, General Passenger Agent, C.P.R., Montreal, born at Palmyra, Neb., May 23, 1872.

W. Stapleton, District Passenger Agent, Canadian National Rys., Saskatoon, Sask., born at Bristol, Eng., May [illegible]

J. H. Walsh, General Manager, Quebec Central Ry., Sherbrooke, Que., born at Quebec, [illegible]

[illegible], B.A.Sc., C.E., [illegible] Engineer, Canadian National Rys., Toronto, born at Quebec, May 25, [illegible]

[illegible], Assistant Manager, Toronto & York Radial Ry., Toronto, born at Boston, Mass., May 23, 1871.

A. O. Wolff, Resident Engineer, Brownville Division, New Brunswick District, C.P.R., Brownville Jct., Me., born at Copenhagen, Denmark, May 14, 1887.

James Yeo., ex-Roadmaster, Intercolonial Ry., Riviere du Loup, Que., born at Bideford, Devonshire, Eng., May 1, 1830.

General Manager Alfred Price's Advice to C.P.R. Agents.

The following letter, reproduced in facsimile of his handwriting, has been sent by Alfred Price, General Manager, Eastern Lines, C.P.R., to all agents in his territory:—

"As you read this letter, I wish you would regard it as a personal communication, just as though it had been addressed to no one else. The C.P.R. enjoys throughout this country the reputation of being efficiently managed, and while such a reputation redounds to the credit of the officials, no small part of it is due to the intelligent and loyal devotion of those employes through whom the public transacts its business with the company.

"An agent is one who acts for another, a representative or deputy. This is the position you hold for the C.P.R. at your station, and it invests you with the power to act for it. Higher officials may, from time to time, make some public statement of importance to the community at large, but the great majority of people who ship or receive fright, or who travel on this company's trains, to or from your station, know little or nothing about these higher officials. They do know you, however, and they regard you as the properly constituted representative of the C.P.R.—in fact, to most of them, you are the C.P.R. This makes you a real part of this great organization, with unlimited opportunities for advancing the company's interests. You are doing this effectually, not only when you are performing your manifold duties satisfactorily, but equally so when you are being courteous, patient and obliging towards the public.

"Our function, as a railway, is to transport goods and people, the shipping and travelling public being our customers. We have not the whole field to ourselves and competition is increasing year by year. It is simply good business, therefore, to cultivate intimate relationships with the public, and possibly the greatest factor the C.P.R. possesses for securing patronage is the well earned reputation of its employes for courtesy. It may be hard at times to practise this virtue, but if you can stand a fusilade of questions—some of which may appear to you to be ridiculous—without displaying any signs of irritation, and if you can keep on smiling good naturedly, even after it may seem that patience has ceased to be a virtue, the public will naturally conclude that your attitude is typical of the C.P.R. and you will win innumerable friends for it.

"The fact that you may be located at a place where there is absolutely no competition should make no difference whatever in your attitude towards the public, or in the way you perform your duties. An unnecessary delay to a shipment of freight, or any irregularity or carelessness in the handling of it, may cause the shipper or consignee to divert a large volume of competitive traffic via other routes. An ill-natured remark to a traveller might easily convert a friend into an enemy, with a resultant loss of revenue.

"Do not forget that your interests are interwoven with those of the company to such an extent that if the company prospers it means prosperity to you, but in order to prosper it must have the confidence and good will of the public. You are an important part of the greatest transportation company in the world; not one excepted. Be proud of it. Stick to it. Popularize it. Remember that if it is to continue to prosper it must have friends, and because the public goes first to you in its dealings with the company, you must inspire confidence in it and must help it to make and retain friends".

Regulations for Transportation of Acetylene Gas.

The Board of Railway Commissioners passed general order 260, Mar. 7, as follows:

Re general order 203, Aug. 11, 1917, tion by freight of dangerous articles other than Explosives as amended by general orders 206 and 207, Sept. 7 and Oct. 26, 1917, and the application of the Prest-O-Lite Co. of Canada, for an order amending regulations approved by general order 203: Upon reading what has been submitted in support of the application, and the recommendation of the Board's Chief Traffic Officer, the Chairman of the Canadian Freight Association consenting for the railway companies, it is ordered that the regulations approved by general 203, be amended by striking out paragraph (j) of rule 1,861, and substituting therfor the following, viz:

"(j) Cylinders containing acetylene gas must be completely filled with a porous material that has been tested with satisfactory results by the Bureau of Explosives, and this material must be charged with acetone, or its equivalent, not to exceed 40% of the interior volumetric capacity of the cylinder. The pressure in cylinders containing acetylene gas must not exceed 250 lb. a square inch at a temperature of 70 degrees F.

"Cylinders containing acetylene gas must not be shipped unless they were charged by the person or company by or for whom the cylinders are manufactured. Provided that they may be charged by a person or company having possession of complete information, furnished in writing by the person by or for whom the cylinders were manufactured, showing the nature of the porous filling and solvent in the cylinders and the meaning of the test markings, solvent indicator markings, and other markings on the cylinders."

Quebec Railway Boards Interest.—The Quebec Legislature has amended the section of the Railway Act relating to the rate of interest on borrowed money, by striking out the words "legal rate" and inserting instead the words, "seven per cent." This rate is the maximum rate, and companies may borrow money at any rate not exceeding it.

A Paying Line.—An interesting statement, if correct, was made in England recently during the discussion as to the internationalization of the coal mines, to the effect that Lord Tredegar is the owner of one mile of line on which the freight is one penny a ton and from which he derives an income of £40,000 a year. It is called the "golden mill railway."

Relations Between Company's Officers and Employes, Organized and Unorganized.

By John McMillan, Manager of C.P.R. Co's. Telegraphs.

The relations between the company's officers and employes must be marked by cordial goodwill, intelligent co-operation and mutual respect. We cannot hope to build and maintain a successful organization on any other foundation. Officers should bear in mind that they are almost wholly responsible for the relations that exist between the official staff and employes. Officers instruct and direct. An officer should remember to instruct as he himself would like to receive instruction All instruction should be clear and concise. Officers who expect to maintain the best relations with employes, should refrain from irreverent appeals to the Supreme Being; profane or abusive language is a weakness and should be avoided. Officers should be quick to note exceptionally good service. Your appreciation should be expressed. You should encourage the less skilful or less efficient, it will pay big returns. Helpful encouragement will make better workmen. Do not threaten to dismiss any employe, unless as a last resort.

Organized Employes.—The best relations will be maintained when officers and employes thoroughly understand and live up to the conditions of service contained in the schedule agreed to by the company and employes. Trifling schedule evasions may mean hours of argument before a labor board. Schedule evasions mean little to the company, and often lead to serious dispute. Officers should deal with organized employes with such fairness that there will be no occasion for an appeal to a grievance committee.

Unorganized Employes.—The relations between officers and unorganized employes should be marked by careful supervision. Officers should have a personal knowledge of each employe's record, so that good work will result in promotion. If there is no opportunity for promotion, and the work of the unorganized employe is important, an increase in salary should be arranged, without waiting for an appeal from the employe. The supervision of the unorganized employes is best test of an officer's fitness to maintain good relations with his staff. There may be little pressure other than his own standard of what is right and fair. His supervision should be such that the unorganized will feel no disadvantage by reason of the lack of organization.

Officers who discipline or dismiss, should, with as little delay as possible, give the employe the full reason for discipline or dismissal and not keep him in suspense. It is a waste of time, for which there is little or no excuse.

So far we have considered the principles that mean success in every organization, namely, goodwill, co-operation, and respect; the general principles of supervision, the recognition of faithful service as applied to organized and unorganized employes. If, however, we wish to create and develop broader lines of organization, which will mean better relations between officers and employes, then we must not be unmindful of the interests beyond the lines of instruction and obedience.

Safety First.—We should consider the principles of safety first. Safety first methods are designed first to protect the employe. Safety first has been advertised extensively, wherever it seemed possible to find space for the familiar motto—"Safety First". Have safety first measures prevented accidents? Has safety first resulted in greater safety in transportation, less risk of injury to employes and passengers, and less loss of life? Officers should freely express their views as to the safety first rule. We should hold fast to every factor of safety and protection against accident.

First Aid measures should appeal strongly to officers and employes. First aid training, carried out by the company without expense to the employe, is appreciated by the employe, as it is an evidence of generous preparation to protect him in the event of accident or unexpected breakdown, due to ill health. In the event of accident our sympathies are quickly aroused, yet, without a proper knowledge of first aid, we can be of little assistance. First aid training will mean prompt and intelligent care of the injured, relieve suffering, and probably save human life. First aid training should be taken up by officers, foreman, chief clerks, engineers and conductors, and an effort made to enroll all who are interested.

Welfare Work.—We should not forget the general need for a broad policy of helpfulness in welfare work. The officers should consider, and probably suggest that the company appoint for the system, a general welfare work officer, appointed to make an inspection of all divisional points where the employes are housed in the company's buildings, and all Y.M.C.A. centers, social and athletic activities and supervision of general recreation interests.

Benevolent Fund.—An opinion should be expressed as to the need of creating a benevolent fund, maintained by the officers and employes by subscribing part of one day's pay; this fund to be administered by a committee of the employes on each grand district, to apply to all cases of unusual need caused by ill health or other emergent cases, not now provided for. For example, where an employe is advised by his physician that unless he is in a position to take special treatment, or two or three months rest and treatment in a sanatorium he is likely to suffer a complete collapse. In a case of this kind a request should be made for money to be taken from the benevolent fund. If the fund created by employes is well handled for at least one year, officers might then recommend that the company consider some assistance to it.

The country and company have passed through a critical period during the last four years. The company's record has been one of high honor; its policy has been marked by a generous administration; its officers are well trained and its employes efficient. It is, I am sure, the ambition of officers and employes, alike, to uphold the present high standard and bend every energy to effect improvements. We will attain the best results by broad and considerate administration and by mutual respect between officers and employes, and through a thorough understanding, by the employes, of the company's policy of generous and fair treatment.

The foregoing paper was read at the C.P.R. Co's. officers' and employes' conference in Montreal recently.

Alberta Branch Line Construction Guaranteed by Government.

The report of the Alberta Department of railways for 1918 shows there were 4,491 miles of railway in the province against 1,060 in 1905. This includes the C.P.R. mileage and that built by the Alberta Ry. and Coal Co., and the St. Marys River Ry., both of which have been absorbed by the C.P.R. In 1906 the Canadian Northern Ry. added 178 miles to the total, and has year by year added to its mileage until now it has 1,195 miles, being second to the C.P.R., which has 1,920. The Grand Trunk Pacific Ry. completed 40 miles in 1908, and to the end of 1918 has completed 640 miles. The McArthur lines opened up traffic with 25 miles of the Edmonton, Dunvegan and British Columbia Ry. in 1912, which has now been extended to 544 miles, of which 308 are comprised in the E.D. and B.C. Ry., 287 in the Alberta and Great Waterways Ry., and 49 in the Central Canada Ry. The other railway is the provincially owned Lacombe and Blindman Valley, 20 miles.

Towards the building of these lines, the province guaranteed the bonds of the several companies, with the exception of the C.P.R., which did not ask any assistance. A table appended to the report shows that construction of 3,656.97 miles of line were called for, of which there have been completed 1,741.02 miles. Five of the lines contracted for with the Canadian Northern Ry., totalling 590.31 miles, and the new lines contracted for with the Grand Trunk Pacific Branch Lines Co., totalling 259.5 miles, have been completed, a total of 849.81 miles, or 1.44 miles more than the mileage for which bonds were issued. Construction has made progress on 11 of the other lines contracted for, while nothing has been done on three branch lines totalling 305 miles. Following are the partially built and "no construction" lines for which guaranteed bonds have been issued:—

	Guarantee per mile	[illegible]	[illegible]
Canadian Northern Ry.—			
North of Calgary to Lethbridge	[illegible]	[illegible]	[illegible]
Branch from above at Little Bow River, via Macleod to International boundary	13,000	[illegible]	
Macleod to Western boundary	[illegible]	[illegible]	
Onoway to Peace River Pass	[illegible]	[illegible]	[illegible]
Oliver-St. Paul de Metis	18,000	[illegible]	[illegible]
Bruderheim to International boundary	[illegible]	[illegible]	
Calgary to [illegible] line	[illegible]	200.00	
Camrose to Alsask	[illegible]	[illegible]	
Strathcona to Pincher Creek	[illegible]	[illegible]	[illegible]
Blackfalds to Goose Lake line	13,000	[illegible]	[illegible]
Edmonton, Dunvegan and B.C. Ry.—			
Edmonton to Dunvegan and west	20,000	[illegible]	[illegible]
Grande Prairie branch	[illegible]	[illegible]	[illegible]
Alberta and Great Waterways Ry.—			
Central Canada Ry.—			
Edmonton to McMurray	[illegible]	[illegible]	[illegible]
McLennan to Peace River and west	[illegible]	[illegible]	[illegible]
Lacombe and Blindman Valley Ry.—			
Lacombe west	[illegible]	[illegible]	[illegible]

Orders by Board of Railway Commissioners for Canada.

[illegible] Canadian Railway [illegible] has published in each issue [illegible] passed by the Board of Railway [illegible] subscribers who have [illegible] No other paper has done this.

[illegible] Mar. 11.—Amending [illegible] articles other [illegible] general [illegible] Aug. 11, 1917, by striking out par. J of [illegible]

[illegible] Mar. 18.—Amending [illegible] standards approved by [illegible] 1918.

[illegible] Mar. 3.—Approving A. E. Bell [illegible] agreement, Feb. 5, with Dunwich & [illegible] Telephone Co., Elgin & Middlesex Counties [illegible] Goderich Rural Telephone Co., Huron County, Ont.

[illegible] Mar. 7.—Authorizing G.T.R. and C.P.R. to operate over interlocking plant at Woodstock, [illegible] first [illegible] train.

[illegible] Mar. 6.—Authorizing C.P.R. to build road diversion at mileage 105.3, Kisbey Subdivision, Sask.

[illegible] Mar. [illegible]—Authorizing G.T.R. to operate [illegible] siding to be built by Toronto Harbor Commissioners, on Block K.T., Toronto.

[illegible] Mar. 6.—Authorizing International Bridge & Terminal Co. to operate railway built for construction purposes along dyke on river front in Fort Frances, Ont.

28144. Mar. 8.—Authorizing Canadian Northern Ontario Ry. to build spur for Spanish River Pulp & Paper Mills Ltd., Westbrook Tp., Sudbury [illegible]

[illegible] Mar. 8.—Approving Canadian Northern Ry. revised location through Secs. 23 and 22, Tp. 27, Range 21 west 4th meridian, mileage 191.90 to 183.80, Alta.

[illegible] Mar. 10.—Authorizing Canadian Northern Western Ry. to build across highway between Secs. 7 and 8, Tp. 27, Range 12, west 4th meridian, Sask.

[illegible] Mar. 11.—Relieving G.T.R. and Michigan Central Rd. from maintaining night signal [illegible] at Southwold and Appin, Ont.

[illegible] Mar. 11.—Relieving Canadian National Rys. from providing further protection at St. Dominique St., Jonquiere, Que.

[illegible] Mar. 12.—Authorizing G.T.R. to build along and across diverted concession road between Consl and 2, Lot 9, Thurlow Top., Ont.

[illegible] to 28152. Mar 12.—Authorizing Canadian [illegible] Ry. to build bridge to carry its line over [illegible] River at mileage [illegible], Sec. 18, Tp. 28, Range 19, west 4th meridian, Alta., and authorizing [illegible] to carry [illegible] by a bridge over same [illegible] at mileage [illegible] and [illegible].

[illegible] Mar. 12.—Authorizing Grand Trunk Pacific Branch Lines Co. to build branch for Dinant Coal Co. from Spicer Coal Co's. spur in Secs. [illegible] and 19, Tp. 18, Range 20 west, 4th meridian, Alta.

[illegible] Mar. 7.—Authorizing C.P.R. to remove agent at Sidewood, Sask., caretaker to be appointed to keep waiting room clean, heated and lighted [illegible]

[illegible] Mar. 11.—Authorizing G.T.R. to rebuild [illegible] over the Mad, Batteaux, and Prettty Rivers, between Allandale and Collingwood, Ont.

28156. Mar. 13.—Approving details of concrete [illegible] to be built by Canadian National Rys., at Station 151, Sec. 23, Tp. 27, Range [illegible] 4th meridian, Alta.

[illegible] Mar. 10.—Approving plan of G.T.R. [illegible] Montreal Subdivision.

28158. Mar. 10.—Authorizing G.T.R. to build [illegible] for British Munitions Co., Montreal.

[illegible] Mar. 12.—Approving electric bell installation at crossing of highway by Toronto-Hamilton and Buffalo Ry., at Beach Road, 950 ft. west of Ottawa St., Hamilton, Ont.

[illegible] Mar. 14.—Extending to May 1, time [illegible] required by order 28052 in [illegible] protection by Kitchener & Waterloo [illegible] at crossing of King St., Kitchener, [illegible]

[illegible] Mar. 14.—Approving Pere Marquette [illegible] contract form 83.

[illegible] Mar. 14.—Dismissing G.T.R. application [illegible] which directed it to install gates at the intersection of its air loop [illegible] plank road, [illegible]

[illegible] Mar. [illegible]—Approving G.T.R. plan showing [illegible] protection of [illegible] Ont.

[illegible] Mar. [illegible]—Relieving G.T.R. from providing [illegible] of second highway [illegible] Ont.

[illegible] Mar. 14.—[illegible] Imperial Munitions [illegible] bell bar- [illegible] applying on steel [illegible] by railway companies on toll bars or planks from Sault Ste Marie Ont., to Toronto and Montreal, after May 1, 1918, were unjust, unreasonable and excessive to the extent that they exceeded lower rates in effect immediately before that date, refund of overcharges being authorized.

28166. Mar. 17.—Ordering Canadian National Rys. to extend existing arrangement to accommodate passengers from west of Trenton and east of Sydenham to trains 5 and 6, by stopping same on flag at Newburgh for passengers to and from Yarker and east, and to and from Napanee and west.

28167. Mar. 17.—Dismissing Central Railway of Canada application for recommendation to Governor in council for sanction of agreement with Central Counties, Ottawa River, Carillon & Grenville and St. Agathe Branch Rys., and Ottawa River Navigation Co.

28168. Mar. 18.—Rescinding order 26196, June 6, 1917, extending area within which express companies' tolls shall include collection and delivery of express freight in Montreal, so as to include British Munitions Co's. plant for the war period.

28169. Mar. 18.—Authorizing Toronto, Hamilton and Buffalo and G.T.R. to build two branches for Canadian Cartridge Co., Hamilton, Ont.

28170. Mar. 17.—Ordering Canadian National Rys. to erect station in St. Laurent, Que.; plans to be filed with the Board and work done within 30 days from date; and suburban and local trains to be stopped there.

28171. Mar. 17.—Approving G.T.R. plan, Oct. 26, 1918, showing location, floor plans and elevation of combination station and section man's dwelling at Vine, Ont.

28172. Mar. 18.—Ordering C.P.R. to install improved type of automatic bell on each side of crossing of Horne Ave., Mission City, B.C.

28173. Mar. 21.—Ordering Canadian National Rys. to appoint caretaker at Vita, Man., to keep station clean, heated and lighted for accommodation of travelling public.

28174. Mar. 21.—Ordering that cost of maintaining transfer track between Grand Trunk Pacific Ry. and C.P.R., at Forrest, Man., be paid 75% by G.T.P.R., and 25% by C.P.R.

28175. Mar. 20.—Ordering that cost of building and maintaining highway crossing over C.P.R. at Pritchard, B.C., reserved under order 27832, Nov. 5, 1918, be paid by B.C. Public Works Department.

28176. Mar. 20.—Ordering C.P.R. to erect station at Horizon, Sask., to be completed by Oct. 1.

28177. Mar. 20.—Authorizing Manitoba Public Works Department to build highway crossing over Canadian National Rys. between Secs. 14 and 23, Tp. 34, Range 23, west principal meridian.

28178. Mar. 20.—Ordering G.T.R. to build farm crossing for H. Laroche, St. Agapit, Que.

28179. Mar. 17.—Approving plan showing changes in interlocking plant, Michigan Central Rd. and G.T.R. crossing, Welland, Ont.

28180. Mar. 21.—Ordering Canadian National Rys. to erect third class station at Arran, Sask., to be completed Aug. 15.

28181. Mar. 19.—Authorizing Canadian National Rys. to build spur for gravel deposit near Ardill, Sask.

28182. Mar. 20.—Authorizing Saskatchewan Highways Department to build highway crossing over C.P.R. on N.W. ¼ Sec. 27, Tp. 34, Range 19, west 3rd meridian.

28189. Mar. 20.—Authorizing C.P.R. to build extension to spur for P. Burns & Co., Calgary, Alta.

28184. Mar. 21.—Approving changed location of Grand Trunk Pacific Ry. right of way and station grounds in n.e ¼ Sec. 12, Tp. 43, Range 2, North Alberta District.

28185. Mar. 20.—Authorizing C.P.R. to divert road allowance on eastern boundary of Sec. 5, Tp. 7, Range 24, west 2nd meridian, Sask .

28186. Mar. 21.—Authorizing G.T.R. to build three spurs for American Cyanimid Co., West Oxford Tp., Ont.

28187. Mar. 20.—Approving agreement, Mar. 7, between Bell Telephone Co. and Innisfail Telephone Co., Simcoe County, Ont.

28188. Mar. 22.—Authorizing Alberta Public Works Department to build highway crossing over Grand Trunk Pacific Ry., at Peers, Alta.

28189. Mar. 26.—Authorizing Canadian National Rys. to divert Rosebud River in Sec. 34, Tp. 27, Range 20, west 4th meridian, Alta.

28190. Mar. 29.—Suspending Nipissing Central Ry. tariff C.R.C. 20, increasing passenger fares, pending hearing by Board.

28191. Mar. 26.—Authorizing G.T.R. to build spur for L. Theroux, Shipton Tp., Que.

28192. Mar. 22.—Approving electric bell installed by G.T.R. at crossing of Queen St., Brampton, Ont.

28193. Mar. 28.—Relieving C.P.R. and G.T.R from maintaining tower man to operate crossing near Forrest, Man., between 5 p.m. Saturdays and 8 a.m. Mondays.

28194. Mar. 27.—Relieving G.T.R. from providing further protection at Woodstock St., Shakespeare, Ont.

28195. Mar. 28.—Approving G.T.R. revised plan 7668 showing track elevation, floor layout and location of station to be erected at Mitchell, Ont.

28196. Mar. 31.—Extending to June, time within which C.P.R. shall complete spurs for Dryden Timber & Power Co., near Eagle River, Ont.

28197. Mar. 25.—Authorizing Quebec and Lake St. John Ry. to use bridge at mileage 57 from Quebec, across Riviere a Pierre.

28198. Mar. 31.—Authorizing C.P.R. to build interchange track between Canadian National Rys. at mileage 28.61, St. Leonard Parish, N.B.

28199. Mar. 25.—Dismissing application of Town of Greenfield Park, Que., for order amending order 18824, Mar. 4, 1913, apportioning cost of installation, maintenance and operation of gates at G.T.R. crossing of Lapiniere Road between Greenfield Park and St. Lambert.

28200. Mar. 31.—Authorizing Quebec and Lake St. John Ry. to use bridge, as rebuilt, across Little Batiscan River, mileage 107 from Quebec.

28201. Apr. 2.—Ordering Edmonton, Dunvegan and British Columbia Ry. to build standard loading platform and stock yards at Donnelly, Alta., by July 1.

28202. Mar. 31.—Ordering C.P.R. to erect class A-2 station at Metiskow, Alta., by Sept. 1, 1920, and within two weeks from date of order, provide extra car body or other structure for temporary storage of package freight.

28203. Mar. 31.—Approving agreement, Mar. 19, between Bell Telephone Co. and Wheatley Telephone Co., Kent and Essex Counties, Ont., revised location from mileage 50.99 to 54.14 Melfort-Humbolt Branch, Sask.

28205, 28206. Apr. 3.—Authorizing Canadian Northern Ry. to rebuild bridges over Mud and Donovan Creeks at mileage 125.40 and 127.50, from Todmorden.

28207. Apr. 4.—Amending order 28059, Jan. 25, re G.T.R. crossing at Market and George Sts., Brantford, Ont., by substituting West for Market.

28208. Apr. 4.—Approving agreement Mar. 25, between Bell Telephone Co. and Southwold & Dunwich Telephone Association, Middlesex and Elgin counties, Ont.

28209. Apr. 3.—Authorizing Canadian Northern Ontario Ry. to rebuild bridge over Black Rapids Creek, mileage 241.60, from Todmorden.

28210. Apr. 5.—Ordering G.T.R. to keep its cars back two car lengths from the south side of Walnut St., Galt, Ont., while standing on crossing.

28211. Apr. 5.—Relieving G.T.R. from providing further protection at first crossing west of Beach Road, Ont.

28212. Apr. 3.—Authorizing Piapot Rural Municipality 110, Sask., to divert road allowance between Secs. 8 and 17, and ordering C.P.R. to remove trees obstructing the view and to make road shown on plan, and take out cut at westerly crossing.

28213. Apr. 8.—Ordering C.P.R. to restore within one week, on its Suffield, Irricana and Stirling subdivisions, Alta., semi weekly train service in effect previous to Jan. 1.

28214. Apr. 5.—Authorizing C.P.R. to remove station agent at Amazon, Sask.; caretaker to be appointed to keep the station clean, heated and lighted for passengers, and care for freight and express.

28215. Apr. 5.—Approving G.T.R. clearance at boiler house on siding serving Engineering and Machine Works of Canada Ltd., St. Catharines, Ont.

28216.—Apr. 7.—Authorizing G.T.R. to build spur for Savoie-Guay Co., Plessisville, Que.

28217. Apr. 8.—Approving Canadian National Rys. plan of shelter on Niagara, St. Catherines and Toronto Ry., at Welland South, Ont.

28218. Apr. 7.—Approving Canadian National Rys. plan of signal protection at swing bridge across Trent Canal at Glen Ross, Ont.

28219. Apr. 4.—Authorizing Quebec, Montreal and Southern Ry. to remove its station agent at Boucherville, Que., caretaker to be appointed to keep station clean, heated and lighted.

28220. Apr. 10.—Authorizing City of Toronto to appeal to Supreme Court of Canada upon certain questions of law in connection with order 28071, Jan. 31, which authorizes Toronto Terminals Ry. to lay conduits for steam pipes across certain streets.

28221. Apr. 8.—Ordering Grand Trunk Pacific Ry. to erect standard A station at Gilroy Sask., by Sept. 1.

28222. Apr. 9.—Authorizing Canadian National Rys. to build extension spur for A. S. Jones, North Battleford, Sask.

28223. Apr. 10.—Ordering Canadian National Rys. to build third class station at Hyas, Sask., by Oct. 1.

Problems in Design and Maintenance of Car Trucks in Relation to Maintenance of Roadway.

By W. J. Hyman, Chief Draftsman, Car Department, G.T.R.

An intimate knowledge of each other's requirements, with close co-operation between the various departments of any great railway system is absolutely essential, if it is to be operated successfully under present conditions, and I am sure you will agree with me when I say it was because the various departments in our railways worked harmoniously together, and had a sympathetic knowledge of each other's needs, that they were able to successfully cope with every emergency and difficult problem which developed under war conditions during the past four years. It seems therefore that as we are now in the great reconstruction period (which we all heard so much about during the war) a study of any subject which vitally affects two or more departments in any of our great railway systems, is quite opportune, and perhaps may be beneficial in helping to solve some of the problems now before us.

STANDARD FREIGHT CARS, 1879.

	Lbs. Capacity	Wheel Base
Average car	40,000	4 ft 6 in.
Large car	60,000	5 ft 0 in.

STANDARD FREIGHT CARS, 1919.

Average car	80,000	5 ft 4 in.
Large car	100,000	5 ft 6 in.

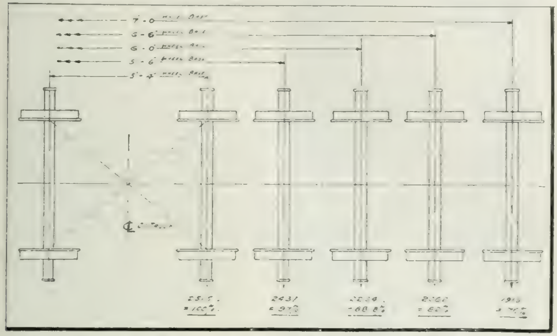


Fig. 1. Showing difference in turning, at start of a 200 ft. curve, for an 80,000 lb. freight truck, under full load, at 30 m.p.h., figured on various wheel bases.

The subject of this paper covers such a wide field, and relates both directly and indirectly to such a multitude of details, both as regards equipment and roadway that I can only hope to deal with two of these problems (wheel base trucks in relation to tracks and flat spots), and, of course, from the car department's view.

The Wheel Base of a Truck is the distance between the centers of the outside wheels on a 6-wheel truck, and of course the distance between the centers of the wheels on a 4-wheel truck.

At present practically all freight cars in this company have the same length of wheel base under the different classes of cars. A 30-ton capacity car has a wheel base of 5 ft. 2 in. centers, a 40-ton car a wheel base of 5 ft. 4 in. centers, and a 50-ton car has 5 ft. 6 in. centers. As these three classes of cars are the standard freight cars of today I want to make a comparison of the wheel base of trucks under these cars and those of 40 years ago, to point out the difference between percentages of increase of car capacities and wheel base of trucks.

Percentage of increase in load capacity of average car in 40 years, 100%.

Percentage of increase in wheel base of trucks of average car in 40 years, 18%.

Percentage of increase in capacity of large car in 40 years, 60%.

Percentage of increase in wheel base of trucks of large car in 40 years, 10%.

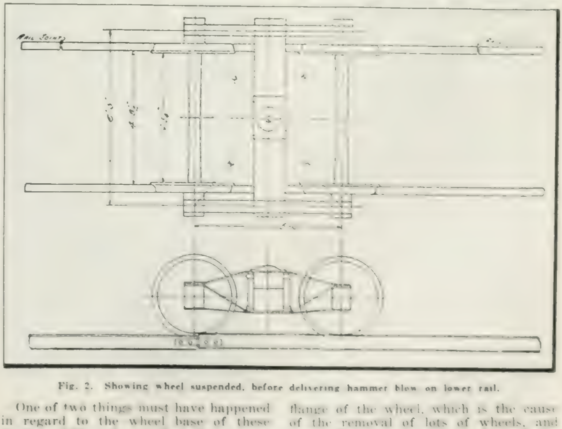


Fig. 2. Showing wheel suspended, before delivering hammer blow on lower rail.

One of two things must have happened in regard to the wheel base of these trucks. Either the original design was ideal, and needed little change, or because it was a standard 40 years ago, on account of trying to standardize as much as possible all material, the design has been perpetuated with little thought or study in regard to the changing conditions in capacity of equipment or roadbed. During this 40 year period, great changes have taken place in the construction of the roadbed and contour of track rails, frogs, switches, etc., which have all been standardized. The M.C.B. Association has done great work in the standardization of cars, and nearly all details which vitally affect the construction of cars have been made standard all over the continent, thus facilitating the interchange of cars on all railways.

As a lot of these standards, both for roadway and equipment, have a direct relation one with the other, especially in reference to contour of wheels and track rails, it would be practically impossible to change any of these designs without affecting the other, and costing the railways an enormous amount of money, and we therefore turn to truck wheel base to see if a change would be beneficial in the maintenance of roadway, or the reduction of cost in repairs to cars.

On passenger cars we have an 8 ft. wheel base for 4-wheel trucks and 11 ft. for 6-wheel trucks, and have taken care of certain conditions with a flexible truck to make an easy riding car. On freight cars we have a short wheel base 4-wheel truck, and fig. 1 shows the turning moment for trucks at various wheel bases under a freight car, at start of curve. From this diagram it is quite evident that, the longer the wheel base the less wear we would have on the ball of the rail at curves and tangents, thus reducing the cause of the removal of a large percentage of track rails at these points. It would also reduce the wear on the flange of the wheel, which is the cause of the removal of lots of wheels, and lessen the thrust on the collar of the journal, with the resultant wear on ends of brasses, and this end thrust is thought by many to be the direct cause of the start of a large percentage of hot boxes and anything which would reduce hot boxes would be welcomed by several departments of any railway.

Another thing in favor of a longer wheel base is that the blow delivered on the end of the rail at the joint would be reduced. Track rails are frequently removed because of the flowing at the end where one joint has become lower than the other, and the constant blows delivered by the wheels of the cars, as they pass over the joint, gradually cause the end of the rail to flatten out or flow. (See fig. 2). It is impossible to figure out a formula to arrive at the blow delivered at these joints, owing to the fact that so many factors enter into the calculations, which vary at every joint, especially in the ballasting of the road and the wheel base of car itself, also the speed of the train, etc., but one thing is certain and that is proved by practical demonstrations by the American Railway Engineering Association's branch committee, that in proportion as the wheel base of a car is lengthened up to a certain reasonable point, this blow is decreased and the life of the rail would be proportionately longer.

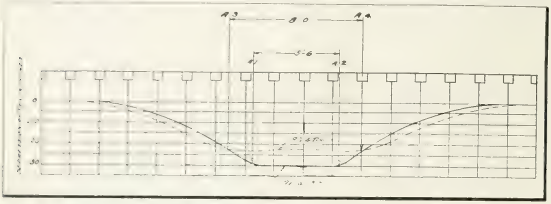


Fig. 3. A. 17,500 lb. per wheel; 85 lb. rail; 12 in. ballast. Actual deflection, caused by wheel loads under one truck, with 5½ ft. centers, A1 and A2. Actual deflection caused by wheel loads under one truck, with 8 ft. centers, A3 and A4.

The stresses produced in the rail through the different wheel bases is another factor to be considered, and shows the deflection in the rail caused by different wheel bases of trucks under exactly similar conditions. This diagram shows that a higher stress is produced in the rail, through the short wheel base truck, owing to the concentration of load over a shorter area. It also shows that the track rails will be tilted upward at the ends, thus creating a worse condition for the hammer blow from the wheel as is passes over the joint of the rail. Of course the condition of the roadbed, ballasting, etc., must be considered with this diagram, but it is a fact that the longer wheel base would distribute the load and reduce the stresses in the rail.

Flat Spots on Wheels, and their effect on track rails, is a very debatable subject, and as it is claimed that flat spots are the direct cause of a certain percentage of broken rails I want to consider the proposal that has been made for several years now, that the maximum length for removal of wheels for flat spots be reduced from 2½ in. M.C.B. present standard to 1½ in. I want to go back forty years again. In 1879, when the large freight car wheel load was but 8,250 lb., the M.C.B. Association fixed the allowable limit of flat spots at 2½ in., and although wheel loads have increased to 18,750 lb. (100,000 lb. cap. car) and as high as 30,000 lb. (170,000 lb. cap. car), and the speed of trains is now much greater, the present M.C.B. rules retain the allowable limit at 2½ in.

The impact from a flat spot under the modern heavy car is many times greater than the impact from the car of 1879, when the present limit was fixed, due to much higher speeds, and the fact that the maximum wheel load is now nearly four times heavier than in 1879. It is a fact that rails are broken by flat spots, though specific cases have been difficult to cite, because often, the rail, while badly damaged, may not break until some time after the passage of the flat wheel.

Ordinarily wheels having 2½ in. flat spots are removed from the axle and scrapped, whereas if the limit were fixed at 1½ in. it would be possible to reclaim such wheels and replace them in service by grinding out flat spots without removing the wheels from the axle and at a cost of about 50c a pair. Grinding is being done, with excellent results, by a number of roads, and it is recognized by authorities as good practice, provided, of course, that the wheel has not been burned during the process of flattening. Therefore a reduction of the allowable limit from 2½ in. to 1½ in. would not only lessen the impact and damage to the rail, but should prove economical from the standpoint of service life of wheels.

It is impossible to determine the force of the blow from the flat spots, as this depends so largely upon the amount that the rail gives under the impact, but to arrive at some conclusion as to energy of the impact the American Railway Engineering Association track committee made some tests, report of which I will quote. Assuming a 33 in. wheel and 2½ in. flat spots, we determine that for the modern car, at average speeds, the factor of safety for a 100-lb. rail is about 5, but for the heaviest cars about 2.75. According to this formula the impact from a 2½ in. flat spot under the modern 50-ton gondola, at 45 miles an hour is about 10 times greater than the impact from the old standard 20-ton car at the then maximum speed of 20 miles an hour. It would therefore appear that flat spots should be reduced from 2½ in. to a maximum of 1½ in.

There is a lot of argument today in regard to the length, and the angle, at which brake head hangers should be hung, and we are told that flat spots on wheels are frequently caused on this account; and on our latest freight cars we are using longer hangers, and trying to remedy the bad effects caused by tilting of shoe through short hangers, and dragging of shoe on wheel; and on passenger tracks the clasp brake is a remedy for the ills of the old time brake gear, so this is one case where in passenger service an improvement is gradually taking place.

In summing up, therefore, it appears that a larger wheel base, say 6 ft. approximately for freight cars, would be an improvement over present standards, and a thorough study of the cause of flat spots on wheels should be made to eliminate this trouble and also a reduction made in maximum length from 2½ in. to 1½ in. on freight car wheels.

The foregoing paper was read before the Canadian Railway Club in Montreal recently

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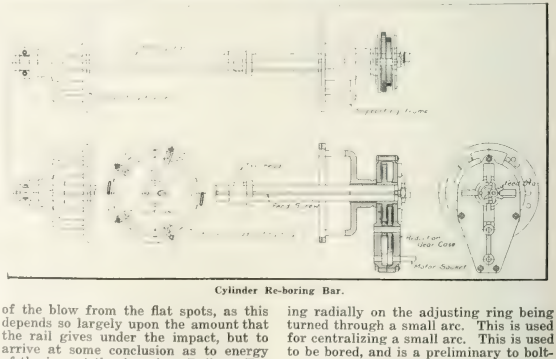
Cylinder Re-Boring Bar, Canadian National Railways Fort Rouge Shops.

The accompanying diagram shows a substantial cylinder re-boring bar, which is used in the Canadian National Rys. Fort Rouge shops, Winnipeg. The two heads are similar castings, and the faces are drilled for the various bolt arrangements used on the cylinders for which the bar was designed. Each face has a chuck jaw adjusting ring, the jaws working on a sliding cam face, the jaws moving radially on the adjusting ring being turned through a small arc. This is used for centralizing a small arc. This is used to be bored, and is a preliminary to bolting finally in place. Much time is saved over the old method of centering by cylinders.

The drive is by air motor, through a chain of gears in a separate gear case on the end of the boring bar. This case must, of course, be held down while the bar is in operation. The feed is the usual star wheel and screw arrangement as shown.



Cylinder Re-boring Bar.

Mainly About Railway People Throughout Canada.

Walter Hardman Ardley, Comptroller, G.T.R., and Grand Trunk Pacific Ry., Montreal, who retired from active service, Mar. 31, under the company's superannuation plan, was presented recently with a gold watch, chain, pencil and knife, and a purse of money, by the Accounting Department staff. He was born in London, Eng., Apr. 24, 1858, and entered G.T.R. service Nov. 5, 1884, since when he has been, to Nov. 1, 1893, clerk in General Auditor's office, Montreal; Nov. 1, 1893 to Dec. 31, 1907, chief clerk and general bookkeeper, Montreal; Dec. 31, 1907 to Aug. 31, 1908, Auditor of Disbursements, Montreal; Aug. 31 to Dec. 31, 1908, acting General Auditor, Montreal; Dec. 31, 1908 to Aug. 1, 1914, General Auditor, G.T.R. and Grand Trunk Pacific Ry., Montreal; Aug. 1, 1914 to Mar. 31, 1919, Comptroller, G.T.R. and G.T.P.R., Montreal.

Chas. Aldington, heretofore Superintendent of the line, Great Western Ry. of England, has been appointed Assistant General Manager.

W. R. Baker, C.V.O., ex-Secretary, C.P.R., and Mrs. Baker, of Montreal, have returned east, after spending the winter in Southern California.

Donald Blair, son of the late Hon. A. G. Blair, at one time Minister of Railways & Canals, and subsequently Chairman of the Board of Railway Commissioners, was married in Ottawa recently to Miss Gladys Cook, daughter of the Assistant King's Priniter.

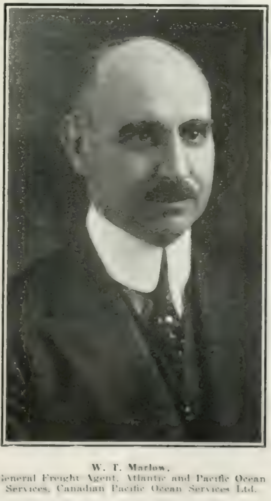
Sir George McLaren Brown, General European Manager, C.P.R., was one of the guests at a dinner given by Grant Morden, M.P., at the House of Commons, London, Eng., April 9, in honor of Lloyd Harris, Chairman of the Canadian Trade Commission.

John Burns, who has been appointed Works Manager, Angus shops, C.P.R., Montreal, was born there, Oct. 14, 1877, and entered railway service Oct., 1892, since when he had been, to Feb., 1898, apprentice, G.T.R., Montreal; Feb., 1898 to Mar., 1902, fitter, C..P,R., North Bay, Ont.; Feb. to Nov., 1903, Locomotive Foreman, C.P.R., White River, Ont.; Nov., 1903 to Sept., 1905, Locomotive Foreman, C.P.R., Chapleau, Ont.; Sept., 1905 to Sept., 1908, Locomotive Foreman, C.P.R., North Bay, Ont.; Sept. to Oct., 1908, General Foreman of Shops, C.P.R., North Bay, Ont.; Oct., 1908 to Feb., 1911, District Master Mechanic, C.P.R., North Bay, Ont.; Feb. to Oct., 1911, District Master Mechanic, C.P.R., London, Ont.; Oct., 1911 to July 1918, Master Mechanic, Eastern Division, C. P. R., Montreal; July, 1918, to Mar., 1919, Assistant Works Managers, Angus shops, C.P.R., Montreal.

A. D. Cartwright, Secretary, Board of Railway Commissioners, is to receive an increase of salary. The Railway Act provides that the Secretary's salary shall be fixed by the Governor in council at not exceeding $4,000. When the Consolidated Railway Act was before the House of Commons committee recently, the Minster of Railways moved an amendment, making the limit $5,000.

W. H. Clancy, formerly City Passenger and Ticket Agent, G.T.R., Montreal, died at St. Michael's Hospital, Toronto, Apr. 15, after several weeks illness. He retired from active service in 1914, after about 40 years with the company, 30 of which had been spent in Montreal, and the balance in Stratford, Cobourg and Toronto. Since his retirement, he lived in Toronto.

W. H. Ardley.
Who has retired from the position of Comptroller, G.T.R. and G.T. Pacific Ry.



W. T. Marlow.
General Freight Agent, Atlantic and Pacific Ocean Services, Canadian Pacific Ocean Services Ltd.

Mrs. Frank Cochrane, wife of Hon. F. Cochrane, M.P., ex-Minister of Railways and Canals, returned to Ottawa early in Apr., with Miss Edith Cochrane, after spending some time in the south.

Hon. N. Curry, Chairman of the Board, Canadian Car and Foundry Co., and Mrs. Curry, have been spending part of the winter at their house, Cedar March, Bermuda. Capt. Victor Curry returned from there to Montreal early in April.

Mrs. E. W. Duval, widow of Lt. E. W. Duval, formerly Superintendent, Saskatoon Division, Saskatchewan District, C.P.R., who was killed in action in the summer of 1918, has been spending the winter in southern California.

Philip Jay Farley, who was appointed recently Cashier and Paymaster, Western Lines, Canadian National Rys., and Duluth, Winnipeg and Pacific Ry., Winnipeg, was born at Foxboro, Ont., and entered railway service in 1901, since when he has been, to 1902, clerk in Roadmaster's office, Canadian Northern Ry., Winnipeg; 1902 to 1903, clerk in Superintendent's office, same road, Port Arthur, Ont.; 1903 to 1904, timekeeper and material clerk, same road; 1904 to 1905, chief clerk to General Roadmaster, same road, Winnipeg; and from 1905 Assistant Cashier and Paymaster, same road, Winnipeg.

W. L. Flaherty, stated to be the oldest Freemason in Canada, in point of membership, who died at Niagara Falls, Ont., Apr. 13, aged 84, was for many years a conductor on the Great Western Ry. and the G.T.R.

Alan Travers Fraser, Chief Engineer, Western Lines, Canadian National Rys., Winnipeg, who death in a snow slide in the Rocky Mountains, at mileage 26, Blue River subdivision, was briefly mentioned in our last issue, was on a train proceeding to the Pacific coast, when the train was held up by a slide. He walked ahead with a section gang to examine the obstruction, when another slide came down, burying the entire party. He was, apparently, instantly killed, but the rest of the party were rescued, little the worse for their experience. He was born at Pembroke, Ont., Jan. 13, 1872, and entered railway service in July, 1892, since when he has been, to 1893, chainman, Gatineau Valley Ry., Wakefield, Que.; 1893 to 1895, chainman, rodman and leveller, C.P.R., and Lake Timiskaming Ry., Mattawa, Ont.; 1895 to 1896, timekeeper, Ottawa-Montreal Short Line, Vankleek Hill, Ont.; 1897 to 1900, transitman and resident engineer, Crows Nest Pass Ry., Fort McLeod; 1900 to 1901, Assistant Engineer, Pipestone extension and surveys on other branches, C.P.R., Winnipeg; 1901 to 1903, Resident Engineer, Ontario & Rainy River Ry., Port Arthur, Ont.; 1903 to 1905, Locating and Division Engineer, Canadian Northern Ry., Winnipeg; 1905 to 1910, mining and prospecting in Northern Ontario, 1910 to 1911, Locating and Division Engineer, Canadian Northern Ry., Edmonton, Alta ; 1911 to 1915, District Engineer, location and construction of main line and branches in Alberta, same road, Edmonton; 1915 to Dec., 1918, District Engineer, Western District, same road, Edmonto, Alta; Jan. 1, 1919, he was appointed Chief Engineer, Western Lines, Canadian National Rys.

F. E. Gautier, Purchasing Agent, C.P.R., and Mrs. Gautier, returned to Winnipeg, early in April, from a visit to Montreal and Quebec, during which Mr. Gautier attended the C.P.R. officials' conference, etc., in Montreal.

J. D. Hamilton, an ex alderman, of Stratford, Ont., who died there, Apr. 14, was, for many years before retiring from active service, a conductor on the G.T.R. Buffalo-Goderich branch, and was well known to travellers.

D. B. Hanna, President Canadian National Rys., is reported to have stated at Edmonton, Alta., recently that he will address the Industrial Congress there in August, on industrial development in relation to railways.

Arthur Hills, Assistant to President, Canadian National Rys., and Mrs. Hills, have been spending a few weeks at White Sulphur Springs, West Virginia.

Lady Holt, wife of Sir Herbert Holt, one of the C.P.R. directors, and her son, Capt. Herbert Holt, returned to Montreal early in April, from overseas.

Chas. R. Hosmer, one of the C.P.R. directors, who has been in the Royal Victoria Hospital, Montreal, for some weeks, and who had to undergo a second operation, was reported Apr. 28 as resting easily and making satisfactory progress toward recovery.

W. B. Lanigan, Freight Traffic Manager, C.P.R., Montreal, and Mrs. Lanigan, made a trip to the Pacific coast recently.

G. W. Lee, Commissioner and General Agent, and **Hon. R. F. Preston**, Commissioner and Land Agent, Timiskaming & Northern Ontario Railway commission, have had their honorariums as commissioners increased by the Ontario Legislature, from $1,000 to $2,000 a year.

Jas. W. Leonard, General Manager, Toronto Terminals Co., died at his home at Brampton, Ont., Apr. 28, after a long illness, due to stomach trouble, for which he had recently undergone treatment at Johns Hopkins Hospital, Baltimore, and subsequently an operation at Battle Creek, Mich. He was born at Epsom, Ont., in Oct., 1858, and entered railway service in 1872, since when he had been to Aug., 1877, telegraph operator and agent, Midland Ry., Aug., 1877 to Dec., 1878, agent, Victoria Ry.; Dec., 1878 to Mar., 1880, Assistant Manager, same road; Mar. to June, 1880 to Nov., 1883, General Passenger Agent, same road; Nov., 1883 to May, 1884, Master of Transportaton, Ontario and Quebec Ry.; May, 1884 to Mar., 1887, Superintendent, C.P.R., Toronto; Mar., 1887 to Mar., 1890, Superintendent, C.P.R., Kamloops, B.C.; Mar., 1890 to Mar., 1893, Superintendent, lines east of Montreal, C.P.R.; Mar., 1893 to Apr., 1901, General Superintendent, Ontario and Quebec Division; C.P.R., Toronto; Apr., 1901 to Mar., 1903, General Superintendent, Western Division, C.P.R., Winnipeg; Mar. to Apr., 1903, General Superintendent, Central Division, C.P.R., Winnipeg; Apr., 1903 to Jan., 1904, Assistant Manager, lines west of Lake Superior, C.P.R., Winnipeg. After some months spent in travelling, he was appointed President, Guelph and Goderich Ry. and in Feb., 1905 was appointed Manager of Construction, Ontario [illegible], C.P.R., and in Oct., 1905, Assistant General Manager, eastern lines, C.P.R., in charge of maintenance of way and operation, and also of construction of new lines in Ontario, which combined positions he held until the appointment of J. G. Sullivan as Manager of Construction, eastern lines, which left him solely to the duties of Assistant General Manager, eastern lines, in charge of maintenance of way and operation, with office at Montreal. He was appointed General Manager, eastern lines, C.P.R., Montreal, in Feb., 1908, and Assistant to the Vice President in Jan., 1911, attending principally to matters arising between the company and its maintenance of way and operating employes, eastern lines, especially as regards wages and other terms of employment; and retired from that position Jan. 31, 1915, on his appointment as General Manager, Toronto Terminals Co., in charge of the construction of the union station at Toronto, which position he occupied at the time of his death. He was twice married, and is survived by his widow and one son. The funeral took place at Mount Pleasant Cemetery, Toronto; the body being taken from Brampton, by a special C. P. R. train.

D. O. Wood.
Traffic Manager, Export & Import Department, Canadian National Railways.

Lt. Col. R. W. Leonard, formerly Commissioner, National Transcontinental Ry., has given $5,000 to Queen's University endowment fund.

Patrick John Melvin, whose appointment as Export Freight Agent, C.P.R., Montreal, was announced in our last issue, was born at Trim, Ireland, Mar. 3, 1872, and entered railway service in Oct. 1888, since when he has been, to Aug. 1889, junior clerk, Freight Department, Great Northern Ry. of Ireland, Omagh; Aug. 1889 to Mar. 1894, clerk, Freight Department, same road, Newry; May 1894 to Apr. 1898, clerk, Audit and Claims Department, G.T.R., Montreal; Apr. 1898 to Feb. 1906, clerk, Foreign Freight Department, C.P.R., Montreal; Feb. 1906 to Sept. 1918, chief clerk, Export Freight Department, same road, Montreal; Sept. 1918 to Mar. 15, 1919, acting Export Freight Agent, same road, Montreal.

Harold Roy Miles, whose appointment as Division Engineer, C.P.R., Lethbridge, Alta., was announced in a recent issue, was born at Winnipeg, Mar. 14, 1879. During 1899 he was on location work with the Washington County Ry., and from 1900 to 1901 was on location and construction, Algoma Central and Hudson Bay Ry., Michipocoten Harbor, Ont.; July 1901 to July 1, 1915, Assistant Engineer, and Resident Engineer, Maintenance of Way, Lake Superior Division, C.P.R.; July 1, 1915 to Jan. 15, 1919, Assistant Engineer, C.P.R., Montreal.

Mrs. Harriet Sym Moore, who died at Montreal, Mar. 29, was the mother of E. Moore, Insurance Commissioner, C.P.R.

C. Murphy, General Manager, Western Lines, C.P.R., Winnipeg, with Mrs. Murphy and Miss Olea Murphy, visited Montreal early in April, also spending a short time in Ottawa and Prescott, Ont.

Lady Nanton, wife of Sir Augustus Nanton, director, C.P.R. and President Winnipeg Electric Ry., left Winnipeg early in April, to visit New York, Atlantic City, etc.

C. S. Ogilvie, who has been appointed Assistant Engineer, Ottawa Division G. T. R., Ottawa, Ont., was formerly Assistant Engineer, G.T.R., at Belleville, Ont., and enlisted for overseas military service with the 13th Royal Highlanders, and went overseas with the first contingent of the Canadian Expeditionary Force. He was a war prisoner in Germany for about three years, and was liberated on the signing of the armistice.

F. W. Peters, General Superintendent, British Columbia District, C.P.R., returned to Vancouver, early in April, with Mrs. Peters and Miss Dorothy Langford, after attending the C.P.R. officials' conference, at Montreal.

S. P. Porter, who has been appointed Assistant to the General Manager for the Receiver, Grand Trunk Pacific Ry., Ottawa, Ont., was born in Somersetshire, Eng., in 1870, and came to Canada in 1886. He entered railway service in 1889 with the C.P.R. as trainman. From 1901 to 1907 he was homestead inspector for the Dominion Government, and in 1908 was appointed Deputy Minister of Railways, Telegraphs and Telephones for Saskatchewan, resigning in 1912, on his appointment as Executive Agent, Grand Trunk Pacific Ry., Regina, Sask.

Col. C. W. P. Ramsey, C.M.G., who commanded the Canadian Railway Construction Corps in France, addressed the C.P.R. Social Club at Montreal, Apr. 9, on the work done by the corps on the Western Front in France and Belgium, and at Salonica, Greece.

Hayter Reed, formerly Manager in Chief, C.P.R. Hotels, and Mrs. Reed, returned to Canada from England early in April and went to St. Andrews, N.B.

James Reid, who died at Toronto, Apr. 5, aged 52, was in C.P.R. service for many years, latterly as travelling auditor, out of Toronto.

Hon. J. D. Reid, Minister of Railways and Canals, spent Easter in New York, where he went to meet Mrs. Reid, who had been in Florida and at Atlantic City for some weeks.

J. K. L. Ross, one of the C.P.R. directors, arrived in Vancouver Apr. 5, in the private car Cromarty.

W. F. Salsbury, Local Treasurer, C.P.R., returned to Vancouver early in April, with Mrs. Salsbury, after attending the C.P.R. officials' conference in Montreal.

Lord Shaughnessy is patron of the big drive to raise $300,000 for Loyola College, Montreal.

F. A. Skelton, formerly Vice President and Secretary-Treasurer, Canadian Car & Foundry Co., left Montreal recently to live at Essex, Lake Champlain, N.Y.

Lorne Cameron Thomson, heretofore General Storekeeper, Eastern Lines, Canadian National Rys., Toronto, has been appointed General Storekeeper, Canadian Car & Foundry Co., with jurisdiction over all plants, viz: Amherst, N.S.; Longue Point, Turcot, and Dominion, Que.; Welland, Brantford and Fort William, Ont.; and with office at 120 St. James St., Montreal. Canadian Railway and Marine World for April, contained his biography and portrait.

Edwin Newman Todd, whose appointment as General Foreign Freight Agent, C.P.R., Montreal, was announced in our last issue, was born at Huntingdon, Que., Oct. 17, 1879, and entered C.P.R. service May 7, 1896, since when he has been, to May 1, 1898, clerk and stenographer, Foreign Freight Department, Montreal; May 1, 1898 to June 1, 1903, import clerk, same department, Montreal, and West St. John, N.B.; June 1, 1903 to May 1, 1904, contracting clerk, Assistant Freight Traffic Manager's office, Toronto; May 1, 1904 to May 1, 1905, Contracting Freight Agent, Foreign Freight Department, Toronto; May 1, 1905 to Jan. 1, 1909, Assistant Export and Import Freght Agent, Toronto; Jan. 1, 1909 to Sept. 1, 1911, Export Freight Agent, Montreal; Sept. 1, 1911 to Sept. 20, 1915, Division Freight Agent, Montreal; Sept. 20, 1915 to Mar. 15, 1919, General Freight Agent, Montreal.

Ivan E. Vallee has been appointed to succeed his late father, L. A. Vallee, as engineer and director of railways for the Quebec Public Works Department.

F. L. Wanklyn, General Executive Assistant, C.P.R., Montreal, and Mrs. Wanklyn, made a trip to the Pacific coast during March and April.

Lady Whyte, widow of the late Sir Wm. Whyte, formerly Vice President, Western Lines, C.P.R., is visiting her daughter, Mrs. Charles Meek, in Vancouver.

E. R. Wood, one of the Canadian National Rys. directors, and Mrs. Wood, have been spending the greater part of the winter at their house at Beverley Hill, California.

David Oliver Wood, whose appointment as Traffic Manager, Export and Import Department, Canadian National Rys., Toronto, was announced in our last isue, was born at Kleinburg, Ont., Mar. 16, 1864, and entered transportation service in May, 1883, since when he has been, to 1902, billing clerk, chief clerk, District Freight Agent's office, and Assistant Foreign Freight Agent, G.T.R., Toronto; 1902 to 1905, Western Freight Agent, Donaldson and Thomson Steamship Lines, Toronto; 1905 to 1917, General Freight Agent, Allan Line Steamships, Toronto; 1917 to Feb. 1919, Assistant Export and Import Freight Agent, C.P.R., Toronto. From Sept. 1917 to Jan. 1, 1919, he was loaned to the British Ministry of Shipping (Canada), and acted as Assistant to the Director General, at Montreal.

Dominion Government Terminal Elevators.—The Trade and Commerce Department's estimates for the year ending Mar. 31, 1920, submitted in the House of Commons recently, contain $30,000 to provide for the construction, acquisition, leasing or expropriation of terminal elevators.

The Canada Steamship Lines will not make any changes in its fares between Montreal and Toronto this year.

Passenger Rate Meetings at Detroit.

The Great Lakes & St. Lawrence River Rate Committee met at Detroit, Mich., Mar. 19. Most of the steamboat lines represented signified that their passenger fares would remain unaltered for 1919, but a few lines announced slight advances in their round trip fares. F. W. Milton, Assistant General Passenger Agent, Cleveland and Buffalo Transit Co. was elected chairman. Jas. Morrison, Assistant General Passenger Agent, Canadian National Rys., Montreal, who had been secretary for some 10 years, declined re-election, and A. E. Storey, rate clerk, General Passenger Department, G.T.R., Montreal, was elected to succeed him.

The International Water Lines Passenger Association meeting was also held at Detroit, Mar. 19, the President, M. J. Powers, A.G.P.A., Champlain Transportation Co. and Lake George Steamboat Co., occupying the chair. It was reported that lines controlled by the U.S. Government were withdrawing from the association, but the opinion was expressed that, when pre-war conditions return, the original lines will again take representation. The following officers were elected: President, W. F. Wasley, Manager and Treasurer, Muskoka Lakes Hotel & Navigation Co., Gravenhurst, Ont.; Vice President, L. G. Lewis, G.P.A., Detroit & Cleveland Navigation Co., Detroit, Mich.; Secretary, M. R. Nelson, Buffalo, N.Y.

The Roadmasters and Maintenance of Way Assocation's annual convention will be held at Chicago, Ill., Sept. 16, 17 and 18, and a committee of which J. H. Regan, Track Superintendent G.T.R., Chicago, is a member, has been appointed to make arrangements. The executive has appointed a committee on road ditching and drainage, of which H. Ferguson, General Roadmaster, G.T.R., Toronto, is a member; a committee on conservation of lumber in maintenance of way road crossings and signs, and a committee on track maintenance in freight and passenger terminals, of which G. T. McCore, Roadmaster, G.T.R., Toronto, is a member.

Longshoremen's Wages at Montreal.—At a joint meeting of members of the Shipping Federation of Canada and representatives of the Longshoremen's Union at Montreal, recently, to discuss the wage question for the current season, a contract was entered into, effective from Apr. 7, 1919 to Jan. 1, 1920, for a wage of 60c an hour, daywork, and 65c an hour, night work, for handling general cargo; the day being from 7 a.m. to 6 p.m., and the night from 7 p.m. to 5 a.m. The wage for handling grain is 75c an hour, and for coal, 65c an hour, at any time. The increase is practically 20c an hour all round.

New Time—Old Time—C.P.R. Time.—In connection with the controversy over daylight saving, attention has been called in Winnipeg to Manitoba Interpretation Act, sec. 24, of which reads: "The time used upon the C.P.R., and known as central time, being the time of the 19th meridian of west longitude, is hereby declared to be the standard time of this province, and when any statute heretofore or hereafter passed refers to any particular time of day, such standard time shall be considered to be meant."

Vice President Grant Hall's Western Inspection Trip.

Grant Hall, Vice President, C.P.R., accompanied by F. L. Wanklyn, General Executive Assistant, C.P.R., left Montreal, Mar. 25, and arrived in Winnipeg Mar. 27 for the purpose of making his first inspection of the company's western lines since his appointment as Vice President. D. C. Coleman, Vice President and General Manager, Western Lines, travelled with Mr. Hall from Winnipeg to the coast and back, the trip lasting from Mar. 29 to Apr. 15. Messrs. Hall and Wanklyn left Winnipeg Apr. 17 for Montreal.

The trip from Winnipeg to Vancouver was via Calgary and the Crowsnest Pass line, and the Kettle Valley Ry., and the return trip was made by the main line route, thence to Edmonton and back by way of Saskatoon.

In statements made at different points on the route, Mr. Hall is reported to have said the improvements and betterments announced in January, will be carried out during this year so far as labor and materials can be obtained. As to branch line construction, it was too early to say anything, owing to the fact that the company's application to the Dominion Parliament for legislative authority was still under consideration.

The only definite statement as to construction work was made by Mr. Hall in Vancouver, Apr. 6, where he is reported to have said that plans for the new ocean pier at that port were almost completed and that the pier will be fully up to date in every respect.

The Lambeth Motor Transport Co. began business Apr. 4, operating motor busses to carry passengers and freight between Lambeth and London, Ont. It is give five round trips a day, except Sundays, the single trip taking 40 minutes, and there are 6 stops on the route. The fare for the single trip is 25c; the return fare being 40c, with intermediate points at proportionate rates. Additional trips are being made on Wednesdays and Saturdays. W. K. Caldicott, Lambeth, Ont., is president of the company, and W. Winegarden, is the agent in London.

River Rouge Ry.—The Quebec Legislature has passed an act changing the name of the company in the English version of the charter to the Rouge River Ry. Co., and extending the time for the construction of the projected railway. The Legislature has also voted a land grant of 2,000 acres a mile in aid of the building of the line from Grenville, on the Ottawa River, in Argenteuil County, along the Valley of the Rouge River, to a junction with the C.P.R. branch line terminating at Mont Laurier, Labelle County, a distance of 80 miles. (Feb., pg.

Railway Ties and Timber for Great Britain.—A London press dispatch says that through the medium of the Canadian Trade Commission, of which Lloyd Harris is chairman, the British Government has entered into a large contract for the purchase of railway ties and other timber from British Columbia. It is said that British railways will require over 3,000,000 ties at an early date.

The Canadian Railway Board of Adjustment No. 1, has re-elected S. M. Berry, Chairman, and G. Hodge, Assistant to Vice President, Eastern Lines, C.P.R., Vice Chairman.

Canadian Transportation Men, Engineers, Etc. in the War.

The Canadian Military and Civil Engineers' Association is reported to have been formed in England, by Canadian Engineers of the 1st Division, with the object of protecting the interests of its members as regards pensions, war service gratuities, civil re-establishment, etc.

It is reported that of the 9,809 C.P.R. employes who joined the expeditionary force, 948 have died, and 1,881 were wounded. Of those who had returned to Mar. 31, 1,731 had been re-employed, and positions had been found for 2,091 other returned solders.

PERSONAL NOTES.

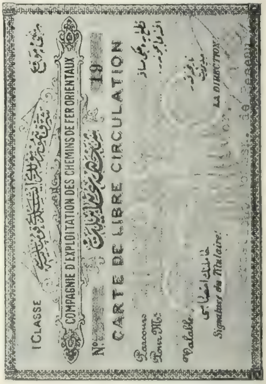
Major General Alex. McDougall, C.B., the Ottawa contractor, who was in command of the Canadian Forestry Corps overseas for a considerable period of the war, returned to England in April, to resume his duties with the corps.

Canadian Railway troops in France, bending a rail for a curve in the line.
Canadian Official Photograph. Copyright reserved.

Capt. Kenneth E. Drinkwater, son of the låte Chas. Drinkwater, who was first secretary of the C.P.R. Co., after having been overseas three and a half years with the 3rd Battalion, Canadian Machine Gun Corps, is staying with his sister, Mrs. H. P. Timmerman, wife of the Industrial Commissioner, C.P.R., Montreal.

Lt.-Col. Halfdan F. H. Hertzberg, D. S. O., M. C., eldest son of A. L. Hertzberg, District Engineer, C.P.R., Toronto, and grandson of the late Col. P. H. Hertzberg, R. E., Christiania, Norway, was married at London, Eng., Mar. 19, to Miss Dorothy Hope Judah, of Montreal.

Lt.-Col. Thos. A. Hiam, formerly private secretary to Sir Donald Mann, Toronto, is now assistant director of railways at Haidar Pasha, near Constantinople. He went overseas with the Canadian Buffs in the autumn of 1916 as a lieutenant, and was at Witley Camp, Eng., for nearly a year, while the Buffs formed part of the 5th Canadian Division, and during which time he was promoted to captain and made assistant quartermaster. On the Buffs being broken up, for reinforcing purposes, he transferred to the Imperial Railway Troops, going to France in Feb., 1918 as captain, and was engaged for some time in railway operating work. He returned to England in Oct., 1918 on leave, and was sent almost immediately to Salonica, as railway transportation officer, and after being there a very short time, was transferred to Constantinople, promoted to major and made deputy assistant director of railway transport, which department has charge of the Orient Ry. in European Turkey (Compagnie d' Exploitation des Chemins de Fer Orientaux) and also the Bagdad Line, which commences on the Bosphorus and extends to Bagdad, with a break from Nissibin to Samara, which is still under construction. This line is operated by the Societe Imperiale Ottomane de Chemin de Fer de Baghdad. From Constantinople he was transferred to Haidar Pasha as assistant director of railways, and was promoted to lieutenant-colonel. The accompanying illustration shows an annual pass on the Orient Ry. which Lt.-Col. Hiam sent Sir Donald Mann recently.



I CLASSE
COMPAGNIE D'EXPLOITATION DES CHEMINS DE FER ORIENTAUX
No 19
CARTE DE LIBRE CIRCULATION
Parcours
Pour Mr.
Valable
Signature du titulaire
LA DIRECTION

Orient Railway Annual Pass.

Major James McGregor has returned to his duties as Superintending Engineer, Halifax Ocean Terminals, Canadian National Rys., Halifax, N.S. He was attached to the 3rd Battalion, Canadian Railway troops, which was, for the most part, engaged on the light railway systems of the First Army, extending along the western front from about Armentieres, Lestrem, Bethune, Loos, Lens, Vimy Ridge, Arras, Queant and to Cambrai. Later, when the German retreat carried them east of their light railway zone, and light railway construction was abandoned, the battalion took part, with other battalions of the Canadian Railway troops, in the reconstruction of the main railway line between Douai and Mons.

Capt. F. H. Moody, B.A.Sc., has resumed his former position of Engineering Editor, Canadian Railway and Marine World. His military work commenced in 1906, when he joined the University section of the 2nd Field Co., Canadian Engineers, which he left Sept. 22, 1911, to take out a commission in the 2nd Regiment, Queen's Own Rifles of Canada. He volunteered for overseas service with the 83rd Battalion Canadian Infantry, Aug. 9, 1915, and was promoted to captain, Oct. 21, 1915. On Feb. 4, 1916, he transferred to the 116th Battalion, Canadian Infantry, and was promoted to major, Mar. 1, 1916, proceeding overseas with that unit July 21, 1916. He went to France with the battalion on Feb. 11, 1917, reverting to captain to conform to the establishment in the field, being appointed acting major on arrival in France, which rank he held until May 26, 1917, when he was wounded at Vimy Ridge. Following convalescence, he was appointed adjutant, 2nd Canadian Reserve Battalion, Aug. 26, 1917, remaining in that position until Dec. 9, 1917, when he was seconded to the Ministry of Munitions (Air Board) as an inspection and expediting officer in the Yorkshire, Lancashire and Derbyshire areas, relinquishing that work Oct. 8, 1918, proceeding to France Nov. 3, 1918, and rejoining the 116th Battalion, in the 3rd Canadian Division. On the latter returning to Canada in April, this year, he accompanied it, and was demobilized Apr. 20, 1919.

Lt.-Col. Blair Ripley, formerly engineer in charge of double track, C.P.R., Toronto, returned from overseas early in Apr. and left Toronto shortly afterwards to make a trip to the Pacific coast. It is expected that he will return to the C. P. R. Co.'s service in the near future.

Major Ian Sinclair, D.S.O., M.C., returned to Canada, Apr. 20, in command of the 13th Battalion, C.E.F. (Royal Highlanders of Canada). At the outbreak of war he was engaged on a contract which his father, Angus Sinclair, of Toronto, had for construction of the Canadian Northern Ry., between Ottawa and Sudbury, Ont., and immediately obtained a commission in the 15th Battalion (48th Highlanders). While at Valcartier camp, he transferred to the Royal Highlanders, and except for periods, during which he was in hospital recovering from wounds, he fought with the 13th Battalion through all the engagements in which it took part, from the second battle of Ypres, four years ago, until the signing of the armistice. At the attack on Hill 70, he won the Military Cross, and was awarded the D.S.O. for work in command of the battalion during the offensive of Sept., 1918, against the Hindenburg line. He was wounded four times, and mentioned in dispatches twice.

Government Railway Employes' Compensation Act.

An act was passed by the Dominion Parliament in 1918 providing for the bringing under the provisions of the workmen's compensation acts of the different provinces any employes of the Dominion Government who might be killed or injured while at work. The act was passed at the request of employes of the Canadian Government Railways, and it has been found that subsect. 4 of sect. 1 of this act does not work out in practice. Parliament has now passed an act repealing subsec. 3 and 4 of the act of 1918, and replacing them by new sections. The new subsec. 3 provides for the payment by the Minister of Finance out of any unappropriated moneys in the Consolidated Revenue Fund as compensation, and their deposit with any provincial board or court, for the settlement of such cases and for any costs in connection therewith. The act, subsec. 4, provides that Prince Edward Island Ry. and Intercolonial Ry. employes shall elect whether they will take their compensation under the I.C.R. and P.E.I. Ry. Employes' Provident Fund or under the Act, and that dependents of killed employes who have not elected shall nevertheless be entitled to benefits under this Act. These amendments were approved of by the employes of the two railways interested. They are to be retroactive.

Ontario Assessment Act Amendments.—The Ontario Legislature has approved of amendments to the assessment act increasing the exemption on income for income tax purposes from $1,500 to $1,700 for householders, and from $600 to $700 for non householders in cities and towns; and from $1,200 to $1,400 for householders, and from $400 to $500 for non householders in other municipalities. In recommending that this change be made the legislature's special committee reported that the increased exemption was desirable owing to the increase in the cost of living, and would also cover the request of railway employes who advocated that they should be allowed a further deduction on account of expenses when absent from their place of residence.

The London and South Eastern Ry.—A section of the City of London Act passed by the Ontario Legislature recently, provides that the proceeds from the mortgage from the company to the City of London received by the city forms part of the corporation's sinking fund. The L. and S.E. Ry. Co. was formed years ago but never built any line. A site was provided in the City of London for terminal purposes and was used by the Michigan Central Rd., which obtained an entrance from St. Thomas, over the London and Port Stanley Ry.

Alien Holders of Canadian Railways Stock.

Mr. Justice Duclos gave judgment at Montreal, Apr. 23, on the petition of the Dominion Government, asking that the Secretary of State be put in possession of 143,676 shares of Canadian Pacific Ry. stock held in New York in the names of German and Austrian shareholders. The petition was based on the consolidated orders in council of 1916 respecting trading with the country's enemies. While the C.P.R. gave the court all information in relation to the matter, it raised questions as to whether it had the right to compensate itself, out of the accummulated dividends on certain of the shares, for the indebtedness of the holders to the company. The C.P.R. had $2,500,000 deposited in German banks at the outbreak of the war, and there was a balance of $215,593 for cars, in addition to a special deposit of $30,000, owing by Austria. The government's request was granted by the court.

A similar petition has been presented in an Ontario court by the Secretary of State in respect of about $154,000 of Canadian Northern Ry. stock, held by 28 alien enemies.

Canadian light railway construction on the British Western Front. The scraper filled, on its way to end of embankment.
Canadian Official Photograph. Copyright reserved

Electrification of the Intercolonial Railway Between Moncton and Halifax.

W. G. Gordon, Transportation Engineer, Canadian General Electric Co., in speaking at an engineers' meeting in Halifax, N.S., recently, repeated an address delivered previously in Ottawa, and which appears on pages 229 and 230 of this issue, and added the following remarks of a more local nature:

"With regard to the 187 miles of line of the Canadian National Rys. at present steam operated, between Moncton and Halifax. Ocean terminal facilities have been provided at Halifax with a capacity of several times the present traffic and an ultimate provision for many times the present tonnage. At present the line from St. John, N.B., with the C.P.R., and Maine Central connections, the I.R.C. along the north shore and the low grade National Transcontinental south of it, converge at Moncton. Between Moncton and Halifax is a single track railway with heavy grades. To increase the tonnage capacity of this line several plans can be considered to keep pace with the developments at Halifax. Under maximum conditions at present, the line is operated to capacity."

The following are the possible plans:

1.—Electrification of the present line.

2.—Grade reduction on the present line.

3.—Double tracking the present line with grade reduction.

4.—Double-tracking the present line without grade reduction.

5. Construction of low grade single track on new locations.

"With electrification of the present line, three times the present tonnage could be handled. This is the result of electric locomtives being able to haul much heavier tonnage, at higher schedule speeds, with almost an entire elimination of the failures and delays at present due to steam operation. Under conditions of winter operation with low temperatures, the steam locomotive is at its worst, due to the dissipation of heat, whereas this condition allows the electric locomotive to operate at higher continuous draw bar rating than normal. With cheap power, available from large generating units, where the high tension lines follow the railway line, a continuously increasing load could be secured for power and lighting from points along, or near, the lines. Careful consideration of the methods above outlined show that the electrification of this line is economically justified on sound engineering principles."

Pacific and Switching Locomotives for Canadian National Railways.

The Canadian National Railways management has, as stated in a previous issue of Canadian Railway and Marine World, ordered recently 50 locomotives, 25 Pacific type and 25 switchers.

The Pacific type, which are being built at Montreal Locomotive Works, are almost identical with some Pacific type ones ordered by the Canadian Government Railways in 1917, general particulars of which were given in Canadian Railway and Marine World at the time. The principal differences being in the application of certain standards, with a view to the eventual standardization of the whole of the Canadian National Rys. operated lines. The general particulars of the locomotives now being built are as follows:—

Gauge	4 ft. 8½ in.
Cylinders	23½ x 28 in.
Driving wheels	69 in.
Boiler	70⅝ in. i.d.
Boiler pressure	200 lb. sq. in.
Firebox	108 in. 10 x 75¼ in. wide
Tubes	185-2 in.
Flues	28-5⅜ in.
Length of tubes and flues	20 ft. 6 in.
Wheel base, driving	13 ft. 0 in.
Wheel base, engine	33 ft. 10 in.
Wheel base, engine and tender	66 ft. 6¾ in.
Weights in working order	
Engine truck	49,000 lb.
Driving wheels	160,000 lb.
Trailer truck	47,000 lb.
Total engine	256,000 lb.
Heating surface, tubes and flues	2,780 sq. ft.
Heating surface, firebox	215 sq. ft.
Heating surface, total	2,995 sq. ft.
Grate area	56.4 sq. ft.
Maximum tractive effort	38,100 lb.
Factor of adhesion	4.2
Capacity of tender, coal	12 tons
Capacity of tender, water	6,500 imp. gall.
Limiting height	15 ft. 3 in.
Fuel	Bituminous

The boiler will be of the straight top, radial stayed type, with sloping roof, face plate and throat sheets, and with a single fire door, with a factor of safety of 4½, and designed to withstand the usual tests. The similar C.G.R. locomotives had a boiler pressure of 180 lb., but this has been increased to 200 lb. The staying, and the washout and arch tube plugs, are to be of the new Canadian National standard.

The firebox will have a 5 in. water space in front, with 4 in. water spaces sides and back. The O'Connor firebox flanges will be used, as it has been found to relieve the frequent leakages at the fire door opening. The Franklin automatic firedoor will also be applied. The staybolts will be 1 in. in diar., 12 thread, with the usual tell-tale holes, and, in the breaking zone, Tate flexible staybolts will be applied. The security brick arch will be used.

The tubes will be of cold drawn seamless steel. The front ends of all tubes and flues are to be rolled, and in addition, the front ends of the flues, and the interspaced tubes, are to be beaded. All back ends are to be prossered with the standard C.P.R. prossering tool. One noteworthy change in the tube spacing is embodied. They are to be 2⅞ and 2 15-16 in. centers, instead of the usual 2¾ in. spacing. This will reduce the tube heating surface some 10 deg., but it is believed the increased ease of circulation will more than compensate for this loss.

The blow-off valve will be C.N.R. standard. The water supply will be cared for by a 4,500 gall. Hancock non-lifting inspirator on the left and a Hancock lifting injector on the right. From the left inspirator, there will be a connection inside the cab for the ash pan sprinkler system. The C.N.R. standard combined bell stand and boiler check will be applied for the boiler feed.

The grates will be of cast iron, standard design, equipped with the Franklin grate shaker, and the combined area of the grate openings to the ashpan will be 1-7 of the grate area. The ashpan hoppers will also be standard. The smoke box, stack, and all the front end arrangement will be the usual C.N.R. standard.

The superheater will be of the Hungerford-Cameron type, designed to give a superheat of 250 degrees under average conditions. It will be provided with C.N.R. standard inspection plugs.

The main frames will be of vanadium cast steel, with single forward section, with lugs, for holding the cylinders, and well braced together. All the driving boxes will have Franklin adjustable wedges.

The engine truck will be the Franklin Economy 4 wheel type, equipped with Preston hub liners, and with 33 in. wheels. The trailer truck will be of the Cole radial type, with 48 in. wheels.

The cylinders will be 23½ in. bore. The C.N.R. standard bypass valve will be applied, and apart from the King metallic valve stem and piston rod packing for the superheated steam, the fittings, etc., will all be C.N.R. standard. The steam ports will be fitted with peep holes, to facilitate the valve setting.

The valve gear will be of the Walschaert type, designed to cut off equally at all points of the stroke. The motion will be applied from the Ripken-Kingan main red arm, instead of from the crosshead arm. The reverse lever arrangement will be C.N.R. standard.

The main and side rods will all be of o.h. steel, and the big ends of the main rods will be similar to the U.S. Government standardized locomotive arrangement. The crosshead and piston head, will be C.N.R. standard.

The driving wheels will be 69 in. diar. over tires. The centers will be of cast steel, 62 in. diar.

The cab will be of the vestibule type, steel construction, wood lined and asbestos insulated, and equipped with the usual fittings.

Lighting will be provided by a Pyle-National type K2 turbine equipment, with a 250 watt incandescent lamp, in a special incandescent headlight case, with 18 x 9 in. reflector. The wiring will be carried through the hand rail, with circuits for the number, pilot and cab lamps. The number lamp will be of the new standard C.N.R. angle type, which provides for a wider angle of visibility. The steam heating equipment will be the Vapor make, with Gold no. 1012 regular valves.

The tender will be of the all metal type, with steel sills, substantial cover plates, and built up bolsters, and equipped with Sharon 5 x 7 in. M.C.B. coupler. The trucks will be of the pedestal type, with flat side frictions, spaced 40 in. centers on the front truck, and 50 in. centers on the rear truck, with M.C.B. standard braces, journal boxes, and trussed brake beams. The tender tanks will have a capacity for 12 tons of coal and 6,500 imp. gall. of water, and will be equipped with the Locomotive Superheater Co's. slope sheet type of coal pusher.

Switching Locomotives.

The 25 switching locomotives which will be of the 0-6-0 type, similar to the 10 ordered by the Canadian Northern Ry. as described in Canadian Railway and Marine World for Mar., 1918, are being built by Canadian Locomotive Co. The same specifications throughout have been used. The general details are as follows:

Gauges	4 ft. 8½ in.
Cylinders	21 x 26 in.
Drving wheels	51 in.
Boiler	68 in.
Boiler pressure	180 lb.
Firebox	41¼ x 95 15-16 in.
Tubes	157-2 n.
Flues	24-5½ in.
Length over tube sheets	12 ft. 5 n.
Wheel base, driving	12 ft. 0 in.
Wheel base, engine and tender	41 ft. 1¼ in.
Weight in working order:	
Driving wheels	154,400 lb.
Tender	96,000 lb.
Engine and tender	251,000 lb.
Heating surface, tubes	1,437.8 sq. ft.
Heating surface, firebox	132 sq. ft.
Heatng surface, arch tubes	11.5 sq. ft.
Heating surface, total	1,581.7 sq. ft.
Grate area	27.5 sq. ft.
Maximum tractive effort	34,400 lb.
Factor of adhesion	4.48
Tender capacity, coal	6 tons
Tender capacity, water	3,800 imp. gall.
Limiting height	14 ft. 10⅝ in.
Fuel	Bituminous

The boilers will be of the straight top, radially stayed, and with sloping back head, and designed to stand 200 lb. pressure, with a factor of safety of 4. There will be a superheater of the Schmidt type, and the security brick arch will also be applied. The feed water connections will be the standard C.N.R. type, through the bell stand. Nearly all the other features of the locomotives will be of the usual C.N.R. standard design.

Unusually Heavy Railway Construction.

The San Diego & Arizona Ry., now being built across Laguna Range in California to connect El Centro with San Diego, traverses some remarkably rugged country that called for heavy construction. Through Carriso Pass the grade has been kept down to 1.4%, because the cost of reducing grade later would be prohibitive. Elsewhere the grades run up to 2.2%, with 10 degree maximum curves. In the 12 mile section of the railway that lies between Jacumba and Carriso Gorge, there are 17 tunnels. Of these, two are about 2,500 ft. long, one is about 1,200 ft., and the remaining 14 are between 180 and 900 ft. The formation was loose, so that 75% of the total length required timbering. There remain to be completed about 11 miles of the mountain division, and crews are working on both ends of the gap. It is expected that the line will be ready for operation during the coming summer.

Exploration of Quebec Hinterland.—The steamship Amberst, bearing the first group of explorers for the penetration of the interior of Ungava, left Quebec Apr. 8, for the north shore of the Gulf of St. Lawrence, whence they will proceed inland. It is said that this party is working in the interests of a British syndicate which has obtained charters from the Quebec Legslature for the building of two lines of railway,—the Quebec and Ungava Ry., and the St. Felicien and Ungava Ry., and is applying to the Dominion Parliament for the incorporation of a railway company with the title of the North Route.

Machine for Boring Babbit Linings of Car Journal Brasses.

For the rapid boring of the babbit lining in car journal brasses a special machine has been built by the Northwestern Elevated Rd., of Chicago, as shown in fig. 1.

Two sizes of journal brass in use on this system are 4 and 4¼ in., and in order to handle both sizes the machine is made in two units connected together, thus forming the complete device. The cylinders are of two different diameters, the one at A being for 4¼ in. bearings and that at B for the 4 in. bearings. Scrap pans are provided below the machine to catch the chips.

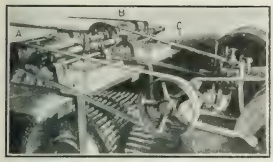


Fig. 1.—Machine for reboring car journal bearings.

A brass, after the babbit lining is cast in, is laid on the cylinder A, fig. 2, which is driven by the belt from a motor. The arm B is lowered on to the brass, so that the prongs C lock into the notches provided on the back of the brass for the locking wedge. Pressing down on the lever the operator slides the brass across the gap D on to the cylinder E, which is slightly larger than A. In its passage across D the cutting tools F bore out the soft metal to a diameter corresponding to that of cylinder E. The action of the machine is somewhat analogous to that of a jointer, in which a piece of wood is planed by passing it from a lower table to a slightly higher one across a gap in which is the rapidly revolving cutter.

A uniform rate of feed is obtained by means of a screw, on a continuation of the shaft to the left beyond the bearings. This screw has a lead of 3-32 in. The handle G has a half nut on its upper face, which fits into this thread on the shaft, and when starting to make a cut the operator raises the handle until the half nut is in contact with the thread and is carried forward by it. The two handles are so fastened as to allow independent movement around the shaft H, which is free to slide longitudinally in its bearings; but the handles cannot move lengthwise on the shaft, therefore when lever G is moved forward by the thread, lever C carrying the brass moves with it.

The machine is always ready to operate, so when a workman takes out a journal brass and finds it badly worn at one end but still serviceable if redressed, he takes it directly to the machine. This is so simple in its operation that almost any workman can soon learn to operate it.

The cut obtained shows noticeable toolmarks, but it is claimed that this condition is not detrimental and that a run of a few miles on the road gives the metal a chance to work down to a good bearing.

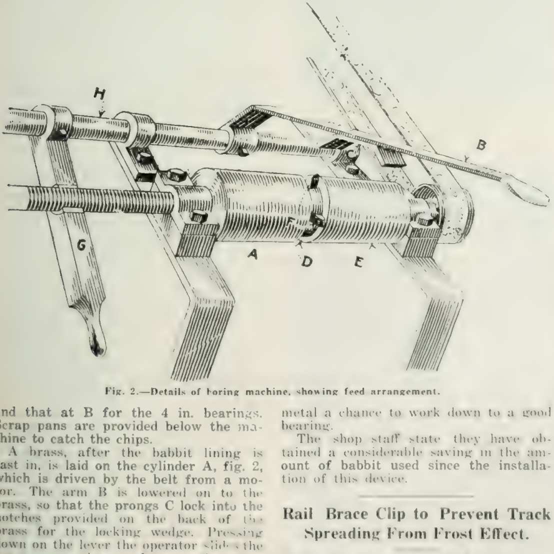


Fig. 2.—Details of boring machine, showing feed arrangement.

The shop staff state they have obtained a considerable saving in the amount of babbit used since the installation of this device.

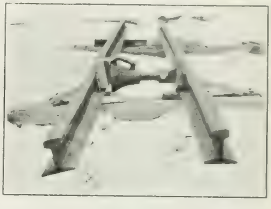
Rail Brace Clip to Prevent Track Spreading From Frost Effect.

By D. McIntyre, Roadmaster, C.P.R., Fort William, Ont.

The northern railways of America experience great difficulty in keeping their track in surface and line, due to the frost heaving. Heaving of track is caused by the freezing, and consequent expansion, of water which is absorbed and retained by the earth and ballast, and, therefore, we have the opinion of the best experts, that any improvement in drainage will greatly reduce the amount of shimming necessary.

When the track becomes uneven, and out of surface, it is then necessary to shim it up, by using small wooden blocks of various thicknesses. It must be remembered that the depth of the spike in the tie diminishes as the thickness of the shim increases, accordingly, the holding power of the spike is reduced, and, owing to this, the side thrust of the trains has a greater tendency to bend the spikes, which causes the spreading or widening of the gauge. This is where the roadmasters and section foremen have to keep a close tab on work of this kind, and keep it braced up in the best possible manner, but in spite of all their efforts they will very often find the track or shims spreading, as it is impossible to keep a very accurate surface.

In order to assist and overcome the difficulties of track spreading, I have been experimenting on a new rail brace clip. As the accompanying illustration shows, I have placed two rails on a tie, and placed shims under them, and spiked them down as though they were in a track. I have placed a standard brace on one side, and on the opposite side have placed another of the same type, using my rail brace clip, and to demonstrate the resisting power of the clip against the standard way of bracing, I have used an ordinary screw jack, so as to give pressure on the flange of the rails, as though it were the side pressure of a swaying train. It will be noted that the standard brace has given out, and the rail turned over, while the opposite side, with the rail brace clip, did not budge. This is due to the fact that the clip has the full service of the spikes, and in gauging the surface of the end of the brace, whereas, on the other hand, with the standard brace, only half of the spike is in the tie, and when the pressure is brought to bear on the brace, the spikes cut into the wood and also bend back. This rail brace clip is made of malleable iron, or pressed iron, with two little tits projecting out from the end of it, which is inserted into the end of the wooden brace. This holds the brace in place and keeps it from working off. The principal advantage of this clip is that it only takes half the material to make it, as compared with the standard type, and it can be used on or off shims, as desired.



Railway Lands Patented.—Letters patent were issued during February, respecting Dominion railway lands in Manitoba, Saskatchewan, Alberta, and British Columbia, as follows:

	Acres
Calgary and Edmonton Ry	[illegible]
Canadian Northern Ry	[illegible]
Canadian Northern Alberta Ry	[illegible]
Canadian Northern Manitoba Ry	[illegible]
Canadian Pacific Ry grants	[illegible]
Canadian Pacific Ry roadbed and station grounds	[illegible]
Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co.	[illegible]
Total	[illegible]

Canadian National Railways Construction, Betterments, Etc.

Halifax and South Western Ry.—A press report states that large quantities of ties have been distributed along the line, and preparations made for other work. It is reported that as soon as the improvements are completed a daily express service will be put in operation between Halifax and Yarmouth.

McGivney-Fredericton Improvements—A press report of Apr. 5 states that the work of bringing the Fredericton-McGivney Jct., section of the old Canada Eastern Ry., up to a standard sufficient for it to be used as part of the projected route from the National Transcontinental Ry. into St. John, over the St. John and Quebec Ry., is to be done by the railways own staff. The only work to be let by contract will, it is reported, be concrete and bridge work.

Moncton-Truro Second Track—A Levis press report of Apr. 16, that W. A. Kingstand, Assistant General Manager, Eastern Lines, Canadian National Railways, stated here that the section's construction programme will include the building of a second track between Moncton, N.B., and Truro, N.S., and that the work will be proceeded with this year.

St. Charles River Bridge, Quebec—The work on the superstructure of the bridge across the St. Charles River, had been so far completed as to allow the operation of trains across it, Apr. 7. It is expected that it will be completed and fully opened for traffic by June 1.

St. Malo, Quebec, Shop—A press report of April 22 states that tracklaying from the rain line to the St. Malo shops was nearing completion. Replying to a question in the House of Commons, Apr. 10, the Minister of Railways said that work on the shops will be started as soon as arrangements can be made, and it is expected that the Canadian National Railways will be in a position to handle some repairs there during the coming summer, and to have the shops in full operation by the end of the year.

Donnacona Washout.—The Quebec Board of Trade, having taken up recently the question of the rebuilding of 14 miles of track on the Canadian Northern from Donnacona east to Quebec, which was washed out some time ago, J. E. Morazain, General Superintendent Quebec, replied as follows: "It is the intention to commence repairs to this line as soon as weather conditions will permit, that is when the frost is out of the ground, but as there are several miles of grading washed away, it will take several weeks after work is started before the line can be opened to traffic. In the meantime we propose to resume running the Quebec-Shawinigan Falls local via the C.G.R. line, commencing at change of time table, which should take effect early in June."

Grenville, Que., Cut Off—Tenders were received recently for fencing, clearing, grading and the construction of culverts for about one mile of line to connect the Canadian Northern Ontario Ry., and the Canadian Northern Quebec Ry., near Cushing, Argentenil County, Que.

Central Station, Ottawa—Replying to a question in the House of Commons, Apr. 10, the Minister of Railways said plans in connection with the entrance of Canadian National Railways trains into the Central Station, at Ottawa, without running backward when leaving for Montreal, were under consideration.

Port Arthur, Coaling Plant—A press report states that it is proposed to enlarge the coal handling plant at the south end of Port Arthur, Ont., and to modernize the equipment.

Grand Beach Improvements—A Winnipeg press dispatch states that considerable improvements will be made at Grand Beach, for the accommodation of summer residents, prior to the opening of the season in June.

Saskatoon Locomotive House—A press report states that the locomotive house at Saskatoon, Sask., is to be removed to a new site north of the city.

Extensions in Prairie Provinces—Tenders were received up to Apr. 15 for building of the following lines:—Amaranth extension; Lampman-Peebles line, Melfort north easterly, Eston, south easterly; Turtleford extension; Humboldt-Melfort; Luck Lake extension, Swift Current extension, Oliver-St. Paul extension, Acadia Valley line, and Hanna-Medicine Hat line, and contracts for grading and culverts have been let as mentioned above.

The Amaranth extension is an extension of some 35 miles of the Delta branch from Portage la Prairie to the west shore of Lake Manitoba, now terminating at Amaranth. Jno. W. Stewart & Co., Winnipeg, contractors.

The Swift Current extension is continuing for some 25 miles the Avonlea-Gravelbourg line from Gravelbourg, Sask., toward Swift Current, Gibbs Bros., Lumsden, Sask., are the contractors.

Lampman - Peebles line — Lampman, Sask., is on the Maryfield extension, where it intersects the Bienfait branch, and Peebles is a station on the Prince Albert line. The extension is to be from Peebles northerly to some 20 miles. Canadian Construction Co., Winnipeg, in which W. A. Dutton is principally interested, are the contractors.

Eston southeasterly, Eston, Sask., is at mileage 84.4 on the line from Elrose Jct., terminating at Glidden, 104 miles from Elrose Jct. A branch is to be built southeasterly from Eston for 35 miles at present. J. W. Stewart and Co., Winnipeg are the contractors.

The Humboldt-Melfort line covers the completion of the branch now in operation from Melfort southerly to St. Brieux, Sask., to Humboldt, 32 miles. J. W. Stewart and Co., Winnipeg, are the contractors.

The Melfort northeasterly line, of some 30 miles, is to traverse the Carrot River County. Jno. W. Stewart & Co., Winnipeg, are the contractors.

The Luck Lake extension is continuing for some 20 miles, a 9 mile branch from Elrose Jct., now terminating at Dunblane. Western Construction Co., North Battleford, Sask., are the contractors.

The Hanna-Medicine Hat line leaves the Saskatoon-Calgary line at Bonar, about seven miles east of Hanna, Alta., and was graded to the bank of the Red Deer River during 1918. Seventy-two miles more are to be built towards Medicine Hat. Canadian Construction Co., Winnipeg, are the contractors.

The Turtleford extension is a continuation for some 20 miles of a 56-mile branch line from North Battleford, now terminating at Turtleford, Sask. Western Canada Construction Co., North Battleford, Sask., in which J. W. Millar is principally interested, are the contractors.

The Acadia Valley line, of some 25 miles, is to be built from the Saskatoon-Calgary line, at or near Alsask, Alta. Grant Smith, Macdonnell & Co., Vancouver, are the contractors.

Oliver-St. Paul de Metis Extension—Grading has already been done on 100 miles of this line from Oliver, Alta., towards St. Paul de Metis, and track has been laid on 44 miles of this. Some 22 miles further are to be built this year to St. Paul de Metis. J. W. Stewart & Co., Winnipeg, are the contractors.

Kamloops-Vernon-Lumby Branch Contract—We are officially advised that a contract has been let to John W. Stewart and Co., Winnipeg, for grading, building and culverts on a line from Kamloops via. Armstrong and Vernon to Kelowna, with a branch line from near Vernon to Lumby, B.C.

Surveys for this line were made in 1913, the total length of the line, including the branch from Vernon to Lumby being 140 miles.

Vancouver Island—The British Columbia Legislature has passed an act providing for the sale of an additional 26.42 acres of the Songhees Indian reserve at Victoria at $8,500 an acre, to the Canadian Northern Pacific Ry., for terminal purposes. The passing of this act was necessary for the confirmation of an understanding arrived at some time ago.

A press report stated that the projected extension of the Victoria-Alberni line, into the Nitinat district, will be undertaken at an early date.

New Brunswick Railway Finances.—The estimates of revenue and expenditure for the current financial year were laid before the New Brunswick Legislature recently. The following items were included in the revenues from railways: Taxes, $57,200; earnings from Southampton Ry., $1.500. The St. John and Quebec Ry., from which there was an estimated income of $100,000 in 1918, is not looked upon to produce anything for this year, neither is anything provided in the way of interest, as compared with $187,299.48 provided in 1918. The Provincial Secretary, in referring to the estimates stated that the cost of the St. John and Quebec Ry. to Mar. 1 had been $3,945,021.12.

Timiskaming and Northern Ontario Ry.—S. B. Clement, Chief Engineer and Superintendent of Maintenance, in his report for the year ended Oct. 31, 1918, states that owing to labor shortage and general conditions, the building of a short revision at mileage 80.8 was not gone on with during the year, but was postponed until a more favorable opportunity. Track laying on the division, mileage 63 to 66.5, was postponed, owing to the shortage in the supply of rails, but will be gone on with during 1919, as also will be the tracklaying on the revision between mileage 54 and 55.

Canadian Northern Ry.—There has been deposited with the Secretary of State at Ottawa, duplicate original of a trust mortgage made between the C. N. R. Co., Lloyd's Bank, London, Eng., and the Dominion of Canada, securing certain 5% guaranteed secured gold notes of the company.

Transportation Appointments Throughout Canada.

The information under this head, which is gathered almost entirely from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Algoma Eastern Ry.—J. M. ALTON has been appointed Treasurer, vice E. W. Shell, resigned. Office Sault Ste. Marie, Ont.

T. F. RAHILLY, heretofore Superintendent, has been appointed Comptroller, vice M. S. Connor resigned. Office Sudbury, Ont. The position of Superintendent has been abolished.

Canadian National Rys.—C. D. BOVARD, heretofore acting Assistant Superintendent, Moncton, N.B., has been appointed Terminal Agent there.

R. F. CLARK, General Agent, Chicago, Ill., has been appointed General Agent, Chicago and district, with supervision of Canadian National Rys. traffic in that territory. J. A. Boak, Western U.S. Agent, Canadian Government Rys., Chicago, having resigned. Office 64 West Adams St., Chicago, Ill.

W. F. CONNAL has been appointed Mechanical Engineer, Toronto, vice H. D. Cameron, who resigned recently, to enter Robinson Connector Co.'s service at Montreal.

W. A. CUNNINGHAM, heretofore Division Freight and Passenger Agent, Halifax and South Western Ry., Halifax, N.S., has been appointed Export and Import Freight Agent, Canadian National Rys. Office, Montreal.

H. A. DIXON, heretofore District Engineer, Pacific District, Vancouver, B.C., has been appointed Chief Engineer, Western Lines, vice A. T. Fraser, accidentally killed. Office, Winnipeg.

G. A. FERNLEY, heretofore Commercial Agent, Montreal, has been appointed Travelling Freight Agent, there.

M. HENCHY, Locomotive Foreman, District 1, Eastern Lines, Chaudiere, Que., has been appointed acting Assistant Master Mechanic District 5, Eastern Lines, Edmundston, N.B., during the absence on leave of H. D. MacKenzie.

S. J. LUPTON has been appointed Chief Boiler Inspector, Western Lines, in charge of all boiler work. Office, Winnipeg.

V. M. MILTON has been appointed Boiler Inspector, Winnipeg, reporting to the Mechanical Superintendent, Western Lines. Office, Winnipeg.

W. D. STEWART, heretofore Assistant General Storekeeper, Western Lines, Canadian Government Rys., Transcona, Man., has been appointed acting General Storekeeper, Eastern Lines, Canadian National Rys., vice L. C. Thompson, General Storekeeper, appointed General Storekeeper Canadian Car and Foundry Co. Office, Toronto.

W. WALKDEN has been appointed Bridge Engineer, Western Lines. Office, Winnipeg.

Canadian Pacific Ocean Services Ltd.—F. G. FRIESER, heretofore Export Freight Agent, C.P.R., New York, has been appointed General Agent, Freight Department. Office, 1548 Woolworth Building, New York, N.Y.

Canadian Pacific Ry.—J. D. ALTIMAS, heretofore Car Accountant, has been appointed Assistant General Superintendent of Car Service. Office, Montreal.

A. BROWN has been appointed Division Master Mechanic, Nelson, B.C., vice G. H. Nowell, transferred.

JOHN BURNS, heretofore Assistant Works Manager, has been appointed Works Manager, Angus shops, Montreal.

John Burns,
Works Manager, Angus Shops, Canadian Pacific Railway.

E. N. Todd,
General Freight Agent, Eastern Lines, C P R.

H. G. DRING, heretofore General Passenger Agent, London, Eng., has been appointed European Passenger Manager. Office, 62 Charing Cross, London, Eng.

G. O. EVANS, Car Service Agent, Calgary, Alta., is reported to have resigned.

J. W. KEPPEL, heretofore Locomotive Foreman, Kenora, Ont., has been appointed General Foreman, Vancouver, B.C., vice J. D. Muir, transferred.

J. D. MUIR, heretofore General Foreman, Vancouver, B.C., has been appointed Assistant Works Manager, Angus Shops, Montreal.

G. H. NOWELL, heretofore Division Master Mechanic, Nelson, B.C., has been appointed Division Master Mechanic, Revelstoke, B.C.

W. PHELAN has been appointed Car Accountant, Montreal, vice J. D. Altimas, promoted.

S. F. PIERCE, heretofore Manager, Hotel Palliser, Calgary, Alta., is reported to have been appointed Manager, Royal Alexandra Hotel, Winnipeg.

R. F. RICHARDSON, heretofore Local Freight Agent, Calgary, Alta., has been appointed Local Freight Agent, Edmonton, Alta., vice S. C. Graham, transferred.

Caraquet & Gulf Shore Ry.—F. B. BURTON, Superintendent, Bathurst, N.B., is now in direct charge of this line, consequent on the death of W. B. Cronk, Vice President.

Grand Trunk Ry.—N. P. CLARKE, heretofore in the accounting department, Chateau Laurier, Ottawa, has been appointed Manager, Highland Inn, Algonquin Park, Ont.

W. CULLIGAN has been appointed Chief Dispatcher, Districts 20 and 21, London Division, Ontario Lines, vice W. K. Rogers, and the dispatching office for these districts has been moved from Brantford to Stratford, Ont.

J. B. FRANKLIN has been appointed Supervisor of Track, District 5, Montreal Division. Office, Brockville, Ont.

H. R. McLENNAN, Trainmaster, District 20 and 21, London Division, Ontario Lines, has had his office moved from Brantford to Stratford, Ont.

C. S. OGILVIE, formerly Assistant Engineer, Belleville, Ont. and latterly in military service, has been appointed Assistant Engineer, Ottawa Division, vice H. Mowat, assigned to other duties. Office, Ottawa, Ont.

W. A. STOTT has been appointed Road Foreman of Locomotives, Districts 2, 3 and 4, Eastern Lines, vice W. H. Wheatley transferred.

W. H. WHEATLEY, heretofore Road Foreman of Locomotives, Districts 2, 3 and 4, Eastern Lines, has been appointed Road Foreman of Locomotives, Montreal Terminals, vice E. S. McMillan assigned to other duties. Office, Turcot, Que.

Grand Trunk Pacific Ry. System.—W. P. HINTON, Vice President & General Manager, G.T.P.R. Co., and its subsidaries, continues in that position for the companies, and is acting as General Manager under the Receiver, the Minister of Railways and Canals. With the Minister's approval, he has opened an office in the Railways Department, at Ottawa, where he is represented in his absence by S. P. PORTER, heretofore Executive Agent of the company, at Regina, Sask., who is acting as his assistant in all matters pertaining to the receivership.

H. H. HANSARD, Solicitor, G.T.P.R. Co., has been delegated to act as Solicitor to the Receiver, to assist the latter in all legal matters pertaining to the receivership. Office, Railways Department, Ottawa.

New York Central Rd. (U.S.R.A.)—F. M. BYROM, General Agent, Utica, N.Y., has had his jurisdiction extended to cover all stations on the Adirondack Division, including Montreal. All matters pertaining to passenger traffic, forwarding directly to A. I. Miller, General Agent, Montreal, should be addressed to the General Agent at Utica. The company's general agency and ticket office, at [illegible] St. James St., Montreal, has been closed, and the New York Central is now represented in the Montreal consolidated ticket office, 248 St. James St., which is in charge of W. De W. Stott, Agent.

Pacific Great Eastern Ry.—G. E. MACDONALD, of MacDonald-Marpole Co. Ltd., Coal Merchants, etc., Vancouver B.C., has been appointed General Manager, vice G. L. Courtney, who has resigned recently. Office, Vancouver, B.C.

Quebec Land Grants to Railways.

The Quebec Legislature has authorized grants of land to aid the construction of the following railways:—

Quebec Central Ry.—From near Scotts Station on its main line, to the National Transcontinental Ry., near St. Jean Chrysostome, 20 miles, 2,000 acres a mile.

St. Francis Valley Ry.—In lieu of the grant voted in 1914, 2,000 acres a mile from Stanstead to St. Francis du Lac, 95 miles, and a similar grant for St. Bonaventure to Sorel, 25 miles.

Rouge River Ry.—From Grenville, Argenteuil County, to the C.P.R. in Labelle County, 80 miles, 2,000 acres a mile. Subsidy may be applied to the section already built from Huberdeau to the Canadian china clay mines, 8 miles, and to its immediate extension to St. Remi d'Ambrose, Labelle County.

Shefford, Bagot and Missisquoi Ry.—From the Vermont-Quebec boundary in St. George de Clarenceville, to the Intercolonial Ry. between Bagot and St. Eugene, 75 miles, 2,00 acres a mile.

Canada and Gulf Terminal Ry.—From the present terminal at Matane through the interior of the Gaspe peninsula to Gaspe Basin, 190 miles, 2,000 acres a mile, in lieu of grant voted in 1914.

Timiskaming or Kipawa to Des Quinze River.—To a company building a line from the C.P.R. line now terminating at Timiskaming or Kipawa, via Ville Marie to the Riviere des Quinze, 100 miles, 4,000 acres a mile.

Belle River to Lake Kamagama.—To a company building a line from the Kiask Falls of the Belle River southerly to Amos, on the National Transcontinental Ry., and thence to Lake Kamagama, between 80 and 100 miles, 2,000 acres a mile.

The Toronto Globe recently said that the Quebec Legislature had voted "a grant of 2,000 square miles per mile of railway track laid". Of course acres should have been stated instead of square miles. The difference between the two is a matter of 1,279,000 acres a mile of line.

The Crossen Car Co., in pursuance of the terms of the mortgage deed of Jan. 2, [illegible] proposes to redeem the whole of the [illegible] first mortgage bonds which may be outstanding July 2 at 105% of par value, with accrued interest. In case of the neglect of bondholders to deposit their bonds for redemption by the date mentioned, the company will deposit the moneys so payable in the Montreal Trust Co., which shall constitute a discharge of the same.

Canadian Pacific Railway Honor Roll 42.

Baker, Arthur Jones	Carman	West Toronto	Wounded
Barker, William C.	Yard foreman	Red Deer	Gassed
Bartholomew, Alfred	Waiter	B.C. Lake & River Service	Wounded
Blacklock, Philip U.	Clerk	Montreal	Killed in action
Bowles, Augustin	Helper	Field	Wounded
Brickwood, Charles H.	Wiper	Brandon	Wounded
Brooks, Harry	Apprentice	Winnipeg	Wounded
Brown, Alfred Stanley	Chargeman	Kingston	Killed in action
Brown, Nelson Alex	Tie and timber inspector	Cranbrook	Presumed dead
Cameron, James	Yardman	Winnipeg	Wounded
Catchpole, William F.	Trimmer	Smith's Falls	Wounded
Cromarty, Thomas	Clerk	Vancouver	Wounded
Davis, Fred	Yardman	West Toronto	Died of wounds
DeWitt, Award W.	Trainman	Brownville Jct.	Killed in action
Dorward, James C.	Car cleaner	Winnipeg	Presumed dead
Duncan, James	Clerk	Vancouver	Wounded
Evans, Robert John	Loco. fireman	East Calgary	Wounded
Fisher, Frederick J.	Machinist	Winnipeg	Killed in action
Fitzsimmons, Hugh H.	Yardmaster	Frank	Wounded
Foster, Robert T.	Ditchrider	Strathmore	Died of wounds
Fraser, Thomas	Clerk	Ottawa	Died of wounds
Galbraith, William M.	Checker	MacLeod	Wounded
Hallam, John Edgar	Waiter	B.C. Coast Service	Wounded
Harrison, David	Clerk	Montreal	Wounded
Henderson, Allen	Car-wheel borer	West Toronto	Wounded
Hill, William	Trainman	Smith's Falls	Wounded
Jack, Charles Henry	Operator	Cobden	Wounded
Jeffs, Joseph	Loco. fireman	Regina	Killed in action
Judge, Thomas Roy	Clerk	Oshawa	Wounded
Laurie, William	Car checker	Cranbrook	Wounded
Lawson, James W.	Clerk	Fort William	Killed in action
Leahy, Michael	Bridgeman	Winnipeg	Wounded
Leaming, Charles	Trainman	Minnedosa	Wounded
McGillivray, Angus D.	Operator	Montreal	Wounded
McNabb, Mervin C.	Brakeman	Medicine Hat	Killed in action
Machin, James Edwin	Car checker	West Toronto	Died of wounds
Middlemiss, Henry	Clerk	Winnipeg	Wounded
Milne, John	Carman	Estevan	Wounded
Morgan, Arthur J.	Freight checker	Vernon	Killed in action
O'Brien, John	Brakeman	Chapleau	Wounded
Orrell, Samuel	Steamfitter's helper	Angus	Wounded
Osborne, Gordon	Apprentice	Angus	Gassed
Patterson, Henry	Constable	Ontario District	Wounded
Perry, Stanley F.	Locomotive man	Brandon	Wounded
Pulham, Cecil W.	Loco. fireman	B.C. District	Wounded
Reeves, Frederick J.	Delivery man	West Toronto	Wounded
Reed, Ernest	Watchman	Colonsay	Wounded
Richbell, Edwin	Locomotive man	Winnipeg	Wounded
Robertson, John P.	Locomotive man	Medicine Hat	Killed in action
Robertson, Walter B.	Storeman	Winnipeg	Presumed dead
Scott, Arthur	Fireman	Winnipeg	Wounded
Sefton, Harry	Clerk	Calgary	Killed in action
Simmonette, Thomas	Loader	Lethbridge	Wounded
Slade, George S.	Operator	Toronto	Wounded
Stephen, William	Sty. fireman	North Bay	Died of wounds
Stitt, Hubert B.	Assistant agent	Didsbury	Wounded
Unwin, Lawrence B.	Accountant	Schreiber	Wounded
Van Mourick, Adrian	Messenger	Vancouver	Wounded
Wilcox, Harry	Timekeeper	Montreal	Killed in action
Wiskar, S.	Teamster	Strathmore	Wounded

The following casualties to members of the European staff on active service have been reported:

Boddington, W.	Clerk	London	Killed in action
Cope, Wilfred	Clerk	London	Killed in action
Cowie, Edward	Clerk	Glasgow	Killed in action
Hutchison, Geo. H.	Clerk	Glasgow	Killed in action
Pedler, Albert	Clerk	Liverpool	Missing
Prevel, James	Clerk	London	Killed in action
Townley, James	Clerk	Liverpool	Killed in action
Van Ackeren, Joseph	Apprentice	Antwerp	Killed in action
Wilson, John	Clerk	Glasgow	Killed in action

Shown on Honor Lists to date: Killed, 895; wounded, 1,911; total, 2,806.

The Elimination of Level Crossings.

The Dominion Parliament has passed an act providing for the extension for 10 years of the act passed in 1909 for the elimination of level crossings on railways. The act provdes for the appropriation of $200,000 a year for the next 10 years to aid actual construction work for the protection, safety and convenience of the public, in respect of highway crossings at rail level in existence on April 1, 1909, and the Miniser of Railways stated that it was not intended to alter the procedure of distributing the money, but simply to extend for 6 years the time of the operation of the present act. Under the existing law the Board of Railway Commissioners may order the elimination of any crossing by the erection of a bridge or the construction of a subway and apportion the cost between the municipality and the railway company, and may direct the payment of a sum from the amount granted by parliament. In the consolidation Railway Act, provision is made to increase the government contribution to 25% of the actual construction cost, not to exceed in any one case $15,000, with certain limitations as to the number of crossings dealt with in one municipality in the year. It was thought well to bring in the present bill pending the passing of the new consolidated Railway Act. The bill does not apply to the Canadian Government Railways.

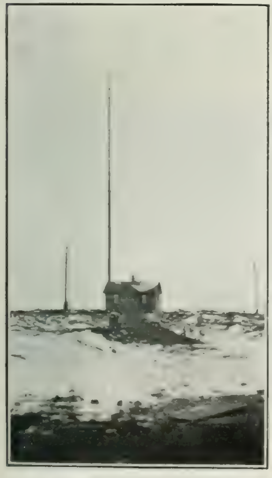
During the discussion it was stated that the sums expended during the last 10 years were not very large, being as follows: 1909-10, $70; 1910-11, $69,109.18; 1911-12, $7,643.14; 1912-13, $20,807.38; 1913-14, $39,968.11; 1914-15, $92,099.48; 1915-16, $47,079.99; 1916-17, $46,630.53; 1917-18, $13,740.85; 1918-19 (to Mar. 12), $2,336.85.

The G.T.R. Shops at Montreal, Ottawa, Toronto, Stratford and London, Ont., now run 40 hours a week, viz.: 5 days of 8 hours each and not on Saturdays.

Wireless Telegraph Direction Finding Stations Erected by the Canadian Naval Service Department.

Of the considerable part played by wireless telegraphy in the war, little has been made public, for obvious reasons. To the average individual, wireless telegraphy is broadly associated with the idea of transmission and receipt of messages without intervening wires, and in the main, this undoubtedly is its chief function. There have, however, been important developments in the use of wireless telegraphy, in which the transmission and receipt of messages is not the primary object, and one of these is the wireless telegraph direction finding station.

Instrument Table, Canadian Government Wireless Telegraph Direction Finding Station, Canso, N.S.



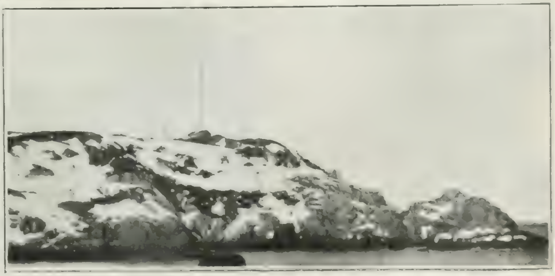
Mast and Operating House, Canadian Government Wireless Direction Finding Station, Cape Race, Newfoundland.

At an ordinary wireless telegraph station, there are no means of determining the direction from which incoming signals are being received, and, in consequence, unless the sending station happens to be a known shore station, it is usually impossible to determine the direction of the signals from the signals themselves. The outstanding advantages arising from the ability to determine the direction of incoming signals, with a reasonable degree of accuracy, are mainly, that it provides a means of locating the position or bearing of hostile craft, should they happen to be transmitting on their wireless equipment within the range of the direction finding stations, and that it provides a valuable aid to navigation, as it enables ships fitted with ordinary wireless telegraph gear to determine their position on the chart, or their bearing on the station, this information being of the utmost importance to a vessel approaching a coast either in a fog or under doubtful reckoning.

The possibility of utilizing specially constructed wireless telegraph stations for the purpose of determining the direction of incoming signals received considerable attention in some quarters before the war, and efforts were made to produce apparatus and stations of sufficient accuracy to warrant general use, but, owing to the difficulties encountered, the success was not very marked. Upon the opening of hostilities, efforts were concentrated more upon the development of this type of station, with very gratifying results. The system used is the invention of Bellini and Tosi, two Italians, and consists primarily of two looped aerials at right angles, and means for resolving the effects produced, so that the direction of the incoming signal may be determined.

Dr. Bellini was born at Foligno, Italy, April 13, 1876, and educated at Naples University. In 1901 he was appointed Electrical Engineer to the Royal Italian Navy, and in 1906 he became Chief of the Naval Electrical Laboratory at Venice, in which capacity he carried out research work, dealing with the employment of wireless telegraphy on warships and submarines. Later, in conjunction with Capt. Tosi, he invented the Radiogoniometer, an apparatus for directive wireless telegraphy. In 1910 the Bellini-Tosi system was installed at the Boulogne-sur-Mer station of the French post office.

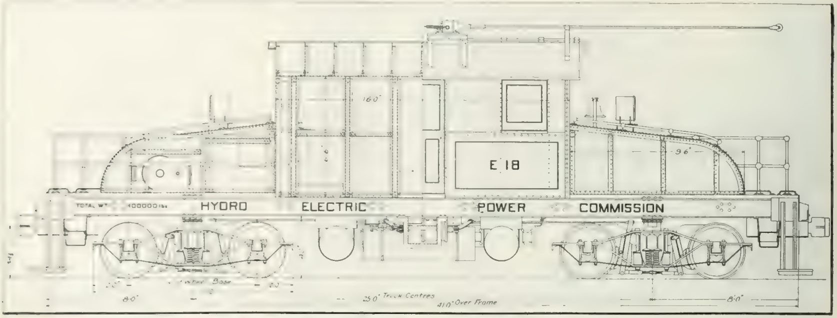
During hostilities the Canadian Naval Service erected four of these stations on the Atlantic coast, with the object of using them as a means of locating hostile craft, and as an aid to navigation of His Majesty's ships, with the ultimate idea of placing them, after hostilities, at the disposal of all shipping, as an aid to navigation. This latter has already been done, and it is anticipated that their successful operation will be an extremely valuable assistance to ships navigating in the waters about the Atlantic coast, particularly during the summer, when dense fogs occur from time to time. These four Canadian stations have been erected at Cape Sable, at the southern end of Nova Scotia: Chebucto Head, at the mouth of Halifax Harbor; Cape Canso, at the entrance to Chedabucto Bay, and Cape Race, Newfoundland. From any or all of these stations a ship may obtain a bearing while still at a distance of several hundred miles from the coast. From the several bearings she would be able to determine her position on the chart. Experience gained during hostilities tends to show that bearings obtained are accurate to within less than two degrees, and that as the personal handling of the apparatus becomes more experienced the accuracy continues to improve.



Canadian Government Wireless Direction Finding Station, Cape Sable, N.S.

During the summer, the whole of the Atlantic coast is occasionally fog bound for days together, and during these periods it is extremely difficult for a ship to determine her position with the accuracy necessary to safety, and in consequence, in spite of all precautions, several valuable ships run ashore each year. It is fully expected that the intelligent use of these direction finding stations will reduce these wrecks.

All these stations are now open to commercial shipping and information to this effect is being promulgated in notices to mariners throughout the world. The service for the present will be given free of charge to the ship, but it may, at some future date, be found necessary to make a nominal charge to avoid abuse.



Electric Locomotive for Hydro-Electric Power Commission of Ontario.

The above elevation plan is of one of the six additional electric locomotives, which the Hydro-Electric Power Commission of Ontario is having built, for use on its Niagara power development construction railway, which were fully described in Canadian Railway and Marine World for April, page 204.

E. W. Beatty as Chancellor of Queen's University.—The Queen's University Alumni Association, of Montreal, entertained E. W. Beatty, K.C., President C.P.R., who has been elected Chancellor of the University in succession to the late Sir Sandford Fleming, at a banquet in Montreal, Apr. 8. The new chancellor, on rising to respond to the toast of the University, was greeted with a newly improvised verse:—

Eddie Beatty's the Chancellor
Sweedle de we dum bum.
We'll all get passes now, by Gar.
Sweedle de we dum bum.
The C.P.R. and Queen's, you see
Sweedle we [illegible]
Are the greatest things in the countree
Sweedle we dum bum.

New Brunswick's Small Railways.—The N.B. Legislature has under consideration a bill providing that any railway company within its legislative authority, which has no statutory power to sell its line, may with the approval of the Provincial Government, sell its railway and undertaking to the Dominion Government. As it has been represented that certain lines which have been acquired, and others that may be acquired, by the Dominion, have not respectively, a right of way of a definite width within clearly established boundaries, the bill authorizes the Provincial Government upon such terms and conditions as may be advisable, to vest in such railways lands for a right of way of 66 ft. wide, and for station grounds and terminals 100 ft. wide.

J. G. Rutherford, C.M.G., one of the members of the Board of Railway Commissioners, Ottawa, has been offered the degree of Doctor of Veterinary Science, by Toronto University, and has accepted it.

Too Late for Classification.

Sydney vs. Rimouski for Landing Mails.—The postal authorities in London, Eng. are said to have stated, with regard to mail and passenger service via Sydney, N.S., which the Canadian Government is said to be considering, that tests made in 1905 and 1906 proved that mails transferred at Sydney and forwarded thence by rail, reached their Canadian destination a day earlier than by the St. Lawrence route, while passengers for the Maritime Provinces saved 48 hours compared with Rimouski.

Lights and Fog Signals.—The Marine Department, Ottawa, has issued three lists of lights and fog signals, corrected to April 1, as follows: 1. Atlantic coast, including Gulf of St. Lawrence to head of ocean navigation. 2. West of Montreal, and east of British Columbia. 3. Pacific coast and British Columbia rivers and lakes.

WE REMEMBER
YPRES. FESTUBERT. THE SOMME. VIMY. HILL 70.
PASSCHENDAELE. AMIENS. CAMBRAI. DROCOURT-QUEANT. MONS

Electrically Illuminated Welcome Sign Over the Ticket Offices in the C.P.R. Windsor St. Station, Montreal.

Toronto University Memorial.—Among the principal subscribers to the memorial to be erected by Toronto University, to its graduates and students who were killed in the war, are Sir Edmund Osler, one of the C.P.R. directors, $25,000; R. W. Leonard, C.E., formerly commissioner, National Transcontinental, $25,000; E. W. Beatty, Vice President, C.P.R., $5,000.

The Three Rivers Traction Co., Three Rivers, Que., has ordered 2 one-man, single truck cars, from Ottawa Car Manufacturing Co. The underframe is of wood construction reinforced with side sill plates 18 x ⅜ in., roof of arch type, interior finish cherry, folding doors and steps with National Pneumatic Co.'s control, pantasote curtains, Consolidated Car Heating Co.'s electric heaters with thermostatic control, Electric Service Supplies Co.'s golden glow headlights, compensating series lamp fixtures, electric buzzer system. The length over body will be 21 ft. length over bumpers 32 ft. 2 in., front vestibule, 6 ft., rear vestibule, 4 ft.

The Toronto Ry.'s noncompliance with the Ontario Railway and Municipal Board's order respecting the putting into service of an additional 200 cars, came before the board at the end of March, and was adjourned sine die, pending the result of the appeal to the Imperial Privy Council as to the Board's jurisdiction and powers to inflict a fine for failing to carry out its order.

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AND
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Answers to Questions About the Canadian National Railways.

During the House of Common's current session, a large number of questions about the Canadian National Railways and their management have been asked by members.

The Minister of Railways gave the following information in answer to questions by A. B. Copp, M.P., for Westmoreland, N.B.:

The board consists of 11 directors, their names, dates of appointment, respective occupations immediately prior to appointment, and their places of residence being as follows: D. B. Hanna, Dec. 26, 1914, railway official, Toronto; Major Graham A. Bell, Nov. 5, 1916, Assistant to Minister of Railways and Canals, Ottawa; A. J. Mitchell, Sept. 6, 1918, railway official, Toronto; E. R. Wood, Sept. 17, 1916, banker and director various financial companies, Toronto; Robt. Hobson, Sept. 17, 1918, President, Steel Company of Canada, etc., Hamilton, Ont.; F. P. Jones, Sept. 17, 1918, Vice Chairman, War Trade Board and Vice President, Canada Cement Co., Montreal; R. T. Riley, Sept. 18, financier and managing director trust and loan companies, Winnipeg; C. M. Hamilton, Sept. 18, 1918, farmer, McTaggart, Sask.; Sir Hormisdas Laporte, Nov. 22, 1918, Chairman War Purchases Commission and merchant, Montreal; Thos. Cantley, Nov. 22, 1918, Chairman, Nova Scotia Steel & Coal Co., New Glasgow, N.S.; A. P. Barnhill, Nov. 22, 1918, barrister, St. John, N.B.

The directors, with the exception of Messrs. Hanna and Mitchell do not give their full time to railway. The directors receive no salaries as such, but receive an annual honorarium of $2,000 each. Messrs. Bell, Hanna and Mitchell were appointed because of their long experience in various financial and business enterprises. There are no assistants, secretaries, stenographers or other officials attached to the board of directors.

Passenger and Freight Terminal Maintenance.

By D. McCooe, Superintendent of Track, G.T.R., Toronto.

The three most important things to consider in the maintenance of tracks in passenger and freight terminals may be classified as follows: Proper organization, supervision, and best methods.

The force should be sufficient to maintain all the tracks to a uniform standard of requirements the year around, this to be governed by local conditions and the volume of traffic. The terminal or yard should be divided into sections in charge of a foreman with a small gang (4 to 6 men) to take care of the ordinary maintenance work and policing of tracks. There should also be one or more large gangs of 25 or 30 men, similar to, if not, an extra gang, in charge of a competent foreman, to do all new work, such as relaying rail, rebuilding ladder tracks and other similar work, where necessary throughout the terminal.

The efficiency of foremen depends largely on the supervision and the instructions received from the roadmaster or supervisor, and it is their duty to see that foremen are supplied with the proper tools and the necessary material, and that their orders are obeyed.

The best method for doing the work is to set a standard and adhere to it, and by making use of all practical labor saving devices, of which there are many. The reclamation of small track material, such as spikes and bolts, can be taken care of more economically by assembling them as they accumulate in the terminals, where they can be sorted out, and spikes straightened by hand or machinery. This will get the material into service again that is fit for further use, thereby avoiding delays by letting it accumulate in larger quantities before shipping it to the reclaiming yard, and awaiting its return.

Terminals of 100 miles and over, or where the work justifies it, should have their own blacksmith and carpenter, to repair tools and do other miscellaneous work under the supervision of the maintenance department, instead of having it done by some other department. A regular work train is also necessary in a terminal of this class to handle and distribute material and to expedite the work.

Railway Lands Patented.—Letters patent were issued during March for Dominion Railway lands in Manitoba, Saskatchewan, Alberta and British Columbia, as follows:

	Acres.
Alberta and Great Waterways Ry.	218.28
Calgary and Edmonton Ry.	2,535.14
Canadian Northern Ry	5,610.18
Canadian Pacific Ry.	13.86
Manitoba and Northwestern Ry.	152,73
Edmonton, Dunvegan and British Columbia Ry.	89.15
Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co.	54,233.45
Total	62,852.79

Record Car Movement. — What is claimed to be the world's record for the greatest number of freight cars passing a given point in 24 hours is indicated in a report of conditions made by the Director General of U.S. Railroads to President Wilson. It is stated that in one day 9,531 cars passed Columbia, Penn., on the Philadelphia division of the Pennsylvania Rd. The division operates between Harrisburg and Philadelphia. The report states that 250,000 freight cars passed Columbia in one month. The average daily movement was 8,544 cars, an average of about 6 cars a minute.

The C.P.R. Social Club was formed at Winnipeg, Jan. 9, 1915, and is now reported to have 1,026 active members exclusive of about 300 members at present serving with the Canadian Expeditionary Force. Meetings are held fortnightly, when addresses on railway work and general topics are given by prominent men, and discussions follow. The club has a choral society which gives occasional concerts, and is arranging an athletic organization for the present year. The club quarters are in the Royal Alexandra Hotel. Jas. Bending is President, and J. F. Sprankling is Recording Secretary.

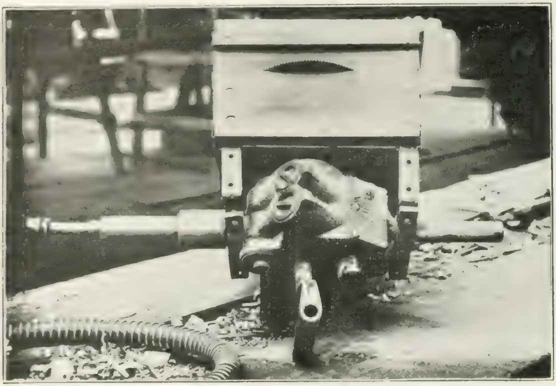
Geo. Walton. Passenger Trainman, C.P.R., Peterboro, in remitting his subscription, writes: "I feel that every railway man should have Canadian Railway and Marine World, for his information, and I will do everything possible to promote the circulation and subscription of the same."

The Great North Western Telegraph Co. has opened an office at Little Metis lighthouse, Que., and has closed its office at Arthur, Ont. The name of the office at Mattawin, Ont., has been changed to Glenwater.

The G.T.R. has stated a new sleeping car service, leaving Toronto 5.45 p.m. daily and arriving at the Pennsylvania Rd. Station in New York.

Cut-Off Saw for Car Work.

The accompanying illustrations show a cut-off saw, set up by J. Gardner, General Foreman, Passenger Car Shops, Canadian National Rys., Transcona, Man. The machine consists of a no. 3 air motor, fitted with a 9in. no. 17 gauge, and a 6 teeth to the inch saw. The rabbit in the box is ½ x 2 in., allowing for ½ x 2 in. strip to be nailed on the car, for the machine to ride on, the saw being set at the thickness of the sheathing to be cut. The machine is doing good work, and will cut off the side of a car in 10 minutes, and can also be used for cutting off box car roofs.



Cut-off Saw for Car Work.

The Railways and the War.

The Canadian Railway War Board authorized the withdrawal from Mar. 20, of restriction as to the granting of special rates for conventions. The question of withdrawing the restrictions as to excursion and other special rates is under consideration.

Transportation.—The transportation burdens due to the war rendered it necessary to depart from the usual practice by which railways in Canada were operated as single and independent units. The first step taken in that direction was an amendment to the Railway Act during the session of 1915-16, when, on the request of the Board of Railway Commissioners, the board was empowered to take traffic in a congested grain area from the line to which it was tributary, and hand it over to other lines at any intermediate points at which a transfer could or should be made.

The power thus conferred on the board has been used to a large extent. It has enabled the large grain production of the west to be marketed practically without loss, through the diversion of traffic to the route, irrespective of its ownership, which at the time was least congested; and it has enabled the transportation of grain and flour to Great Britain and the European Continent to be maintained at the greatest possible speed. Thousands of cars of grain grown in Canadian Northern prairie territory, have been thus diverted from congested Canadian Northern areas over the Canadian Pacific and Grand Trunk Pacific Railways. This practice, commencing with wheat, was extended to coal and then to the movement of other bulk commodities. In general, wherever it would afford quicker transportation, rerouting has been carried out. The result is that the Canadian lines, in so far as actual transportation is concerned, have been treated as a single unit and worked for the purpose of obtaining the best results.

Canadian Railway War Board.—After the entry of the United States into the war the great industrial and agricultural activity, together with the movement of troops, caused the U.S. railway lines and terminals to become blocked, and put an increased burden on the Canadian transportation systems. In order to provide a freer and more perfect coordination of the systems, the Canadian Railway Association for National Defence, now termed the Canadian Railway War Board, was formed. The board's activities have materially assisted the railways to cope with the problems created by the war.

Purchase of Equipment.—The Government has helped to bring about these results, particularly, by the purchase of 260 locomotive engines of various types and about 17,000 freight cars, a number of which are leased by the government to the railways which have not been in position to obtain satisfactory deliveries for their requirements.

Cut-off Saw for Car Work.

Canadian Northern Realities Ltd., which is incorporated by the Dominion Parliament, has been licensed to do business in Ontario, but not to use a larger amount of capital than $40,000. A. J. Reid, K.C., General Solicitor, Canadian National Rys., Toronto, has been appointed its attorney.

St. John and Quebec Ry. Enquiries Expenses.—The cost of the arbitration in connection with the claims of A. R. Gould against this railway were $3,372.50, and the cost of the Steven's inquiry into matters connected with the railway were $4,259.96. These figures were stated in the New Brunswick Legislature recently in answer to questions.

The C.P.R. s.s. Empress of India, which was sold to the Maharajah of Gwalier, on behalf of the heads of several of the Indian states, for a hospital vessel, in 1914, has done excellent work. The altering and refitting which was necessary o make her suitable for the work she was to undertake, was done during the lattter part of 1914, and within four months of the declaration of war, she was ready for service. She was renamed Loyalty, and sailed from the Persian Gulf, Nov. 24, 1914, and during the course of the war, made 41 voyages, carrrying 15,406 patients. The cost of purchasing the vessel and refitting her was approximately $600,000, and her upkeep for four years was $1,800,000, the greater part of which was paid by the Indian states. She was built at Barrow, in Furness, Eng., in 1891, for the C.P.R's. Pacific Ocean service, and was operated in the passenger and freight service betweeen Vancouver, Hong Kong and Japanese ports.

The Winnipeg Electric Ry. has received 2 cars from Ottawa Car Manufacturing Co., completing its first order of 10 cars. Ten cars of similar type are now under construction.

Railway Development, Projected Lines, Surveys, Construction, Betterments, Etc.

Alberta and Great Waterways Ry.—The Alberta Deputy Minister of Railways in giving evidence before the legislature's public accounts committee, Apr. 13, is reported to have said the length of the line from Edmonton to McMurray is 289 miles, and that track has been laid from Lake Cache to the river bank A further distance of 10 miles of rails have to be laid to reach McMurray, the grading for which has been completed. On the Egg Lake Branch, 30 miles of grading has been completed, and 11 miles of track has been laid. The province has guaranteed the company's bonds for the construction of 350 miles of line, including the Egg Lake Branch of 40 miles, and 20 miles of siding. The total cost of the line to date is $6,748,613.77. (Apr., pg. 134).

Alberta-Hudson Bay Ry.—The Alberta Legislature is being asked for an extension of time for the building of the line authorized in 1910 on the application of the High River and Hudson Bay Ry., from High River to the Alberta-Saskatchewan boundaries with other lines added in 1917 and covering the whole of southern Alberta, from the Saskatchewan to the British Columbia boundary, and reaching the international boundary at Waterloo Lakes and at other points. The company also desires authority to build a line from Calgary to Edmonton, Alta. (May, 1918, pg. 186).

Brunner-Mond Canada Limited.—The Ontario Legislature has authorized the company to build a short tramway line from the Indian stone quarry to the Detroit River in Anderton Tp., to connect its works with navigation and general railway facilities. We were officially advised Apr. 16, that the question of the construction of the line was entirely in abeyance for the present at least. (Apr., pg. 191).

Calgary and Southwestern Ry.—We are officially advised that the company has almost completed the clearing of the right of way between Calgary and the Sheep Creek mining district, Alta., but has not yet made definite plans for the commencement of construction. It is expected, however, that some work will be done during the summer. John Callaghan, Calgary, Alta., is Chief Engineer. (Feb., pg. 79).

Canadian Western Ry.—The Dominion Parliament is being asked to extend the time within which the company may build its projected railway from the international boundary, through Pincher Creek and Cowley, and along the Old Man River to Livingstone Mountain, and thence to Calgary, Alta., with a branch to Michel, B.C. Smellie and Lewis, Ottawa, are solicitors for applicants. (Sept., 1917, pg. 350.)

Dolly Varden Mines Ry.—A select committee appointed by the British Columbia Legislature, Feb. 10, to enquire into matters affecting the construction of this railway, presented its report Mar. 22, setting out that the company was incorporated in 1917 to build a railway of about 18 miles to a group of mining claims on the Kitsault River, the line to be completed in 1918. A contract was entered into with the Taylor Engineering Co. Ltd., for building the line, under which during the first season $275,000 was expended, without the line being completed. At that time the mining company was negotiating a sale of the property, and an arrangement was claimed to have been made for the protection of the contractors' interests in the event of them completing the line. Relying upon this understanding the contractors resumed construction work in 1918, but were forced to suspend operations in October, and to make an assignment. In order to help out the mining company the Taylor firm began negotiations for the sale of the property to the Timiskaming Mining Co. of Cobalt, Ont., for $1,100,000, but subsequently the mining company made an arrangement for a sale to the Timiskaming company for $900,000. The proposal of the Dolly Varden Mining Co. is that in the event of the charter being extended it shall pay in full the claims for wages on the railway, leaving the Taylor company to meet the other losses. Since the proposal to sell to the Timiskaming Co. for $900,000 was made an offer had been made on behalf of creditors of the Taylor Co. to take over the mines and railway at $1,100,000 and pay all the creditors in full. The committee recommended that the charter be renewed upon condition that the actual cost of construction of the railway during 1918 plus 10%, such cost to be arrived at by arrangement between the parties, or by reference, shall constitute a lien on the property, subject to certain pre-existing charges. The wages due are to be paid within 14 days after the passing of the legislation and the balance due on constructon account shall be paid within 30 days after it has been ascertained. In the alternative the Taylor Engineering Co. shall have the right to acquire the entire property on payment of the investment therein, the amount of such investment to be ascertained by agreement or reference, and on assuming certain pre-existing charges. The report was referred back to the committee for further consideration, but the committee reaffirmed it, and it was subsequently adopted, and a bill in accordance therewith was passed.

Under the terms of the act the B.C. Minister of Railways appointed Justice Clement to ascertain the actual amount due the Taylor Engineering Co. for the construction of the line. (May, pg. 132).

Edmonton and Southwestern Ry.—J. K. L. Ross, of Montreal, one of the C.P.R. directors, was in Edmonton, Alta., Apr. 7, his visit, according to a press report, being in connection with the project for the development of a water power at the Blue Falls of the Saskatchewan River. A part of the project is the building of a railway of 80 miles from Edmonton to the site of the proposed development. Under an agreement with the City of Edmonton made in 1916, the Hydro Electric Power Co., of which Mr. Ross is a shareholder, was to expend $1,500,000 on the plant within 2½ years, and a further $2,000,000 within the next two years. Up to June, 1918, there had been expended $442,092, when the company, owing to war conditions, was unable to provide further funds. The company then asked the city council to extend the time for he expenditure of the money, but was refused. Mr. Ross is reported to have stated that if a restart can be made with the work the plant will be finished in five years. E. W. Barnes, who was in charge of the construction work has been in Edmonton again looking into matters connected with the project. (Sept., 1918, pg. 390).

Edmonton, Dunvegan and British Columbia Ry.—The Alberta Premier, in a statement to the legislature, Mar. 28, relative to financial matters, is reported to have said that the government assumed full responsibility for allowing interest on guarantee by the province to be paid on construction estimates, these charges to be taken from the company's trust funds. However, if something is not done in the way of raising money to go on with construction, the system will have to go into a receivership. The trust account will probably not suffice for all charges for, more than a year. The railway is not in first class shape, but the opinion has been expressed by Dominion Cabinet ministers and a Dominion Government railway engineer, that the grade is of the best and that the line could readily be placed in running order. In this connection these ministers, after a conference with the provincial government, had made representations to the Dominion Government with regard to the line being taken over as a part of the national railway system. The line under present conditions, is not paying interest charges on the bonds guaranteed by the provnce.

The province has guaranteed bonds for $7,000,000 at 4%, and approximately $2,500,000 at 4½%, and has loaned $2,000,000 at 5%, while the Dominion Government has granted a subsidy of $320,000 for the Prairie Branch line.

Replying to a question in the House of Commons, Apr. 7, Sir Thomas White, acting Prime Minister, said while the railway has been brought to the government's attention for some three or four years past, in connection with matters relating to subsidies, no arrangement for the taking over of the line had been completed, nor were there any negotiations at that time looking to that end. It is, of course, open to those connected with the railway to bring to the government's attention, from time to time, anything that would be of public interest relating to its affairs. (Dec., 1918, pg. 541).

Grand Trunk Ry.—The Montreal City Council has authorized the reopening with the Board of Railway Commissioners of the matter of the elevation of the G.T.R. tracks in the ciy, which has been in abeyance during the war.

The Dominion Parliament has extended the time for the building of the projected Lachine, Jacques Cartier and Maisonneuve Ry., from Dorval to Maisonneuve, adding thereto the provision that construction must be started during the first year of the extension.

A proposition is being discussed in Norfolk County, Ont., for the electrification of the G.T.R. Woodstock-Simcoe Port Dover branch, and for its extension to Port Rowan. (April, pg. 190).

Great Northern Ry. Lines in Canada.—The Brandon, Man., Board of Trade, is urging the Great Northern Ry. management to extend the Brandon, Saskatchewan and Hudson Bay Ry., which now runs from the international boundary, near Bannerman, to Brandon, to a junction with the Dominion Government Hudson Bay Ry. at Pas, Man.

Hudson Bay Ry.—Very early in the session a discussion was initiated in the

Senate by Senator Schaffner on the question of the navigability of Hudson Bay and Straits, the adaptability of Nelson as a seaport, and the building of the railway from Pas to Nelson. Subsequently on motion of Senator Fowler, a committee was appointed to take evidence and to report upon the navigability and fishery resources of Hudson Bay and Straits, and of the character of the ports on Hudson Bay, with regard to their places as railway terminals, and Senator Schaffner's motion was withdrawn. The special committee began its sittings Apr. 2, and on Apr. 9 took the evidence of S. W. McLachlan, the engineer in charge of the terminal works under construction at Port Nelson. He is reported to have described the character of the harbor works in progress which include a bridge 0.75 mile in length, built out towards the channel; at the end of the bridge crib work, is being constructed which will be filled in from the channel. This will make an island; will provide 9,000 ft. for dockage, elevators, etc. The summer of 1918 was spent surveying the channel. Soundings taken showed that there was a channel suitable for seagoing vessels approximately 20 miles from the harbor works to open water. This channel is from 300 to 1,200 ft. wide, but would have to be dredged for a considerable portion of its length.

It is reported that the Dominion Government has decided to take over from J. D. McArthur, the general contractor, the work of completing the line from Pas to Port Nelson, Man. The work to be done is the laying of 92 miles of track from the Nelson River to Nelson, ballasting and general finishing up work. This work, it is stated, will be done under the Canadian National Railways management.

A conference between members of the Manitoba Government and the Dominion Government, was held at Ottawa, Apr. 7, with regard to the completion of the line. Sir Thomas White, acting Premier, is reported to have informed the Manitoba representatives that the government recognized that the Hudson Bay project is one that must be gone on with. The government had asked for tenders for the supply of 250,000 ties for the line, but pointed out that any funds for the work placed in the estimates would be in the nature of a revote, as the sum voted last year was not expended. On his return to Winnipeg, Apr. 17, the Premier of Manitoba is reported to have said that the resumption of work on the line by the Dominion Government was assured. (Apr., pg. 190).

Lacombe and Northwestern Ry. Co.—The Alberta Legislature has changed the name of the Lacombe and Blindman Valley Electric Ry. Co. to the above, and has made the changes necessary in the original act and the amending acts, now that the line has been taken over by the Alberta Government. The Premier, in the course of the discussion stated that the cost of the line to the province up to date, was $613,700.37, made up as follows:—Advances by province, $255,000; interest paid on defaulted bonds, $41,000; accrued interest due on advances, $9,000; miscellaneous outstanding liabilities, $35,000; original bond issue, $273,700.37. The estimated cost of an extension of 10 miles from Bentley to Larson is $122,000, and for the remaining 10 miles to Rimberg, $197,785, a total of $319,785. It is practically necessary to complete the line, and when completed it will represent an expenditure of $933,485. The government has no intention of entering the railway business, and as soon as the line is finished, steps will be taken to dispose of it to one of the larger companies. The C.P.R. is apparently, not unfavorably disposed to consider its acquirement. There is a possibility of the C.P.R. building a line southwest of Edmonton to the Rocky Rapid's power site, in which case not more than 60 miles of territory will intervene between the rail head at Bentley and the Rapids. (April, pg. 190).

Magdalene River Valley Ry.—The Quebec Legislature has authorized the company to change the location of its projected railway along the Magdalene River to Little Falls, and on to Gaspe, for about 4,000 ft. in the parish of St. Maxime-du-Mont Louis, but it is not to approach nearer than 350 ft. to the east bank of the Magdalene River in so doing. (Mar., pg. 135).

Medicine Hat Central Ry.—Jos. B. Swan is reported to be the principal promoter of this projected line from Coutts, via. Medicine Hat to Hilda at the Alberta-Saskatchewan boundary line. The projected line would include the 7.5 mile Colberg line from Medicine Hat to the Ajax mines, completed recently. (Apr., pg. 191).

Miller Independence Gold Mines Co.—A press report states that this company has a project for the construction of three miles of narrow gauge railway to give connection between its mines and Boston Creek, the Timiskaming and Northern Ontario Ry., 153 miles from North Bay.

The North West Route.—The Dominion Parliament is being asked to incorporate a company with this title to lay a transportation route by railways and steamboats from the westerly end of Baker Lake, at the headquarters of Chesterfield Inlet, Hudson Bay, to the easterly end of Great Slave Lake, near Old Fort Reliance. The railways are proposed to connect the navigable stretches of the several waterways reached, and the company seeks power to deepen and widen the waterways, where necessary, to develop the water powers and to carry on a general navigation business. The head office of the company will be in London, Eng.; its authorized capital is to be $1,000,000, and power is asked to issue bonds for $50,000 a mile, and work of railway construction or under contract. The provisional directors are: Right Hon. Viscount Templeton, Sir John Scott Keltie, T. L. Gilmore, H. C. Thomson, London, Eng., and B. Spring-Rice, Burwash, Sussex, Eng. The first and last mentioned of these directors are also provisional directors of the Quebec and Ungava Ry. Co. and of the St. Felicien and Ungava Ry. Corporation, at the Quebec Legislature's recent session, which aim at the opening up of rail and water routes from Seven Islands of the St. Lawrence River to Hudson Bay.

Pacific Great Eastern Ry.—The British Columbia Government is reported to have let a contract to Robertson and Partners, Vancouver, for the erection of an electric power plant at Squamish, the starting point of the Pacific Great Eastern Ry., inland, at an estimated cost of $72,000. The plant will supply power for the railway machine shops and for other purposes.

A Vancouver press report of Apr. 14, states that the British Columbia Premier had said that it is expected to have the line completed to Soda Creek, by the autumn. This would provide a through connection from Vancouver to Prince George by rail and water, and would be available on the opening of navigation, 1920.

The Port Arthur Terminals Limited has been incorporated under the Ontario companies Act to take over certain lands in Port Arthur, from J. J. Carrick, and to deal with the same under the terms of an agreement. The company is authorized to lay out townsites on the property, and to sell land for residential purposes, and to loan money for the erection of buildings thereon. It is debarred from operating or controlling any public utility or municipal franchise. The capital is fixed at $1,500,000, of which $300,000 shall be preference shares. Its offices is at Port Arthur. A. J. McComber, Port Arthur, is named as trustee for the company in the agreement for the transfer of the property.

Quebec Central Ry.—A press report, Apr. 21, states that as soon as the frost leaves the ground, work will be started on the construction of the extension from Scott's Jct., to the Quebec Bridge. (Apr., pg. 191).

Quebec and Ungava Ry. Co. has been incorporated by Quebec Legislature to build a railway from Seven Islands on the north shore of the St. Lawrence River, in Saguenay County across Ungava, to the most suitable harbor between the mouth of Big River and Nastapoka Sound on Hudson Bay. (Mar., pg., 135).

Quebec and Saguenay Ry.—A press report of Apr. 17 states that the Dominion Government has paid over the balance of the purchase price for this line.

A Quebec Lumber Railway.—A press report states that lumber men in the St. Maurice district and the upper section of Lake St. John, Que., are planning to organize a company to build a railway to open up timber limits which at present cannot be worked because of lack of transportation facilities.

Stewart, B.C.—A press report states that C. F. Caldwell, President of the Utica Mines Ltd., is promoting the building of a railway from Stewart, in the Portland Canal district, B.C., to some recently discovered gold mining areas. About 20 miles of railway are said to be needed to reach the district, of which 12 miles would be in United States territory. Mr. Caldwell, was stated, Apr. 8, to have left Vancouver for Ottawa and New York in connection with the matter.

The St. Felicien and Ungava Ry. Co. has been incorporated by the Quebec Legislature to build a railway from St. Felicien, St. John County, to Lake Mistassini, thence to Lake Nichikum, and to Lake Petitsikapau, or by an alternative route between the same termini. (Mar., pg. 135).

St. John and Quebec Ry.—The Dominion Parliament has granted an extension of time to Dec. 31, 1919 for the completion of construction of the line from Gagetown to Westfield, N.B. When the bill was before the Senate, Mar. 27, Senator Lougheed stated that the work was about 85% completed, and that it would cost about $406,000 to complete the line. The work to be done consists principally of repropping, ballasting, culverts and cleaning up. The cost of the line to Oct. 31, 1918, was $2,314,000, and the total cost when completed, will be about $2,720,000. The Dominion subsidy paid over to date is $121,500. When completed, the line will be taken over for operation as part of the Canadian National Railways system, under the terms of chap. 23 of the statutes of 1916, under which the Gagetown-Centerville section of the line was built.

A bill was introduced in the New Brunswick Legislature recently, authorizing the N.B. Government to grant an extension of time for construction to Dec. 31, by order-in-council, and to make any agreements or modification of agreements with the company, or the Dominion Government, which may be necessary owing to the granting of the extension of time. The bill recites that negotiations are being carried on with the Dominion Government to transfer the ownership of the lease from the N.B. Government. In order to provide for such transfer being made, if agreed upon, it is declared that the lands taken by the company for railway purposes are the company's property and provision is made for the payment of the N.B. Government for any such lands not already paid for. The N.B. Government owns the railway subject to a trust mortgage held by the Prudential Trust Co.

In speaking in the legislature in support of the bill, the provincial secretary stated that the cost of the Gagetown-Westfield extension to Mar. 1 was $2,377,545, and it was estimated that it would cost $290,000 more to complete it. The cost of the completed sections of the line was: Fredericton to Gagetown, $1,170,065; Fredericton to Woodstock, $2,419,994; Woodstock to Centerville, $920,000. Surveys have been made at a cost of $58,415 for the extension of the line from Centerville to Andover. The total extenditure to Mar. 1, therefore, was $6,946,019.

Timiskaming and Northern Ontario Ry.—An extension of this Ontario Government owned railway, from the southern terminus at North Bay, south westerly to Parry Sound, has been asked for by the Parry Sound Board of Trade, and the Ontario Associated Board of Trade have endorsed the request.

Vancouver Union Terminals. — The Vancouver City Council, on Apr. 7, received a report from the city solicitor upon a proposal for the laying out of union terminals and the building of a central station there, which was submitted to it Mar. 12, by A. P. Gillies, of New York. The city solicitor said the scheme was an ambitious one, but that before the city should take action the applicants should give some assurance of the willingness of the railway companies to join in the application. From a legal standpoint the only status the city has in the matter is to consider the advisability of giving its assent to cross the streets as shown on the plans. This consent, of course, would be given on any application made to the Board of Railway Commissioners to consider the scheme. The letter was ordered filed. (April, pg. 191).

Disabled Soldiers in Railway Shops.—A Winnipeg press dispatch says that according to a decision by the Canadian division of the International Railwaymen's Union, disabled soldiers may enter railway engineering shops as three-year apprentices at the special rate of 48c an hour on the basis of a 47 hour week. Such men are to be recommended for these positions by the vocational authorities at Ottawa.

Traffic Order by Board of Railway Commissioners.

Rates on Shell Bars or Blanks.

28,165, Mar. 14. the complaint of Imperial Munitions Board against Canadian Pacific, Algoma Central and Hudson Bay, and Canadian Northern Railways, for charging complainants higher rates on shipments of shell bars or blanks from Sault Ste. Marie, Ont., to Toronto, and Montreal, than was charged on commercial steel bars: and re subsequent application of Imperial Munitions Board for an order declaring shell bars or blanks to be entitled to rates published to apply on steel billets. Upon hearing the complaint at Ottawa Mar. 5, 1918, the Imperial Munitions Board, the Canadian Pacific, the Grand Trunk, and the Canadian Northern Railways being represented at the hearing, and upon the report and recommendation of the board's Chief Traffic Officer, representatives for the respondent railway companies later undertaking to refund the amount declared by this order to have been wrongfully charged and collected on such shipments, it is ordered and declared as follows:—That the application for an order declaring shell bars or blanks to be entitled to the rates published to apply on steel billets is refused. That the rates charged the complainants by the respondent railway companies on shell bars or blanks from Sault Ste. Marie to Toronto and Montreal, as aforesaid, since May 1, 1918, were unjust, unreasonable, and excessive, to the extent that such rates exceeded the lower rates in effect immediately before May 1, 1918, subject from August 12, 1918, to the increase authorized by order in council 1863, July 27, 1918; the respondent railway companies being hereby authorized to refund to the complainants the excessive rates charged and collected.

Demurrage on Coal Cars at Ottawa.

28225. The application of Ottawa Gas Co. for cancellation of demurrage charges made by G.T.R. on cars loaded with coal consigned to the applicant company at Ottawa: Upon reading what is filed in support of the application and on behalf of the G.T.R. and the Canadian Car Demurrage Bureau, and the report and recommendation of the board's Chief Traffic Officer, and upon its appearing that the influenza epidemic had a material bearing on the accrual of demurrage. It is therefore declared that the applicant company shall be required to pay the G.T.R. $3,058.50 only, as demurrage charges on the cars in question.

Lumber Carload Rates in British Columbia.

28232. April 14. Re complaint of Pacific Coast Shippers' Association, on behalf of Abbotsford Timber and Trading Co., against rate of 9c per 100 lb. on lumber, in carloads, charged by C.P.R. from Abbotsford to Vancouver, B.C. Upon its appearing that the C.P.R., by its tariff C.R.C. no W. 2248, published and filed what is therein described as a competitive rate of 5c per 100 lb. on lumber, in carloads, from Huntingdon, B.C., to Vancouver, and in the same tariff a mileage rate of 9c per 100 lb. from Abbotsford, B.C., Abbotsford being intermediate between Huntingdon and Vancouver. It is declared that the movement from Huntingdon to Vancouver, not being competitive within the meaning of the Railway Act, the lawful rate on lumber, in carloads, from Abbotsford to Vancouver, over the C.P.R., on June 14, 1917, when the shipment complained against was made in car 122950, was 5c per 100 lb., on which basis reparation is authorized.

Placing and Weighing of Cars on Track Scales.

The Board of Railway Commissioners has issued the following circular: "The board has had its operating department for some time past investigating the methods and practices of railways, in connection with the manner in which cars are placed and weighed on track scales. Tests have been made of the scales at various points on the different railways, by weighing cars when standing free, uncoupled at both ends, coupled on one end, and, when the deck of the scale permits, coupled at both ends. The report and recommendations of the board's Chief Operating Officer as the outcome of these inquiries is as follows:

" 'The best results are obtained where one person is employed to supervise and check the weighing of cars and that person should be sworn in. He need not be engaged as a weigh master, exclusively, but a suitable person, already working in some position on the staff, should be instructed by the company's general officer, having the jurisdiction, and this person should have the power to instruct the men how to place the cars and supervise and take the record himself from the scale beam. Each company, in its own interests, should go over the facilities, to see that it gets the best arrangement for protecting scales from severe winter conditions, water, etc.'

"The board desires to have the various railway companies' comments upon the foregoing recommendations, together with a concise statement as to the practice now followed by each railway, with a view to considering and adopting some uniform system which will work satisfactorily to both the shippers and the railways."

The New York Central Rd.'s general agency and city ticket office at 220 St. James St., Montreal, was discontinued Apr. 1, since which date the New York Central has been represented in the Montreal consolidated ticket office, at 238 St. James St. which is in charge of W. de W. Stott, agent. Diagrams of Pullman cars via New York Central operating from Montreal, are handled at Windsor St. station ticket office and applications for space in parlor or sleeping cars should be addressed to E. J. Whelan, ticket agent. The jurisdiction of F. M. Byron, general agent, N.Y.C. to Utica, N.Y., has been extended to cover all stations on the Adirondack Division, including Montreal. All matters pertaining to passenger traffic formerly forwarded to A. L. Muller, general agent, Montreal, should be addressed to the General Agent at Utica.

The Consolidated Railway Act.—The measure for the consolidation of the Railway Act, which had been before Parliament in 1917 and 1918, was the first bill introduced into the Senate this year. After discussion and amendment, there it came before the House of Commons, and after its formal introduction, was referred to a special committee, of which J. E. Armstrong, was appointed chairman. The non-contentious sections were first deal with, and the committee is now dealing with the contentious sections.

Aerial Transportation for Canada.

A. Thompson, M.P. for Yukon, in speaking in the House of Commons recently, said a new system of transportation had been developed in the world since the war began. The war had practically created aerial navigation. Three types of air ships are used, first, the lighter than air machines; second, the land plane, and third, the sea plane. By means of this method of transportation, he believes, safe and rapid transport can be given to an enormous section of country which lies undeveloped. There is a tract of virgin soil 1.600 miles long and 1,000 miles deep reaching from Hudson Bay to the Alaska boundary. In that vast tract there are not many more than 1,000 people, certainly not 10,000. It is an empire in itself, with great possibilities, and is owned by the Dominion. In that tract there may be minerals enough to pay the national debt a dozen times. An article written for the Geological Survey of Canada describes this area of 900,000 square miles, as having underlying it the pre-Cambrian rocks, in which occur the copper, nickel, iron, silver and gold in Northern Ontario. About 150,000 square miles of the lower Mackenzie basin have as surface rocks the Devonian strata, and here it is believed is the largest undeveloped oil field in the world. The climate is salubrious; men can live and are living out in the valleys of that country all the year round. It is a well watered country, with plenty of rivers and lakes.

How can it be reached? By means of the aeroplane. The population, such as it is, is capable of being highly developed, but they lack transportation for about seven months of the year. He suggested that the government purchase, or get the British Government to give Canada, an airship—one of the latest dirigibles—the lighter than air machines—such as the R.33, which was equipped with engines of 1,250 h.p., a speed of 70 knots, a range of well over 200 hours, and a carrying capacity of from 27 to 30 tons. Base such an airship on Edmonton, sail it down the Mackenzie River valley to the Arctic Ocean, across the Dawson, up the Yukon River valley to White Horse across the northern part of British Columbia back to Edmonton. Such an airship as the R.33 could make Herschell Island, at the mouth of the Mackenzie river, from Edmonton, 1,300 miles, in 15 hours; thence to Dawson in 6 hours, and could get back again to Edmonton from Dawson in 18 hours. The various trading forts all through that country could be reached in anything from 6 to 19 hours. An airship could be navigated all the year round—there are few storms in the country and it is not very cold. It would be an enormous blessing to the Mackenzie River country and also to the Yukon. It would not be a costly experiment, compared with the building of a railway, and Canada has more than once mortgaged its future to give the country transportation. He commended the proposition to the government's favorable consideration.

Referring to the territory between the Mackenzie river and Hudson Bay, Mr. Thompson suggested that the government get some aeroplanes—recent report stated that the British Government had given the Canadian High Commissioner 15 aeroplanes for Canada. Canadians during the war had developed the highest type of air men that the world has so far seen. They are now being demobilized and brought home. Canada has the aeroplanes; the trained airmen and the trained miners who could go into this land and find out whether the minerals which geologists say might be found there are there or not. It would not require a large expenditure. The scientists could go in by aeroplanes, be taken from almost any part of the northland into the very heart of the country in a few hours; they could stay there through the summer and come out in autumn. There need be no fear of landing places; the country abounds in lakes and rivers, and an aeroplane can land on a river or lake almost anywhere. It would be possible to go there in the spring, before the ice melted, and if the machines were provided with skids as well as, or instead of, wheels, a landing could be effected on the ice. Then, also, reports could be obtained as to the possibility of utilizing the immense herds of caribous as a source of food supply, which has not yet been tapped.

Further the science of aeroplane photography has been enormously developed during the last few years, so that an aeroplane can fly over a city and mark every street and avenue so that it can be identified, just as was done during the war in France. It is no trick at all to take aerial photographs of this vast area up north and have maps made, so that there would be no difficulty in knowing just where the rivers and lakes were. There are no mountains there, it being practically a level country. Why not have some of our trained airmen patrol the Hudson Bay and report on ice and weather conditions, there and in the straits. An air station could be established on Hudson Bay, and the aeroplanes could communicate by wireless with that station. This is not an impracticable proposition, it is just applied common sense. It might be objected that the weather conditions would be too severe, that the cold would be too intense. He had not the slightest doubt that the airmen who could stand the cold of an altitude of from 25,000 to 30,000 ft., as they did in Europe, would find that temperature colder than anything to be found in the Klondike, or anything found by Nansen on his trip to the North Pole. He further urged the using of the aeroplane in connection with the Royal Northwest Mounted Police work, thereby effecting a considerable saving of transportation expenses, and enabling better work to be done.

There is not the slightest doubt that this year, and perhaps within a few weeks, airships will be crossing the Atlantic. And they will not stop at that, they will fly across Canada, to Siberia, to China, to Japan. Now Canada is on this great highway of aerial commerce which is about to be made, because Canada is nearer to Europe than the United States or any other country south, to Patagonia, and nearer also to Asia than any other American country. Air routes will be outlined, airships will fly across the North Atlantic, across the North American Continent, across the North Pacific, and the route they will take is Siberia, China and Japan will be practically the same, but a little further north than ships are taking today. These airships will cross the very sections of country for which transportation facilities were being asked. They will seek the line of the mountain ranges where the winds are not great; they will cross the great section of this country between the Alleghanies and the Rockies; this great central plain, they will sail across to the Rockies, north along that great chain, down the Yukon Valley and across over the Aleutian Islands, and thence by way of Siberia and China to Japan. And on this route from the mainland of America to Yokohama, there is not a section of more than 150 miles, perhaps not more than 100 miles, over which they will fly over water. We should do this because we are a progressive people who have led the world in great enterprises, notably steamships, and wireless telegraphy, and were the first people in the British Empire to federate great states, thus establishing a model upon which the other confederations in the empire have been modelled.

Aerial Transportation Notes.

The Canadian Pacific Ry. is making application to the Dominion Parliament for authority to operate services by aircraft between such points and places within and without Canada as may be found advisable.

The C.P.O.S. Atlantic steamship Montcalm, which arrived in St. John, Apr. 8, was fitted with special apparatus for taking soundings in the air for aviation purposes, the work being in charge of Lieut. G. Harris, of the Air Ministry's meteorological department.

For the purpose of carrying urgent official mails and passengers in connection with the peace conference, an aerial service has been inaugurated between London, Eng., and Paris, France. The average time taken by the mail carriers is 2½ hours, between the two cities, but the record one way trip is 1 hour, 50 minutes, and the record round trip 3 hours, 50 minutes. The passenger machines carry two passengers and the pilot.

Manitoba Power Transmission Act.—The Manitoba Legislature has passed an act providing for the transmission of electrical power within the province. Under the terms of the act the government may appoint a board together with such engineers, etc., as may be necessary to co-operate with the Minister of Public Works and the municipalities for the purpose of developing water powers, and the distribution of electrical energy. In the carrying out of these plans the minister may contract with the City of Winnipeg, the Winnipeg Electric Ry., or with any railway company, for the supply of electrical power or energy required to carry out the provisions and purposes of the act, and may make contracts with any railway company for the use of its right of way for the erection of a pole line, and other works.

Mount Royal Incline Ry.—A press report of Apr. 17, stated that the inspectors appointed by the court in connection with the liquidation of the Mount Royal Incline Ry. Co., had under consideration the question of the operation of the incline for the summer. A question relative to the operation of the line was asked at the Montreal City Council's meeting, Apr. 15, but no information appears to have been obtainable. It is said that the Montreal administrative commission has the matter under consideration, as under the charter, the city has a right to operate a service in the event of the company failing to do so.

Railway Rolling Stock Orders and Deliveries.

The G.T.R. is having 200 refrigerator cars repaired and fitted with brine tanks, by Canadian Car and Foundry Co.

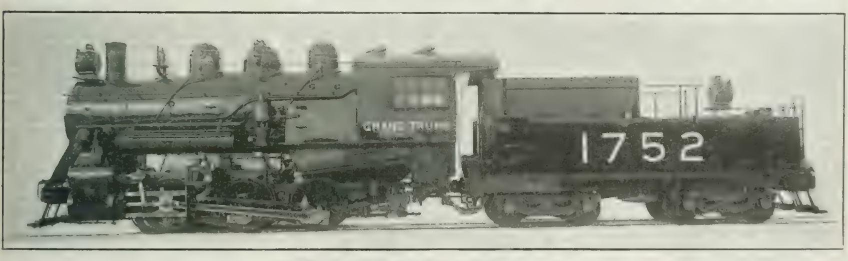
Canadian National Rys. has ordered 25 Pacific type locomotives, 260,000 lb., with cylinders 23½ x 28 in., from Montreal Locomotive Works.

The Canadian National Rys. will probably be in the market in the near future for considerable more rolling stock, especially passenger equipment.

The G.T.R., since January, has received six 6 wheel switching locomotives from its Point St. Charles shops, Montreal, and has 13 of this type still under construction there.

The C.P.R., between Mar. 19 and Apr. 12, ordered 4 vans to be built at its Winnipeg shops, and received 92 flat cars from its Angus shops, and 6 vans from its Winnipeg shops.

Montreal Locomotive Works is building 20 mountain type locomotives, approximately 200,000 lb., with cylinders 22 x 28 in., and 20 mountain type locomotives, approximately 195,000 lb., with cylinders 22 x 26 in., for the South African Government.



Grand Trunk Railway 6-wheeled Switching Locomotive.

A Winnipeg press dispatch stated recently that the re-lettering of Canadian Northern Rys. cars, by substituting "Canadian National Railways," had been ordered to cease. We are advised that this is incorrect. An order was given to reletter a few cars of a certain series, and this has not been cancelled.

G.T.R. Switching Locomotives.—An error was made in Canadian Railway and Marine World for April, page 188, in reference to the 6-wheeled switching locomotives, of which 25 were ordered to be built in the company's Montreal shops, and of which a number have been delivered. A few days after the May issue was published, G. Cavin, Chief Mechanical Engineer, Canadian Locomotive Co., very courteously called our attention to the error, pointing out that the description published was of the 6-wheeled switching locomotives which were built for the Canadian Government Railways in 1918 by the Canadian Locomotive Co., and we are much indebted to him for doing so, as we are most anxious for anything we publish to be accurate, and as our readers know, we have a standing invitation in each issue asking for the pointing out of errors which may occur. Following is the description of the G.T.R. 6-wheeled switching locomotives which should have been given, and which was originally published correctly in Canadian Railway and Marine World for May 1918.

Boiler, pressure	180 lb.
Heating surface, firebox	168 sq. ft.
Cylinders	21 x 26 in.
Driving wheels	51 in.
Boiler, diar.	68 9-16 in. to 76 in.
Heating surface, tubes and flues	1836 sq. ft.
Heating surface, total	2004 sq. ft.
Grate area	30.62 sq. ft.
Wheel base, driving	11 ft. 6 in.
Wheel base, engine and tender	45 ft. 11½ in.
Total length, overall	62 ft. 4½ in.
Weight on drivers	170,000 lb.
Weight, including boiler	298,000 lb.
Tractive power	31,298 lb.
Tank capacity	6,000 gal.
Coal capacity	10 tons
Superheater	Schmidt, 28 units

The Canadian Railway War Board's Work.

Special Trains Allowed.—Instructions embodied in the board's circular 6, Nov. 1, 1917, and letter of Dec. 14, 1918, prohibiting the operation of special passenger trains, except in cases of extreme urgency, are cancelled. The provision of equipment for, and prompt efficient movement of troops and civilians returning from overseas shall continue to receive first consideration.

Delay to Diverted Tank Cars.—It has been drawn to the board's attention that diverted tank cars on occasions have met with delays on account of extra haulage, due to agents at destination of transshipped loads failing to show full routing, including junction points, on rebilling covering movement of empty cars, resulting in cars going to wrong junctions. Clause 2 of circular 96, is, therefore, amended to read as follows: "The agent of the terminating line at such destination must, upon release of the car, promptly rebill (showing full routing, including junction points), and forward same to its original destination unless otherwise instructed by the owner or owner's authorized representative."

Examinations in Train Rules and Regulations. General order 65 issued by the Board of Railway Commissioners for Canada requires that all employes engaged in train or telegraph service, where trains are handled, shall pass an examination in train rules and regulations, according to the forms of examination papers which have been filed with the commission by the railways. It is reported that in some instances the efficacy of the examination is interfered with by employes copying answers to the questions from a catechism of the rules, or similarly obtaining improper assistance in the examination, and that examination papers completed in this manner are sometimes accepted, obviously to the detriment of the service. Railway managements are requested to take action to eliminate practices such as those described above, so that bona fide examination on the regulations will be assured. On some railways it is the custom for the examiner to call for oral answers to representative questions, in addition to the written examination. It is suggested that this be done on all lines, as a further test of the employe's knowledge of the rules under which he is required to work, and with which safe operation demands that he be thoroughly familiar.

Suggested Taxation of Alberta Railways.

In the course of a discussion on provincial and municipal finance in the Alberta Legislature recently, W. M. Davidson advocated the taxation of railway lines, and is reported to have said: "In Alberta we have exempted by statute, passed by this legislature all of the lines the bonds of which we have endorsed. We have collected no taxes on those sections of the Grand Trunk Pacific and the Canadian Northern, which we did not guarantee. We are debarred by Dominion law from taxing the C.P.R. main line. We have an agreement with the C.P.R. which runs until the end of next year, by which we tax the branch lines of that road at $100 a mile, which is 1% on a valuation of $10,000 a mile, which certainly is a most paltry valuation. The railways of this province should bear their fair share of the provincial burdens. They have not been doing so. I believe that between now and the time when the agreement wiht the C.P.R. expires, the government should investigate thoroughly the question of railway taxation, and I shall be disappointed if, at an early date, the revenue from this item is not ten times the amount of the present paltry revenue of $110,000. We should be getting a million and a half from this source without doubt

Light Railways for Soldiers' Settlement Lands.—Major Shore and S. Maber of the Dominion Soldiers Settlement Board, advocated the construction of light railways in conection with the settlement of returned soldiers on the land, at a meeting at Prince Albert, Sask., Mar. 11. A block of land some 60 miles from a railway is being considered in that district for settlement and the suggestion is that light railways such as were used at the battle front in France and Belgium, could be laid to open up the territory.

Canadian Pacific Railway Construction, Betterments, Etc.

Construction work for 1919.—E. W. Beatty, President C.P.R., is reported to have said in Ottawa Apr. 17, that the company proposed to enter actively into construction work this year, and while no new works will be opened immediately, several construction jobs, principally the extension of lines in the west and the general improvement of facilities, will be commenced within the near future.

The directors' report for the year ended June 30, 1918, says that: "Subject to the shareholders' approval, the directors have authorized expenditures on capital account during the present year of $4,482,000, apportioned to the following works, viz:

Replacement and enlargement of structures in permanent form, $545,000;

Additional stations, roundhouses, freight sheds, ice houses and extensions to existing buildings, $525,000;

Additional terminal and side-track accommodation, $700,000;

Tie plates, rail anchors and miscellaneous roadway improvements, $1,017,000;

Lining tunnels, British Columbia district, $185,000;

Automatic block-signal protection, $112,000;

Surveys for new lines and power possibilities, $125,000;

Miscellaneous improvements, and additions designed to improve the facilities of the company and to effect operating economies, $1,103,000;

Improvements in connection with telegraph service, $170,000."

Ottawa, Northern and Western Ry.—The Dominion Parliament is being asked to authorize the construction of a line from the present terminus at Waltham, Que., through Waltham, Chichester and Sheen, Tps., across the Ottawa River to a junction with the C.P.R. at Chalk River, Ont. The company also asks authority to increase its bonding powers in connection with this line.

Ontario District.—We are officially advised that the company has no immediate intention of building a second track on its Toronto-Windsor line between Guelph Jct. and London, Ont., as stated in a recent press report.

A Bridgeburg, Ont., press report of Apr. 2 credited the C.P.R. with having secured 5,000 acres of land on Grand Island, Niagara River, opposite Bridgeburg, and suggested it had been acquired in connection with a proposed new bridge, for the erection of which a company has been formed in Canada and the State of New York, in which the Toronto, Hamilton and Buffalo Ry., the C.P.R., and the New York Central Rd. are interested. A Montreal press report, Apr. 4, stated that C.P.R. officials know nothing of the matter.

Western Branch Lines.—The directors' report for the year ended June 30, 1918, contains the following: "Your directors are of the view that the construction of additional branch line mileage in the west will be necessary in the near future, and your authority will be asked for proceeding with the construction of the following lines when conditions warrant such construction, and for the issue and sale of a sufficient amount of 4% consolidated debenture stock to meet the expenditure, viz.:—Empress to Milden branch, 132 miles; Empress to Acme branch, 132 miles; Vidora East branch, 35 miles; Russell North branch, 15 miles; Lanigan North branch, 150 miles."

We are officially advised that location surveys for the Empress to Milden branch are being made; that surveys for the Empress-Acme branch have been completed; that a preliminary line has been run for the Russell North branch, and that engineers are running the preliminary lines for the Vidora East branch and the Lanigan North branch. We are further officially advised that until the Dominion Parliament authority is obtained for the building of the lines, and until the shareholders give authority for the expenditure necessary, no decision will be reached as to what construction will be undertaken. The shareholders' authority is, of course, a mere formality and a foregone conclusion.

The Manitoba and North Western Ry. is applying to the Dominion Parliament for authority to build a line from its Shell River branch in Tp. 21, Range 28, west of the 1st Meridian, northerly to Tp. 23, Range 28, west of the 1st Meridian.

Saskatchewan District—Tenders were received to Apr. 15, by W. A. Mather, General Superintendent, Moose Jaw, Sask., for the following works: One 15 ft. and one 10 ft. culvert on the Lanigan subdivision; two miles of new wood pipe at Macoun; 3,000 ft. new wood pipe at Estevan, and a new baggage and express building at Saskatoon.

British Columbia District—A Vancouver press report, Apr. 16, states that a gang of returned soldiers has been organized to undertake repairs on the cribwork on the line through the Kicking Horse Pass. The work is expected to last all summer. (Apr., pg. 189).

President D. B. Hanna's Trip to the Pacific Coast.

D. B. Hanna, President Canadian National Rys., made a trip to the Pacific coast towards the end of March and early in April, being accompanied throughout by M. H. MacLeod, Vice President, in charge of operations and from Winnipeg westerly, by B. T. Wiley, one of the western directors. Operating, and other officials joined the party at various points, travelling through their respective territories. On the western journey, Winnipeg was reached Mar. 27, Regina, Mar. 28, and the party, after touching at other points, arrived at Vancouver, Mar. 31 and Victoria Apr. 1. Several days were spent in Vancouver on the return trip and they left there Apr. 6; Edmonton was visited Apr. 9, and they again reached Winnipeg Apr. 12; Port Arthur, Apr. 14 and Toronto, Apr. 17.

In the course of interviews at different points during the trip, Mr. Hanna is reported to have said that while tenders for the construction of a number of branch lines had been called for, they did not include all the work contemplated. At Vancouver, one official had a conference with the mayor in regard to the development of False Creek, in connection with which some revision of the terms was discussed, and at Victoria, there was a conference with the B.C. Premier, upon the question of the Songhees Indian reserve and construction matters generally.

Messrs. Hanna, Wiley and MacLeod were guests at a dinner given by the Vancouver Board of Trade, Apr. 5. In a review of the Canadian Northern Ry. and its prospects under government ownership, Mr. Hanna is reported to have said: "As I look into the future, I think more than ever that we should never let the work end for today, but build for years into possession of a property that, mile nto possession of a property that, mile for mile, is laid in such territory as will in time produce a maximum of traffic—given the same time as the C.P.R.—the gross earnings of which, west of the Great Lakes, will be greater than the C.P.R." He added that the directors are contemplating the establishment of a Montreal-Vancouver steamship service, and it is also hoped to branch out in other directions with a view to getting a share of the Japanese and Chinese trade. It is proposed to use the Dominion Government dock on Burrard Inlet, and something will probably be done in the way of further developments on English Bay. Mr. MacLeod is reported to have said that the company had in mind a line round Point Grey into the Songhee reserve.

Dominion Government Purchasing Department.—The president of the Privy Council in introducing in the House of Commons on Apr. 4 a bill respecting the purchasing of departmental and other supplies for the government, stated that by order in council of May 8, 1915, a war purchasing commission was organized, its duties being to supervise the purchase of materials for which payment was to be made out of the war appropration. In 1918 the duties of that commission were enlarged to cover purchases for the other branches of the public service. The work of the commission had been so satisfactory that the government believed it should be continued. The bill introduced provides for the appointment of a purchasing commission, which shall do the purchasing of all supplies required by all departments of the government, except the government railways, which now form part of a larger system, and are being operated under a board of directors. The purchasing board is to consist of three commissioners who shall be appointed for 10 years, and shall be eligible for reappointment, but shall not hold office after reaching 70 years of age; they shall be removable at any time by Parliament. A director of the purchasing commission may be appointed, and members of the present war purchasing commission may be appointed at their present salaries to this commission, and employes of the war purchasing commission may be transferred to it.

Greater Winnipeg Water District Ry. Operation—The question of the future of the railway built by the Greater Winnipeg Water District Commission to aid in the construction of the water supply system from Shoal Lake, is being given a good deal of attention in Winnipeg now that the water system is completed. The railway is 97 miles long and opens up a large area of territory, and its operation up to the present has been of benefit to the settlers along the route. The matter was taken up by the Winnipeg Board of Trade, April 17, when a resolution was submitted, favoring the taking over of the line by the city. After some discussion, an amendment was submitted by J. H. Ashdown, favoring the operation of the line for five years at least by the commission. No decision was reached, and the question will be further considered.

Railway Department Estimates for 1919-1920.

The estimates for the year ending Mar. 31, 1920, submitted to the House of Commons recently, contained the following items, among others, chargeable to capital account:—

Canadian Government Rys. construction and betterments	$11,121,681
Hudson Bay Ry. Port Nelson terminals	100,000
National Transcontinental Ry., to pay claims for right of way	125,000
Miscellaneous railway equipment, to acquire directly or indirectly, or to assist in acquiring during the current fiscal year, railway equipment and materials, for the purposes and upon the terms (save as herein varied) mentioned in chap. 38 of the statutes of 1918. The assistance herein provided for may be by way of advances to any Canadian railway or Canadian rolling stock company, or by way of equipment or materials acquired by the minister	35,000,000
	$46,346,681

The following items are chargeable to income:—

Arbitrations and awards	$20,000
Board of Railway Commissioners for Canada, maintenance and operation of, including $800 for Clyde Leavitt as Chief Fire Inspector	190,150
Board of Railway Commissioners for Canada, to pay expenses in connection with cases before the board	15,000
Contribution of Government Railways to McGill University towards foundation of a school of railway engineering and transportation in general in connection with Faculty of Applied Science	2,500
Contribution of Government Railways to Polytechnic School, Montreal, for advancement of learning in connection with railway engineering and transportation in general	2,500
Contribution to International Association of Railways Congress	97
Costs of litigation	3,000
Commissioner of Highways, to provide for the organization and payment of staff of Commissioner of Highways, including A. W. Campbell, C.E., as Commissioner of Highways at $5,000 a year	25,000
Governor General's car, attendance, repairs and alterations	5,000
Loan not exceeding $35,000,000, repayable on demand with interest payable half yearly at 6%, to be used to meet expenditures made or indebtedness incurred in paying interest on securities in excess of amount available from net earnings, or paying maturing loans of Canadian Northern Ry. or any company included in Canadian Northern Railway System, and for construction and betterments; said loan to be secured by mortgage upon the undertaking of the Canadian Northern Ry. System, containing such terms and conditions as the Governor in council may approve	35,000,000
Miscellaneous works not provided for	2,500
Printing and stationery, outside service	7,000
Surveys and inspections, railways, including salaries and expenses of experts employed temporarily	55,000
To provide for audit on behalf of Government, of any railway company in Canada	15,000
	$35,342,747
Salaries of Board of Railway Commissioners	$55,000

The following items are chargeable to collection of revenue:—

Canadian Government Railways; towards working expenses	$6,000,000
This is a decrease of $31,000,000 from 1918-1919.	
Canals, staff and repairs	1,800,000
Canals, statistical officers	42,500

MISCELLANEOUS.

Allowance to Stephen Holmes, father of Miss Myle Holmes, to cover cost of artificial limb, and doctors fees and expenses, etc., incurred as result of accident at Aitkens crossing, Pirate Harbor, Jan. 17, 1918	500
Allowance to widow and children of Amedee Belanger, who was killed while in discharge of duty in employ of Canadian Government Rys. near L'Islet station, April 7, 1918	2,000
Allowance to Mrs. Agnes Alma Steadman, mother of Leslie Steadman who was killed while in discharge of duty as brakeman on Canadian Government Rys. at St. John, N.B., Mar. 12th, 1917	2,000
Allowance to Mrs. G. Peterkin mother of Herve Bazinet, who was drowned in discharge of duty while in the employ of department, on the Lachine Canal, May 9, 1918	2,000
	$7,849,000

Freight and Passenger Traffic Notes.

Up to Mar. 31 of the winter traffic season C.P.R. ocean steamships and trains handled 32,727 passengers at St. John, N.B.

The London, Eng., Times, commenting on G.T.R. earnings, expresses the opinion that traffic is being carried under its cost.

The Grand Trunk Pacific Ry. announces that summer tourist fares to Pacific coast ports and to California will be given over its line from June 1 to Sept. 30, with first time limit to Oct. 31.

Motor cars leave Penticton and Oroville, B.C., each way daily, at 9.30 a.m. and 3 p.m., and a motor launch is run in connection on Lake Shaka between Penticton and Okanagan Falls.

A press report states that railways in Canada and the United States have under consideration the advisability of restoring to a considerable extent the pre war excursion and special rate tickets.

The Victoria & Sidney Ry., a subsidiary of the Great Northern Ry. (United States), which operates on Vancouver Island, will, a press report states, discontinue its service in the near future.

The Canadian National Rys. Western Lines have sent circulars to station agents respecting prizes for keeping and beautifying station grounds. Flower seeds, etc., will be distributed to the agents.

The Grand Trunk Pacific Ry., is reported to have put into force a train service on Mondays, Wednesday and Fridays each way, between Regina and Weyburn, Sask., in place of the former twice a week service.

F. W. Peters, General Superintendent British Columbia District C.P.R., is reported to have stated recently, that a daily passenger train service will be inaugurated on the Kettle Valley Lines, on June 1, in lieu of the present tri-weekly service.

Representatives of the British Columbia Manufacturers' Association, and Vancouver Board of Trade and the Central Ratepayers Association, met in Vancouver, Apr. 1, to discuss the revival of a freight transportation bureau for the city.

The Canadian National Rys. report that for the week ended Mar. 31, 562 loaded cars covered by revenue war bills were taken across the Quebec bridge, 404 being from the bridge station to Chaudiere Jct., and 158 from Chaudiere Jct. to the bridge station.

The Alberta and Great Waterways Ry., according to a press report, Apr. 14, has placed a general embargo on freight traffic on its line, pending the making of some repairs to the track, and the establishment of better conditions along the line.

Canadian Pacific Ocean Services Ltd. will resume its freight service from Montreal to Antwerp, May 14, with the s.s. Dunbridge. It is expected that a fortnightly service will be arranged. About 70% of the cargo space is reserved for government purposes according to press reports.

The Canadian National Rys. has been ordered by the Board of Railway Commissioners to stop its train 8, on flag, at Richmond, Ont., on Monday mornings, to accommodate the additional passenger traffic for Ottawa offering on those mornings, as a result of the week end travel from Ottawa to Richmond.

The Quebec Public Utilities Commission heard applications recently from Price Bros. and Co., against proposed increase by Canada and Gulf Terminal Ry., of freight rates between Matane and Mont Joli, and of W. Hurd, against proposed increase of rates on ties from 10c to 19c, by the Quebec Central Ry., between Lake Frontenac and Levis.

J. H. Walsh, General Manager Quebec Central Ry. is reported to have said Apr. 20, that an arrangement had been made with the United States Federal Railways to operate a sleeping car between New York and Levis, Que., which service will be augmented during the summer by a similar service by a through sleeping car to Boston and another to Portland, via the White Mountains.

The Edmonton, Dunvegan and British Columbia Ry. was reported Apr. 16 to have arranged to resume a gas car service between Edmonton and Westlake, Alta., 52 miles, at an early date. The car will leave Westlake in the morning and return in the afternoon. The experience of its operation during last summer is said to have been profitable to the railway, as well as to the advantage of the public.

Railway Finance, Meetings, Etc.

Grand Trunk Ry.—The ordinary general meeting of shareholders was held in London, Eng., Apr. 28.

Kettle Valley Ry.—At the annual meeting of shareholders held in Montreal, May 7, authority will be asked to issue bonds and other securities for the completion of the company's undertaking.

Lacombe and Blindman Valley Electric Ry. H. A. Warner, an engineering member of the Alberta board, managing this steam operated railway, laid before the public accounts committee of the legislature, Apr. 11, a statement showing the results of operation for 1918. The total revenue was $18,543.87 and the working expenses $18,680.64, leaving a deficit of $136.77.

Railways and Canals Department Salaries.—The Dominion Government estimates for the year ending March 31, 1920, presented to the House of Commons recently, provide $189,300 for salaries for the Railways and Canals Department against $203,112 for the previous year. The Deputy Minister's salary is increased from $5,000 to $6,000, but the item of $5,000, voted in previous years for Assistant to the Minister, has been struck out, that position having been abolished. The following advances in salary have also been made: Chief Engineer, W. A. Bowden, from $5,000 to $5,500; Assistant Chief Engineer, L. Sherwood, from $4,000 to $4,500; Electrical Engineer, Jno. Murphy, from $4,000 to $4,500; Inspecting Engineer, Alex. Ferguson, from $4,000 to $4,500. The Solicitor, E. E. Fairweather, remains at his former salary of $5,000.

The Edmonton, Dunvegan and British Columbia Railway's Position.

R. L. Richardson, M.P., for Springfield, Man., asked if the government's attention had been drawn to the Alberta Legislature's proceedings of April 1, which were reported as follows: "During the general discussion of the estimates, Dr. G. D. Stanley, High River, again asked the Premier concerning his previous statement in the house that the Edmonton, Dunvegan and British Columbia Ry. might be taken over by the Dominion Government; that negotiations were pending between J. D. McArthur, the railway promoter, and the Dominion Government, for such a consummation, and that the completion of the deal awaited only the signature of the Minister, presumably Sir Robert Borden. The Premier replied that the extent of his knowledge was that negotiations of this nature were pending; he could give no information as to their progress. In answering another question relative to the government having paid the interest on the bonds of this railway to prevent default the Premier stated that the procedure had been to give the company authority to make the payments; there was, however, no difference in the charges."

Mr. Richardson continued: "There have been remarks about the house to the effect that the Dominion Government might take this railway over, and it has been reported that very strong pressure was being brought to bear upon the government to do so. I would like very much to know if the government has any information that it cares to impart to the house, because it is very important to know what has been done with regard to the railway in question."

Sir Thos. White, acting Prime Minister, replied: "While the Edmonton, Dunvegan and British Columbia Ry. has been brought to the government's attention for some three or four years past in connection with matters relating to subsidy, no arrangement such as is suggested with regard to the taking over of the road has been completed, nor are there any negotiations at present looking to that end. It is, of course, open to those connected with this railway to bring to the government's attention from time to time anything that would be of public interest relating to its affairs."

It has been currently reported for some time that J. D. McArthur has been endeavoring to get the Dominion Government to take over his lines and that they will probably be added to the Canadian National Rys. System.

Central Railway Company of Canada's Affairs.

The Board of Railway Commissioners decided recently that the company had failed to make out its case upon an application to have the franchises, assets, etc., of the Ottawa Valley Ry., the Carillon and Grenville Ry. and the Ottawa River Navigation Co. vested in it, according to agreements, and that it would be manifestly against public interest and contrary to the spirit if not the letter, of the Railway Act for the commissioners to recommend the Dominion Government to sanction the ratification of the agreements. The Central Ry. Co. of Canada is the survival of a pre-confederation project, initiated for the purpose of taking advantage of a Dominion land grant for the building of a line from Montreal to Georgian Bay. A short line was built many years ago, to which was awarded some part of the land, but this line was subsequently sold to the C.P.R. Some years ago the Ottawa Valley Ry. was incorporated, with which C. N. Armstrong of Montreal became associated, and this branched out until the Central Ry. of Canada became its title. The existence of the old land grant was made use of in the flotation of bonds in England, and this fact led to the cancelling of the grant. The company made agreements to take over the Ottawa River Co.'s project, the old Carillon and Grenville Ry., and the Ottawa Navigation Co., the two latter being worked in con-conjunction. As a railway company, some construction work was done in the vicinity of Hawkesbury, but financial stringency came, and the company and its contractors took legal action with the result that there were proceedings of various kinds—creditors' meetings arrangements with bondholders, etc., in the course of which the right of way of the Carillon and Grenville Ry. was bought by the Canadian Northern Ry. The company applied to the Dominion Parliament in 1912, 1913 and 1914 for approval of the agreements referred to, but the bills failed to pass. A bill asking for an extension of time for construction of the company's projected railway from Montreal, via. Ottawa to Georgian Bay, is before the Dominion Parliament, but in passing through the House of Commons, the power of the company to build any additional lines was done away with, and the bill left in such a form, as the Minister of Railways explained, would leave the bondholders to sell everything connected with the company to which any value could be attached. The company has an interest in two sections of line, viz.: from South Glen Roberts to Hawkesbury, a total of 35 miles, which are leased to the Grand Trunk Ry. and it also owns the right-of-way from South Indian to Hawkesbury, and from St. Andrews to St. Agathe.

In connection with the action of the City Safe Deposit and Agency Co. against the Central Ry. of Canada, the Exchequer Court of Canada has directed that all persons having claims against the company shall file them with the Registrar of the Court at Ottawa on or before Sept. 9. F. S. Williamson, 103 St. Francois Xavier St., Montreal, is the Receiver.

Public Works Department Salaries.—The estimates for the year ending Mar. 31, 1920, submitted to the House of Commons recently, provide for $575,537 for salaries in the Public Works Department, against $574,955 for the year ended Mar. 31, 1919. The salary of the Deputy Minister, J. B. Hunter, is raised from $5,000 to $6,000, and that of the Assistant Deputy Minister, A. St. Laurent, from $4,000 to $4,500.

G.T.R. Ambulance Center—This branch of the St. John's Ambulance Association has elected the following officers: Patrons, W. M. McPherson, and E. J. Chamberlin; President, H. G. Kelley; Vice President, W. D. Robb; Hon. Treasurer, F. S. Scott; Hon. Secretary, F. A. Bourne; representatives to general council of Canadian branch, Dr. J. H. Hutchinson and Dr. H. B. Carmichael.

The Grand Trunk Pacific Railway Receivership.

The following circular has been issued:

Grand Trunk Pacific Railway System.
"W. P. Hinton, Minister of Railways
"General Manager. & Canals Receiver.
"Winnipeg, Man., Mar. 25, 1919.

"To all concerned:—With the Receiver's approval, an office has been arranged for in the Department of Railways and Canals, at Ottawa, to facilitate the handling of the work connected with the receivership of the railway.

"H. H. Hansard, Solicitor for the company, has been delegated to act as Solicitor to the Receiver, to assist the Receiver in all legal matters pertaining to the receivership.

"S. P. Porter, Executive Agent of the company, will represent me at Ottawa, during my absence, as my assistant in all matters pertaining to the receivership.

"All correspondence in connection with the receivership at Ottawa should, therefore be addressed to, 'S. P. Porter, Ass't. to General Manager, Grand Trunk Pacific Ry. System, Department of Railways and Canals, Ottawa, Ont.'

"In order not to create confusion, or delay, all official Receiver's correspondence to the company will be directed and addressed to, 'The Secretary, Grand Trunk Pacific Railway Co., Montreal, Que.', or, 'The Vice President and General Manager, Grand Trunk Pacific Railway Co., Winnipeg, Man.' as the case may be.

"All orders on supply houses for materials, etc., and all communications with outside individuals, firms, or companies, involving financial transactions should be stamped with rubber stamp, as below: 'Minister of Railways and Canals Receiver.'

"Transfers, deeds, leases, agreements, contracts and other documents should be prepared and handled as usual and sent to the Vice President and General Manager for execution on behalf of the company. These documents will require the Receiver's approval and signature, to be endorsed thereon before delivery, but should first be signed by the proper officers and then sent to the General Manager's branch office, Ottawa, for the Receiver's approval and signature, and then returned to the Secretary for sealing and delivery.

"These instructions cover not only the Grand Trunk Pacific Ry., but all Grand Trunk Pacific subsidiary companies.

"W. P. Hinton, General Manager."
"Approved, J. D. Reid, Receiver.

Railway Troops—In "Canada's Part in the War," a booklet issued by the Dominion Government, it is stated that "Canadian Railway Units were attached to all the British armies. Canadian Railway troops were responsible for the whole of the construction of light railways and 60% of the standard gauge railways in the area occupied by the British forces."

The Alberta Government and Railway Bonds.—In speaking on the Lacombe and Northwestern Ry. bill in the Alberta Legislature, Apr. 9, the Provincial Premier stated that the government had no intention of going into the railway business and that as long as he is the head of the government there will be no more guarantees of railway companies' bonds given.

Electric Railway Department

Increases in Electric Railway Freight and Passenger Rates.

British Columbia Electric Ry.—See under British Columbia Public Utilities Act, on another page of this issue.

The Cape Breton Electric Co. is reported to have decided to sell 10 school childrens' tickets for 30c. The Nova Scotia Public Utilities Commission in its recent judgment, recommended the issue of such tickets, leaving it to the company to fix the rate and the manner of issue.

Edmonton Radial Ry.—The Edmonton, Alta. City Council is reported to have decided to advance fares on the Edmonton Radial Ry. which is owned and operated by the city, as follows, from Apr. 21:—Cash fares, 7c; ticket, good until midnight, 4 for 25c; limited tickets, good until 8.30 a.m., 5 for 25c. After midnight, 10c cash, or 2 tickets. No change was made in childrens' fares.

London and Port Stanley Ry.—The Dominion Parliament has ratified an agreement made Jan. 20, 1919, between this company, which it operated by the London Railway Commission, of which Sir Adam Beck is Chairman, and the City of London, varying an agreement of Nov. 28, 1913, and increasing the excursion rate between London and Port Stanley. The clause in the new agreement, which replaces a clause of the original agreement, is as follows:—That semi-weekly excursion trains from London to Port Stanley and return on the same day, will be ran in each week from May 24 to Sept. 10 in each year during the term of 99 years. The fare from London to Port Stanley and back on such trains, shall not exceed 50c for each person 12 years of age or upward, and 25c for each person under 5, accompanied by a parent or other person having them in charge, such children to travel free, and such fare shall entitle the passengers to be carried to the termini at the beach south of the present picnic grounds at Port Stanley.

London St. Ry.,—After having been under discussion for nearly a year the London, Ont., City Council, on April 7, voted on the question of an increase of fare on the London St. Ry. The company's application for power to charge increased fares came before the council's no. 1 committee, which referred it to a special committee. This committee discussed it at length, and reported against it, and this recommendation was adopted by no. 1 committee, the section of the report dealing with the matter, and passed on to the Council for consideration being as follows:—

"That inasmuch as the communication from the London St. Ry. offers a suggestion as to the improvements in service conditional on increased fares, that the company be advised that the city cannot give the communication further consideration.

A copy of this resolution having been supplied to the company the mayor was advised that if the increased fares asked for were granted the company would at once put into effect and maintain the service called for in the city's bylaw passed in Aug., 1918. This communication was considered by the council on Apr. 7 at the same time as the report of no. 1 committee with the result that it was resolved on motion of Alderman Cunningham, seconded by Alderman Colbert, by 6 votes to 5 "That without prejudice to the city's right under bylaw 916, and agreements relating thereto that the following be the fares: 5c cash, 6 unlimited tickets for 25c, and 7 limited tickets for 25c; the latter to be good until 8.30 a.m. and that bylaw 916 be amended accordingly, and that if necessary, application be made to the Ontario Legislature, now in session, by the city solicitor, to confirm the same.

The company inaugurated the desired service on Apr. 9, but the City Solicitor, subsequent to the passing of the resolution, authorizing increased fares, advised the council that it was too late to apply for confirmation of the amendment to the bylaw, at the then current session of the legislature, so the company is still selling tickets at the old rate.

Following is a comparison of the old fares and of the new ones authorized by the city council, but not yet ratified by the legislature:

	Old.	New.
Cash fare	5c	5c
Unlimited tickets	7 for 25c	6 for 25c
Limited tickets	9 for 25c	7 for 25c

The city council extended the time within which limited tickets may be used in mornings by half an hour, viz. to 8.30 a.m., instead of to 8 a.m. as under the previous arrangement.

Among those who voted for the increase of fares was Alderman J. Colbert, President of the Street Railway Men's Union. A couple of days later the Independent Labor Party declared in a statement that he was unworthy of the political support of organized labor.

New Brunswick Power Co.—See under "Commission's Report on New Brunswick Power Co.'s Franchise, Rates, Etc.," on another page of this issue.

Nipissing Central Ry.—Canadian Railway and Marine World for Apr. contained full particulars of local passenger tariff C.R.C. 20, issued Feb. 22, by this company, which is owned by the Ontario Government, and operated by the Timiskaming & Northern Ontario Ry. Commission, and which increased passenger fares about 25 per cent. The Board of Railway Commissioners passed order 28190, Mar. 29 on the complaint of Haileybury Town, Bucke Tp. and B. B. Caibbe, suspending the tariff, pending hearing of complaints on date to be fixed by board.

Ottawa Electric Ry.—The board of railway commissioners passed order 28,230, Apr. 14, allowing the Ottawa Electric Ry. Co. to appeal to the Supreme Court of Canada, upon questions of law, against two orders passed by the board, viz. 27,830, of Nov. 6, 1918, impending the company's tariff c. 6, c. 5, and 28,120, of Feb. 25, 1919, disallowing the said tariff. Both these orders were published in full in Canadian Railway and Marine World for Dec., 1918, pg. 557, and Mar., 1919, pg. 137. The order of April 14, states that the questions for the consideration of the Supreme Court are:

"1. Whether upon the proper construction of the agreements with the City of Ottawa and the Village of Hintonburg, the statutes relating to the Ottawa Electric Ry. Co. and the relevant provisions of the Railway Act, the board was right in disallowing the tariff of the company filed, providing for payment of addtional fare for carriage upon the extension from Holland Ave., notwithstanding that the board has found as a fact that the company did not require additional revenue.

"2. Also, whether, upon the proper construction of the said agreements and statutes for the purpose of computing the toll to be charged to passengers upon the said extension, the point of commencement of the said extension should be considered to be at Holland Ave. or at the former westerly limit of the Village of Hintonburg, now the City of Ottawa.

"3. Has the board the right to treat the company's operations as a whole and continue the existing tariff; or must the board permit the filing of tariffs on a mileage basis covering services on the Britannia line without reference to the larger part of the system covered by municipal agreements?"

It is probable that case will be heard at the Supreme Court's sittings, beginning on May 6.

The Proposed Purchase of the Ottawa Electric Ry. is Off.

The petition of the Ottawa City Council for authority to purchase the Ottawa Electric Ry., came before the Ontario Legislature's standing committee at the end of March, and the committee reported to the legislature Apr. 1 that among other things the petitioner desired to be authorized to enter into a provisional agreement with the Ottawa Electric Ry. Co., and with the Ottawa Traction Co., or that if they should approve of the same, to carry the same into effect, and in such an event that the petitioner be authorized to provide by bylaw, to be passed without obtaining the approval of the ratepayers of the city thereto, for issuing city debentures to such an amount not exceeding $6,500,000, as might be required to provide for the payment of the sum agreed upon as the purchase price of the Ottawa Electric Ry.'s. real and personal property, assets and franchises, whereas the notice said that the bylaw providing for the issue of debentures for raising the before mentioned sum should be subject to the obtaining of the assent of the electors. The committee was informed that a portion of the paragraph in the petition relating to the issue of the debentures was omitted and that the paragraph appearing in the petition did not convey the petitioner's intention. The committee recommended that the private bills committee's attention be directed to the difference between the notice and the petition, with regard to the assent of the ratepayers being required to the bylaws, and that the bill be made to conform in this particular with the notice as published.

The Ottawa City Council discussed the whole situation Apr. 7, when the board of control recommended among other things, that the council inform the company that the city was not prepared to purchase the railway at the price named. The council decided unanimously to withdraw the bill.

In the course of the discussion it was stated that the city would have to obtain power from the Quebec Legislature, and from the Dominion Parliament to deal with the matter, as well as from the Ontario Legislature.

British Columbia Public Utilities Act.

The B.C. Legislature has passed an act providing for the appointment of a public utilities commission for the province. The 1st section contains the interpretation clauses; the 2nd sets forth the duties and restrictions imposed on public utilities companies; the 3rd deals with the supervision of the commission over such companies; the 4th deals with the commission, and its procedure. The commission is to consist of one member to hold office during good behaviour for 10 years, who shall be eligible reappointment; devote the whole of his time to the duties and shall reside in such place as the government may from time to time determine. The salary of the commissioner shall not be less than $7,000 nor more than $8,000 a year. An acting commissioner may be appointed in cases of illness or absence, or in case the commissioner may be interested in any case coming before it and him. Provision is made for the appointment of a secretary and such staff as may be required, and a report is to be presented annually by the commissioner to the legislature. The Minister of Railways' power in respect of any public utility company or its service, is transferred to the commissioner, who may act without the consent of the government, and may vary existing orders of the Mnister of Railways, upon any matters coming within the commissioner's jurisdiction. The commissioner is given certain Supreme Court powers and is to make decisions on the merits and justice of the cases submitted, and shall not be bound to follow strict legal precedent. Appeals may be made from the commissioner's findings on questions of jurisdiction and law, upon permission to do so being obtained from the Court of Appeal, within 28 days after the decision has been made.

The important sections affecting electric railways, and the British Columbia Electric Ry. in particular, are the three dealing with rates. Sec. 9 provides that no public utility shall make any unjust, unreasonable, unduly discriminatory or unduly preferential rate for any service furnished by it, or any rate otherwise in violation of the law; sec. 10 prohibits the granting of reduced rates or rebates, and sec. 11 provides that there can be no changes of rates, or the establishment of any new rates, except with the approval of the commissioner. Subsec. 2, of this section, provides that the burden of proof as to the desirability of any change in rates from those in existence or legally chargeable at the time the act came into force, shall be upon the company; subsec. 3 preserves the right of application for a change in rates, while subsec. 4 makes special provision in respect to the British Columbia Electric Ry. The effect of this subsection is that beginning on Apr. 9, the company has to keep a record of all fares in excess of 5c, but not exceeding a 6c fare within or without the City of Vancouver, showing the amount of excess collected, and shall keep the same deposited in a special trust account, until the commissioner shall fix a rate for such service, which he shall proceed to do with due diligence. In the event of the rate so fixed being less than the rate charged from Apr. 9, the amount held in the special trust account in excess of the rate fixed shall be paid to the Vancouver General Hospital, and the balance, if any, shall belong to the company, but if the rate fixed by the commissioner is equal to or in excess of the rate charged from Apr. 9, then the company shall be entitled to the whole of the amount in the special trust account. The effect of this section is that the British Columbia Electric Ry. will continue to collect 6c fares in Vancouver, New Westminster and North Vancouver, until the commissioner decides otherwise.

It is provided that no public utility shall capitalize any franchise or right to be a corporation, or capitalize any franchise in excess of the amount actually paid to the province or a municipality as the consideration for the same; or capitalize any contract for consolidation, amalgamation or lease, or issue any security or evidence of indebtedness against or as a lien upon any contract for amalgamation, merger or lease. All amalgamations shall be subject to the commissioner's approval, and unless he approves, no public utility company can acquire shares in any other public utility company.

The commissioner is given power to ascertain the value of the property of any public utility company and may order the costs of such appraisal to be paid by the company as the work proceeds.

During the passage of the bill through the legislature, there was considerable discussion upon the question of fares, with the result that an amendment having for its object the re-establishment of a 5c fare in Vancouver, was defeated. Another amendment, which was defeated, was one asking to have it specifically defined just what businesses should be considered public utilities.

A Victoria dispatch of Apr. 17 stated that the B.C. Government had decided to appoint R. H. Gale, Mayor of Vancouver, as commissioner under the new act. This news was not favorably received in Vancouver, particularly by the Great War Veterans' Association, which had been advocating the appointment of Lt.-Col. L. L. Retallack. His appointment was also recommended by the British Columbia Technical Union. The G.W.V.A., at a meeting on Apr. 17, protested against the appointment of Mayor Gale, and arranged for a deputation to go to Victoria to interview the government. A Victoria press dispatch, Apr. 21, stated that Mayor Gale's name had been withdrawn, and that Lt.-Col. Retallack had been appointed. He was formerly in the Royal Northwest Mounted Police, and during the war served with the Canadian Railway troops in France and Belgium.

Proposed purchase of Sandwich, Windsor and Amhurstburg Ry.—A Windsor, Ont. press report of April 13, states that an agreement has been reached between Windsor and the other four border municipalities with respect to the joint purchase of the electric railway system in the border municipalities, and that negotiations to determine the price to be paid are to be opened immediately by the Hydro-Electric Power Commission of Ontario.

Street Railway Operating Questions in Regina.

The Regina, Sask., city council, on Mar. 28, discussed a report relative to the operation of the municipal railway, proposed by City Commissioner Thornton in reply to a series of questions submitted by Alderman Rope, and covered the question of advertising schedules; provision of signposts at railway stations; of meeting trains; provision of rear vestibule doors on cars; use of automatic trolleys; appointment of a special inspector, and suggestions by W. R. Reilly as to looping all lines downtown, instead of running them through as at present. Commissioner Thornton points out that schedules, of used, would be beneficial from a revenue standpoint, and that the advertising agent is working on an advertising booklet which will contain schedules of all lines. As to signs of railway stations, there is a board at Rox and South Railway Sts., and a similar board might be placed on C.P.R. property if permission could be obtained. It has been found impossible to make the car schedules conform to train arrivals, and experience has shown that even the meeting of excursion trains from the beaches has frequently not been justified by the patronage received. The commissioner says it would cost about $4,000 to equip the cars with rear vestibule doors, and under present circumstances, this expenditure is not considered justifiable, particularly in view of the fact that the equipment may in the near future be converted for the operation of one-man cars. The use of automatic trolleys is not essential for the operation of two-man cars, but they will have to be provided at a cost of approximately $15 each for one-man cars when adopted. As to the employment of an additional • inspector, the commissioner says such an officer would certainly ensure a closer supervision over traffic, both special and at transfer points, but suggests the appointment of an assistant to the superintendent, whose duties, among other things, would be that of traffic manager. The suggestion as to looping all lines downtown, Commissioner Thornton says would, under present conditions, result in additional expense without any appreciable increase in traffic. The concensus of opinion among street railway operators is, he says, decidedly in favor of the radial system of routing as opposed in the belt system. He recommends the provision of a waiting room at the corner of Hamilton and Eleventh Sts.

The council spent about four hours discussing the report and adjourned its further consideration to a future meeting. The aldermen, with the exception of Alderman Rose, who had raised the various questions, were favorably disposed to the suggestions made by the commissioner.

The Edmonton, Alta., City Council, on Mar. 10, gave consideration to several matters affecting the Edmonton Radial Ry. employes. The council restored all men who participated in the walk out of 1917, to the standing which they would have had if there had been no strike or no war. Five of the employes taken on at the time of the strike are reported to be affected by this settlement. Men who had enlisted were being placed on the list next to the men they had followed at the time of enlistment.

Double Truck Motor Cars for Winnipeg Electric Railway.

The Winnipeg Electric Ry. is adding 10 double truck, single end, semi steel, arch roof, motor cars to its equipment, the following being the principal dimensions, etc.:—

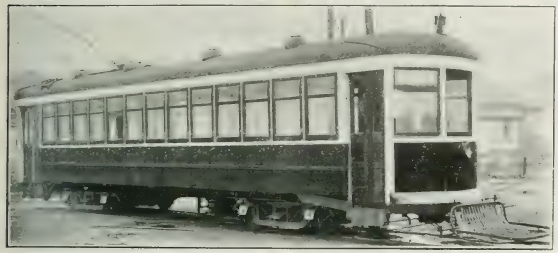
Length of car body	33 ft. 3 in.
Length of front vestibule	5 ft. 0 in.
Length of rear vestibule	7 ft. 6 in.
Length over bumpers	45 ft. 8 in.
Width over all	8 ft. 6 in.
Distance between bolsters	21 ft. 6 in.
Weight of car body	19,000 lb.
Seating capacity	46 persons

The bottom frame and sides are of steel with side sill made up 5 x 3 x ½ in. angle, rivetted to side plate 18 x 5-16 in., cross members are of 4 x 5-16 in. plates, also 4 in. channel at 7.25 lb., reinforced with oak cross sill, headstock made up of 10 x ½ in. steel plate, with two 4 x 3 x ½ in. angle rivetted together.

Bolsters are made up of channel, top 12 in. at 25 lb., bottom 10 in. at 20 lb. with cross channel at center. Front vestibules, center and side knees are of channel 6 in. at 8 lb., running through to bolster, bumpers 6 in. at 13 lb., with 3-16 in. cover plate for toe board. Rear vestibule center knees 6 in. channel, running through to bolster, side knees are of 4 in. channel, made up in counterlever style, toe board also of 3-16 in. plate.

Above side plate and below belt rail, 16 gauge panels are used between side post, with ⅛ in. strap covering joint. This arrangement facilitates repairs. Belt rail is 2 x ½ in. steel strap bolted to post, with beaded bar rivetted to top of side plate with 4 x ½ in. reinforcing plate inside.

The body posts are of white ash, straight and grooved for sash. The wood belt rail is covered with no. 16 gauge steel.


Double Truck Motor Car, Winnipeg Electric Railway.

Front and rear vestibule doors are 2 leaf folding out and back, controlled by motorman and conductor, with which are operated a folding step, provided with Ottawa Car Mfg. Co's. anti-slip tread.

A Keystone illuminated sign box is placed in the front vestibule right hand window, and Keystone side window signs are installed on each rear window. The interior lighting arrangements include 5 shaded lights in the center of arch roof, with through selector switch on rear platform over conductor's position.

The seats are light weight pressed steel fittings, with Ottawa Car Mfg. Co. spring upholstered cushion and back, covered with rattan. Motorman's seat is the Electric Service Supply Co's., and conductor's seat is the Ottawa Car Mfg. Co. standard drop seat. The heating arrangements are for hot air.

The rear bulkhead has swinging door, with door-check arranged to swing in for entrance side, full panelling and sash at center, sliding door for exit, front bulkhead has door mounted on double acting spring hinges on right hand side for exit, panelling and two sash, with louver, in upper half of left hand sash. A protective compartment is installed in rear vestibule for conductor and provided with raised floor about 4 in. high, also heater and seat. A winter partition is also arranged for motorman in front vestibule.

A sand box is installed in front bulkhead, with O. B. sander valve, arranged to sand both rails. Front vestibule windows have double glass, with extra storm sash fastened from inside, to protect the motorman from frosted windows.

The rear vestibule doors are fitted with electric signal, and arranged with switch on door frames, with electric light in front of motorman. A signal bell system is installed to operate car push buttons, direct from trolley circuit of 500 volts.

Draw bars are provided at each end, with Winnipeg Electric Ry. standard draw head and Ottawa Car Mfg. Co. improved spring case. Side sash are arranged to lift up with an automatic cam lock. The advantage obtained by the use of lift up sash is that the absence of lower pockets makes the car more sanitary, because the chance for careless patrons to use the pockets as a place into which to drop rubbish is done away with.

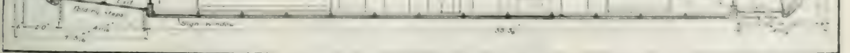
The interiors are finished in cherry inlaid, including doors, sash linings and mouldings.

Sanitary hand straps are used over longitudinal seats, 21 being installed. The ventilators are exhaust, 4 on each side of roof, with grills on inside. The headlining is painted light cream color with railway enamel. Removable window guards, in 4 sections, are placed on devil strip side and made interchangeable. This arrangement makes the cleaning of windows easy. Hand brakes are provided.

One special feature of these cars is the coloring of all bronze trimmings to an antique green, a serviceable and lasting color compared with highly polished bronze, which tarnishes after a car has been running two or three weeks. The painting of the cars is Winnipeg Electric Ry. standard light cream color above belt rail, below belt rail is painted a solid cherry, sash and doors natural cherry.

The car bodies were built by the Ottawa Car Mfg. Co., the Winnipeg Electric Ry. supplying and installing the trucks, motor equipments and air brakes.

The trucks have 26 in. wheels, on which are mounted 4 C.G.E. ball bearing motors.



Plan View of Double Truck Motor Car, Winnipeg Electric Railway.

Higher Electric Railway Fares in Scotland.—Municipal and company owned tramway managements, at a meeting in Edinburgh recently, adopted the following resolution: "That the responsible officials of the Scottish tramways industry pledge themselves to call meetings of their directors and committees, and to advise and do everything in their power to induce these bodies to take united action until the responsible government departments admit, and take immediate steps to put into effect, the principle of allowing tramway undertakings to increase their present scales of tolls and charges by not less than 50%, and not more than 100%.

Buffalo, Lockport and Rochester Railway Reorganization.

In connection with the recent sale, under foreclosure, of the property, franchises and other assets of the Buffalo, Lockport and Rochester Ry., to the bondholders, we are officially advised that the plans for reorganization of the company are being carried out, and that a new board of directors will be elected at an early date. The reorganization plan provides for the purchase of the property at the foreclosure sale by a committee representing the reorganization committee and to be turned over to a new corporation to be formed by the committee, which corporation is to issue the proposed new securities in payment for the property.

The securities dealt with by the reorganization committee consist of $2,799,000 first mortgage 5% gold bonds, and $200,000 second mortgage 6% gold bonds, the preferred and common stock not participating. The new company is to issue $1,499,500 of 6% cumulative preferred stock, and $2,199,250 of common stock, being part of a total capital authorized of $1,500,000 preferred stock, and of $2,200,000 common stock subject to the approval of the Public Service Commission of the State of New York. The new stock to be issued will be distributed as follows: To holders of first mortgage bonds, $500 preferred and $750 common stock in respect of each $1,000 held; and to holders of second mortgage bonds $500 preferred and $500 common stock in respect of each $1,000 held, and they will also receive the new securities underwritten by them as provided in the underwriting agreement. This agreement provided that bondholders signing it would advance pro rata for the cash requirements of the plan in respect of such holders of first mortgage bondholders as did not deposit their bonds thereunder.

The reorganization relieves the company of any fixed annual interest obligations. The reasons given for the adoption of the plan are that for the six years ended June 30, 1918, the average amount available to pay interest on the first mortgage bonds was $88,176 or $51,774 less than the sum required to meet the interest, such deficiency having been provided out of the issue of second mortgage bonds; that possibly for the next five years the company will be confronted with disturbed labor and other operating conditions, and that fairly large expenditures on track and equipment must be maintained if the property is to be put in first class condition.

The bondholders' protective committee, which is carrying through the reorganization, consists of: R. Home Smith, chairman; Hon. F. Nicholls, and D. B. Hanna, all of Toronto. A. S. Muirhead, also of Toronto, is secretary.

Winnipeg Electric Ry.—The Winnipeg City Council on Mar. 11, considered a suggestion from the Manitoba Premier to the effect that the present 5c fare be allowed to stand for two years. The suggestion was made in connection with the work of paying for the valuation of the company's property which is now being made, the payment for which the company desired should be spread over a lengthened period. The company paid $3,000 for the first month's work of the valuation, but declined to pay the $6,000 asked for the second month's work. Further construction was postponed.

The Toronto and York Radial Railway and the City of Toronto.

Canadian Railway and Marine World for March contained details of a proposed agreement under which the city was to take over the portion of the Toronto and York Radial Ry. Metropolitan Division on Yonge St., within the city limits, on payment of $590,000. It was also provided that the company might establish a freight receiving station on Yonge St. at the city boundary, and certain other receiving station within the city, on a rental basis, and that the Toronto Ry., during the balance of its franchise term, would be permitted to transport package freight from the freight station on Yonge St. to other stations in the city, in cars to be provided by the city, and after the taking over of the Toronto Ry. by the city, and after that company's franchise in 1921, the city would continue such transportation of freight, the company paying to the city the freight charges, and for the maintenance and depreciation of the cars, and interest at 6% on their cost, with platform wages for the car crews, and the actual cost of power used, no charge to be made for power used between 12 midnight and 6 a.m.

This agreement was arrived at after considerable negotiation, and as a result of arbitration proceedings before the Ontario Railway and Municipal Board, and was considered to provide a reasonable solution of the grievances which the city claimed to be suffering under, owing to the company's operations within the city limits.

Under another agreement, in common with other municipalities, respecting the proposed construction of hydro radial railways, with the Hydro-Electric Power Commission of Ontario, the city is not permitted to enter into any agreement for the acquisition, operation of, or the granting of any franchises to any other railway company, without the commission's approval, and on the submission of this proposed agreement, to the commission, approval was refused, as it was considered to be inimical to the projected hydro radial projects, and also on the ground that the proposal to carry freight within the city limits would be construed as a perpetual franchise, which the commission would not allow the city to assume, when it took over the Toronto Ry. on the expiry of the franchise in 1921

An alternative scheme, laid before the City Board of Control, Apr. 12, by Sir Adam Beck, chairman of the Hydro-Electric Power Commission of Ontario, provides for the removal of the company's tracks entirely between Farnham Ave. and the northern limits of the city on Yonge St., now situated on the west side and the laying of a double track in the centre of the roadway, thus making it possible to pave the whole street. This, it is estimated, will increase the accommodation so far as the company is concerned, and make possible the operating of the city system as far as Farnham Ave. to connect with the company's city lines until 1921, when a through city service will be operated. It is presumed that dual service of the city and the company on Yonge St. will affect the local passenger service company and an act was drafted by the commission's solicitors to provide for the building of tracks for the dual system; the city to provide for the whole of the road from Farnham Ave. to the northern city limits on Yonge St., and making possible a better operation of the company's cars on the double tracks than it now has with a single track. It would also enable the city to operate its cars between Farnham Ave. and the northern city limits until the city's contemplated lines up Mount Pleasant Road on the east and Avenue Road on the west, are constructed. It proposed that the city absorb the company's cars which are now used for local passenger service, for which the company would be paid, the company to hand over its rails, ties and overhead equipment to the city, and the city to construct a double track standard gauge railway with overhead equipment suitable for the company's cars.

Considerable discussion took place subsequently on the merits of both this original and the later proposals, by the board of control and the city council, and the scheme proposed by Sir Adam Beck was adopted.

A bill was prepared and submitted to the Ontario Legislature, Apr. 16, to ratify the arrangement, but was rejected owing to the late date at which it was presented, the session closing on the following day. The provisions of the bill were to empower the city to lay two double track lines of different gauge (city lines 4 ft. 10⅞ ins., T. & Y.R.R. standard), approximately on the same location, on the center of Yonge St., between the terminus of the Toronto Ry. and the northern city limits, each of the double track lines of different gauge to be installed as near as practicable on the same center line and parallel thereto; to remove the existing rails, etc., from the west side of the street; to take over the company's existing local service cars now operating over this section, solely for traffic between Farnham Ave., and the northerly city limits. The company to have the use of the tracks of the gauge of its present railway, between the points mentioned, and the city to have the use of the tracks of the gauge of the tracks now within the city limits. Provision was also made that the city and the company might enter into agreements as to the amounts to be paid in compensation for the loss of profit, for the cars taken by the city, the amount of the company should pay for the advantage of operating over a double track line in place of a single track one, the number of cars to be operated by each party, and the amount to be paid to the city as its share of the cost of maintenance. A final clause in the bill stated that nothing in it was to be deemed to confer upon the company the power to continue the operation of its cars on that portion of Yonge St., beyond the period within which it is now empowered to operate cars thereon.

The Toronto Railway Employes Union has asked the Ontario Government to amend the Hydro Electric Power Commission Act, so as to provide for five commissioners instead of three, one at least of the five to be a labor representative.

Henry Ford is said to be working on plans for a street car, to be driven by an internal combustion motor.

Mainly About Electric Railway People.

Capt. F. D. Burpee, Superintendent, Ottawa Electric Ry., who returned recently from overseas service, has been elected a member of the Canadian Electric Railway Association's executive committee, succeeding the late Jas. D. Fraser, formerly Secretary-Treasurer, Ottawa Electric Ry.

J. L. Baird, Assistant Secretary and Treasurer and Auditor, Windsor, Essex & Lake Shore Rapid Ry., Kingsville, Ont. underwent a serious internal operation at Harper Hospital, Detroit, Mich., Apr. 8. On Apr. 18 he was reported to be progressing as well as could be expected, and it was stated that, unless some unlooked for complication occurred, he should be able to leave the hospital early in May.

J. Buntzen, formerly General Manager, British Columbia Electric Ry., who, since his retirement some years ago, has been acting as an advisor to the directors, and has lived in Copenhagen, Denmark, is expected to visit Vancouver during the summer.

Capt. F. R. Glover, who has resumed his duties as general executive assistant, British Columbia Electric Ry. at Vancouver, went overseas with the 72nd Seaforth Highlanders as honorary captain and paymaster, and on returning late in 1917, was appointed superintendent of military police for British Columbia, under the Military Service Act.

R. N. Godin, has been appointed acting Superintendent, in charge of car barns, power and distribution system, Montreal & Southern Counties Ry., G. J. Meyer, Chief Engineer and General Superintendent, having resigned.

Geo. Kidd, General Manager, British Columbia Electric Ry., entertained at a complimentary dinner at Vancouver, on April 5, all the men in the company's employ who had returned from overseas service. Invitations were issued to 209 on the mainland portion of the system. There are a large number more to return, but the dinner could not be postponed, as Mr. Kidd had to leave early in April for London, Eng., where he expects to spend two or three months at the head office, in connection with the company's affairs.

A. F. Laberge, heretofore Assistant Superintendent, Montreal & Southern Counties Ry., has been appointed acting Superintendent, in charge of transportation, G. J. Meyer, General Superintendent, having resigned.

W. H. Lutz, heretofore Treasurer, Grand River Ry., and Assistant Secretary-Treasurer and Claims Agent, Lake Erie & Northern Ry., has resigned, on being appointed Manager, Galt Art Metal Co., Galt, Ont.

T. H. McCauley, Superintendent Calgary Municipal Ry., spoke at the Calgary, Alta., Board of Trade's luncheon recently, on the city's electric railway.

Sir Wm. Mackenzie, President, Monterey Ry., Light & Power Co., and Toronto Ry., returned to Toronto, Apr. 4, with F. H. Phippen, K.C., Miss Mackenzie and Mrs. Frank McCarthy, after a short trip to Monterey, Mexico, and Hot Springs, Arkansas.

G. J. Meyer, Chief Engineer and General Superintendent, Montreal & Southern Counties Ry., has resigned, and has returned to Chicago.

Geo. A. Mills, Electrical Engineer, Winnipeg Electric Ry., has resigned, and is returning to the United States.

W. G. Murrin, Assistant General Manager, British Columbia Electric Ry., returned to Vancouver early in April, after having spent two months in Southern California, where he had gone under his doctor's orders, on account of his health.

Miss C. Nevin, who returned recently from overseas, where she had been doing war work, has been appointed Assistant to Treasurer, Grand River Ry. and Lake Erie & Northern Ry.

Lt. Col. G. C. Royce, General Manager, Toronto Suburban Ry., and Mrs. and Miss Royce, returned to Toronto recently, after spending several weeks at Palm Beach, Florida.

H. C. Small, Secretary, Ontario Railway & Municipal Board, is a beneficiary under the will of his brother, J. T. Small, K.C., who died suddenly on the golf links at Pinehurst, N.C., Jan. 30, leaving an estate valued at $101,121. He left his Toronto house to H. C. Small, under certain conditions, also a fourth of the residue of the estate, after providing for certain other legacies, succesion duties, etc.

Warren Y. Soper, Vice President, Ottawa Electric Ry., and Gordon Gale, Vice-President & General Manager, Hull Electric Co., were among the members of the Royal Ottawa Golf Club's committee, which received the Governor General and other guests, at the club's reopening, Apr. 14.

David A. Starr, M.I.E.E., formerly of Halifax, N.S., and who has been General Manager of the Clyde Valley Electrical Power Co., at Glasgow, Scotland, for several years, left there early in December, on an extended leave of absence, to recuperate after an attack of pneumonia. He went via New York to Florida, Cuba, and Jamaica, thence to New York again, and after visiting Toronto, Ottawa, Montreal and Halifax, sailed towards the end of April for Glasgow, to resume his duties.

M. Milne Todd, Vice President, Grand River Ry. and Lake Erie & Northern Ry., has also been appointed Treasurer of both companies.

Ivan E. Vallee, heretofore first assistant engineer and assistant director of railways, has been appointed chief engineer and director of railways, Quebec Public Works Department, and chief engineer, Quebec Public Utilities Commission, succeeding his father, L. A. Vallee, deceased. He has been in Public Works Department's service since July 19, 1910.

George Kidd, General Manager British Columbia Electric Ry., gave a dinner at Vancouver, Apr. 5, to 200 of the company's employes who had served either in the army or the navy during the war. In addressing them, he said 570 of the employes had served in the war, of whom a number had been killed or had died; 125, who had served, had returned to the company's service, and over 300 men were yet to return.

The Toronto Ry. is increasing the number of prepayment cars on its various routes throughout the city. Several of the cars on the Dundas St route have been remodelled and equipped with the National Pneumatic Co.'s pneumatic door control, in accordance with the plans adopted on other of its cars, and fully described in previous issues.

Electric Railway Notes.

The Quebec Ry. Light and Power Co. has asked for tenders for 10 double end cars for its city division.

The City of Toronto has been authorized by the Ontario Legislature to expend $200,000 on new cars for the Toronto Civic Ry.

Regina, Sask., City Council proposes to submit to the ratepayers, at an early date, a bylaw authorizing the operation of one man cars on the municipal railway.

The Hamilton, Ont., City Council has agreed to the cuttting out of about 30 stops on the Hamilton St. Ry. lines to expedite the service. Cars now stop at the near side of crossings.

A deputation representing Liverpool, Eng., city council, is expected to arrive in New York about May 1, to inspect street railway and other public utilities in the United States and Canada. Toronto and Montreal will be visited.

Winnipeg City Council has referred to the assessment commissioner a petition of residents and property owners on Morley Ave. and Bartlett St., asking for a bus service on Morley Ave., and a petition from River Ave. residents asking that the Winnipeg Electric Ry. tracks thereon be taken up and a bus service substituted.

The Regina, Sask., city council decided Apr. 18, on the recommendation of City Commissioner Thornton, to submit a bylaw to the ratepayers at the earliest convenient date under the provisions of the recent amendment to the Saskatchewan Railway Act, for the purpose of authorizing the operation of one-man cars on the municipal railway.

The Edmonton Radial Ry's. Superintendent, J. H. Moir, in his annual report to the commissioners, suggests the replacement of the heavier cars by lighter ones, fitted with safety devices for one man control. He is reported to have sad that a 10 minute service could be given in place of a 15 minute one, and that the cost of operating would be reduced.

Regina Municipal Ry. officials are reported to have expressed the opinion that it would not be a justifiable expenditure to equip the street cars with rear doors and folding steps at present. The cost would be in the neighborhood of $4,000

The Cape Breton Electric Ry. is reported to be about to issue metal tickets to facilitate the payment of fares on the new rates. The tickets will, it is said, be of a light weight metal, pierced through the center, in different designs, to denote the difference in fares, and will be sold by conductors in any quantity desired.

In discussion on the estimates for the current year by the Regina, Sask. city council, Apr. 14, Alderman McKinnon is reported to have said he believed the utilities with a capitalization of $5,000,000, were of sufficient importance to warrant them being placed in the charge of one man who would devote his sole time to making them pay. He was convinced if this were done, that the deficit would be reduced to a minimum. The utilities owned by the city are the electric light plant, the waterworks plant and the electric railway, on which the actual deficits for 1918 were $96,656.04, reduced to $76,081.28 by a loan of $20,574.76 from property sales account to the street railway sinking fund.

Electric Railway Finance, Meetings, Etc.

British Columbia Electric Ry. and allied companies.—

	Feb., 1919	Feb., 1918	8 mons. to Feb. 28, 1919	8 mons. to Feb. 28, 1918
Gross	[illegible]	[illegible]	$4,740,999	$3,984,379
Expenses	[illegible]	[illegible]	3,532,729	3,081,480
Net	[illegible]	[illegible]	1,208,270	902,899

Cape Breton Electric Co.—

	Feb., 1919	Feb., 1918	2 mons. to Feb. 28, 1919	2 mons. to Feb. 28, 1918
Gross	[illegible]	[illegible]	$95,154.11	$77,722.78
Expenses	[illegible]	28,999.16	70,857.50	62,255.81
Net	[illegible]	7,295.99	24,296.61	15,466.97

Calgary Municipal Ry.—We are advised recently in reference to the reported deficit of $34,000 for 1918, that there were several adjustments to be made, which will reduce this, and which include $16,000 spent on Bowness Park, $2,000 on reconstruction of cars, and certain amounts chargeable to depreciation, as well as other items.

Edmonton Radial Ry.—Superintendent Moir's report for 1918, has been submitted to the city commissioners. During the year the cars ran 1,972,462 miles against 1,860,883, in 1917; carried 9,909,529 passengers, against 10,086,213; earned $507,185.82 against $487,778.22, and cost for operation, $395,927.43, against $396,481.41. The increased revenue is attributed to the increase of fares, which went into effect in May, 1918, and it is estimated that about $27,000 of revenue was lost during the influenza epidemic. During the year, $1,500 was paid to employes for wages during absence through illness, and $2,593.62 was paid in settlement of damage claims. Including debt and interest charges, the deficit up to Dec., 1918, was $143,732.11.

Oshawa, Ry.—There have been filed with the Secretary of State at Ottawa, copies of the following documents:—Discharge of a mortgage made Oct. 18, 1895, to C. B. Powell and J. C. Browne, trustees; discharge of a mortgage dated Apr. 26, 1895, to T. Aherrn and W. F. Soper, Ottawa, and subsequently assigned to the Rathbun Co.; partial discharge of a mortgage dated Nov. 15, 1895, to the Grand Trunk Ry.

Regina Municipal Ry.—The deficit for 1918, according to a report presented to the Regina, Sask., City Council, Mar. 28, was $67,844.21, as against the estimate, made at the beginning of the financial year of $46,824.82. The detailed statemen of receipts shows a falling off in the number of passengers carried of 524,452 during the last four months of the year, due very largely to the influenza epidemic. The car schedule was reduced materially during the harvest period in order to permit all the men possible to go on the farms. Despite these periods of reduced revenue, there was a surplus of $30,178.67 on operation, or about $2,000 less tha nthe operating surplus for 1917. The number of passengers carried was [illegible] against 5,112,460 for 1917, and [illegible] for 1916. The estimated loss of revenue for 1918 due to the two causes mentioned above is $25,278. The estimated deficit for the year, is $22,526.23.

Earnings, etc., for three months ended Mar. 31, [illegible]

[illegible]	[illegible]	$62,018.55
[illegible]	[illegible]	1,423,417

The 5c straight fare, became effective during Mar., 1918. The average fare per passenger for the three months ended Mar. 31, 1919, was 4.82c.

Sandwich, Windsor and Amherstburg Ry.—The Windsor, Ont., City Council, passed a resolution, Mar. 31, to arrange for a joint meeting of representatives of municipalities through which the line runs, to discuss its purchase as recommended by the Hydro Electric Power Commission of Ottawa.

Sudbury-Copper Cliff Suburban Electric Ry.—The Ontario Legislature has authorized the company to increase its capital stock from $250,000 to $500,000 and to sell the unissued shares at a discount, upon such terms as the shareholders may authorize, provided that stock authorization shall be given at a meeting, specially called for that purpose, and that the resolution shall be sanctioned by the vote of at least two-thirds of the company's subscribed stock.

Toronto Ry. Toronto and York Radial Ry., and allied companies.—

	Feb., 1919	Feb., 1918	2 mons. to Feb. 28, 1919	2 mons. to Feb. 28, 1918
Gross	$1,015,797	$981,933	$2,122,637	$2,050,252
Expenses	620,200	548,486	1,255,493	1,139,143
Net	395,597	433,447	867,144	911,109

Winnipeg Electric Ry. and subsidiary companies.—

	Feb., 1919	Feb., 1918	2 mons. to Feb. 28, 1919	2 mons. to Feb. 28, 1918
Gross	$371,162	$298,899	$761,701	$633,541
Expenses	263,908	227,496	554,924	483,346
Net	107,254	71,403	206,777	150,195

The net result after providing for fixed charges, for February, is $47,765.11.

Sunday Electric Railway Services in Ontario.

The Ontario Legislature has, by an announcement to the Ontario Railway Act, authorized the operation of cars on the London St. Ry. Springbank line on Sundays, subject to the approval of the London City Council and the London Public Utilities Commission. For the operaton of the L.S. Ry.'s other lines on Sundays, the London City Council passes a bylaw annually, providing for such operation from May 1 to Apr. 30. A committee of the council on Apr. 16, recommended present Sunday car bylaw for a month, so that the question of the operation of cars on Sundays on the Springbank line could be considered along with it. A press report of Apr. 15 stated that the company might insist on a straight 5c fare for all Sunday traffic. The company has never been very favorable to the Sunday operation of cars, and C. Currie, President, is reported to have said in an interview on Apr. 10: "The Sunday service on the cty lines yields us nothing, and we can foresee no better results from Sunday operation of the Springbank line."

The Kitchener Board of Trade passed a resolution Apr. 9 in favor of Sunday operaton of the Grand River Ry. between Kitchener and Galt.

Nova Scotia Tramways and Power Co.'s Directorate.—At the annual meeting in Halifax, N.S., recently, O. E. Smith and H. H. Smith of Halifax, and E. A. Robert, S. H. Wilson, J. W. McConnell, and W. G. Ross, of Montreal, retired, and the following directors were elected: W. H. Cavers, K.C., and H. R. Mallison, Halifax; F. B. Adams, New York; F. P. Royce, M. L. Sperry, L. B. Buchanan, W. C. Crawford, M. M. Phinney, and Roger Ernst, Boston.

British Columbia Electric Railway Aids Office Employes to Secure Houses.

In order to assist the company's office employes to build or acquire homes during the present scarcity, Geo. Kidd, General Manager, B.C. Electric Ry. Co. has placed $50,000 at the disposal of the company's employes' association to be loaned at 6% over a term of 12 years. The scheme is believed to be one of the first of its kind to be launched in B.C., if not in Canada, and has been gladly accepted by the employes. In announcing the matter Mr. Kidd said: "My reason for making the proposal is to relieve, as far as possible, our employes from the pressure of high rents, give them homes of their own, and thereby induce thrift and interest in their community. Many of them have been inconvenienced, as are others, by having the houses they rent sold over their heads. Many others feel that paying out rent, year after year, without a permanent interest in their homes, is not desirable. Some of our employes already have lots, but have not the wherewithal to build on them, unless at high rates of interest, when the monthly charge for principal and interest would be much heavier than rent. It is these that we hope to help and in view of the need for more houses, we expect that it will induce some of our employes to build."

The disposal of the fund has been placed in the hands of a joint committee, composed of representatives of the office employes' association and the company's management, and the $50,000 has already been allotted by the committee. The employes' committee consists of A. E. Chamberlain, president of the association; J. Munro, vice president; F. G. Graham, secretary; J. V. Armstrong, treasurer, and J. McNee, J. Freemont and H. G. Findlay.

The St. John River Steel Arch Bridge—The New Brunswick Government on Dec. 24, 1912, made an agreement with the St. John Ry. under which the government agreed to retain space on the steel arch bridge to be erected over the St. John River to replace the suspension bridge suitably equipped for laying street railway tracks thereon, and the company agreed to pay, therefore, $3,000 a year for five years, $4,000 a year for the next 10 years, and $5,000 a year thereafter so long as the company used the bridge. The bridge was completed Jan. 1, 1916, and the company laid its tracks over the bridge. In 1917 the N.B. Legislature confirmed the agreement for the transfer of the property, etc., of the St. John Ry. to the New Brunswick Power Co. A new agreement for the use of the bridge upon the terms above mentioned was made Mar. 27, 1919, between the government and the N.B.P. Co., and the New Brunswick Legislature has been asked to ratify the same.

Seattle Acquires Street Railways.—The Puget Sound Light and Power Co. has transferred its electric railway lines in Seattle, Wash., to the city for $15,000,000 in bonds. The interest and redemption charges are to be paid from the revenues of the system. The company agrees to sell current to the city at 1c. per kilowatt until the city is ready to supply its own current. Some 2,000 company employes will be put on the city payroll.

Electric Railway Projects, Construction, Betterments, Etc.

The Berlin and Northern Ry. Co. has been authorized by the Ontario Legislature to change its name to the Waterloo-Wellington Ry. Co., and has been granted an extension of time for three years within which to extend its line from Bridgeport, its present terminus, to Elora and Fergus, Ont. (Apr., pg. 208).

Calgary Municipal Ry.—At a meeting of the Tuxedo Park and District Ratepayers' Association, Apr. 1, the question of the extension of the Calgary Municipal Ry. line on Center Ave., up to 16th Ave., was discussed. It was stated that if the extension were made the rails now used on the Tuxedo Park line serving the Sarcee Reserve military camp would have to be moved. It is considered likely that the camp will be required again this year, hence there is no desire to take up the track. However, the matter is under consideration. (Feb., pg. 85).

Grand River Ry.—We are officially advised that the company is constructing a 2-mile revision of line between Preston and Hespeler, Ont., to prevent damage to the roadbed by spring floods, and to enable a more frequent service to be given. The character and extent of the work to be done was fully described in Canadian Railway and Marine World for March, pg. 143. The company has also in contemplation the relaying of 7.5 miles of track between Preston and Kitchener with 80-lb. second-hand rails, replacing the 64 and 70-lb. rails laid in 1902. (Mar., pg. 143).

Hamilton St. Ry.—The Hamilton, Ont. City Council's street railway committee on Apr. 15, directed the city engineer to report as to the cost to the city of the proposed extension of the Hamilton St. Ry.'s York St. line to the extreme western end of the cemetery. If the cost is not excessive, the committee will recommend the council to ask the company to build the extension at an early date.

Hamilton, Ont.—The sections of the City of Hamilton's bill before the Ontario Legislature recently providing for the building of certain railway lines were withdrawn after a discussion with Sir Adam Beck, chairman of the Hydro Electric Power Commission of Ontario, and other sections were substituted. The new sections provide that the Hydro Electric Power Commission of Ontario may build a line from the Toronto, Hamilton and Buffalo Ry., near Red Hill, Saltfleet Tp., northerly and across the Hamilton and Burlington tracks to near Burlington Pt., on the G.T.R.; a line from the crossing of such line by the G.T.R. line east of the city westerly through Hamilton and Saltfleet Tp. to the T.H. and B. Ry., near the cemetery; to construct terminals, etc., and to enter into agreements with other railways for running rights. The City of Hamilton is authorized to enter into agreements with the H.E.P.C. of Ontario for the construction, equipment or operation of such railways; and such agreement may provide for the incorporation of any such lines in a system of radial railways to be constructed under the Hydro Electric Railways Act of 1916. The H.E.P.C. of Ontario is given, for the purposes of building and operating the lines, all the rights and powers conferred upon it by the Hydro Electric Ry. Act of 1914 and amendments thereto, and the City of Hamilton is authorized to issue, with the consent of the ratepayers, debentures to raise the amounts necessary to carry out the work. (Apr., pg. 190).

Levis Tramways Co.—The Quebec Legislature has incorporated a company with this title to take over the Levis County Ry. and to extend the service in the counties of Levis, Bellechasse, Dorchester and Beavie, subject to agreements with municipalities. The new legislation means a reorganization of the present Levis County Ry. Co. with more extensive powers and a new title. (Mar., pg. 143).

London and Port Stanley Ry.—A press report states that a contract has been let to John Hayman and Sons, for the erection of a new station at St. Thomas, Ont., at an estimated cost of $15,687, and that the contract for similar station at Port Stanley has not yet been awarded. (Apr., pg. 208).

Niagara, St. Catharines and Toronto Ry.—A press report states that orders have been received at St. Catharines, Ont., from the Canadian National Rys. management, for the carrying out of a number of betterments on the line. These are said to include the relaying of several miles of track within the City of St. Catharines, the laying of new pavement between the rails, new overhead work on the line between St. Catharines and Thorold; the enlarging and transforming of the park at Port Dalhousie, into a pleasure ground, and the provision of a bathing house there. (Jan., 1918, pg. 32).

Quebec Ry. Light and Power Co.—The Mayor of Quebec informed a deputation from Limoilou ward recently, that a settlement was near at hand with the company with respect to the building of extensions in the district.

Quebec Ry., Light and Power Co.—A Quebec press report states that as the result of a conference between representatives of the company and the Quebec City Council, Apr. 14, it was arranged that the company, without prejudice to the terms of the original contract with the city, will for the present extend the service on 8th St., over to and along to 10th St., cross the Beauport Road, and within 300 ft. of the railway tracks, proceed along 10th St. track and over the Dronin Bridge, thus laying a trackage for street car service, approximately three times the present distance covered and that the company will later complete its contract by extending the trackage to La Canardieri. It is added that W. J. Lynch, General Manager, assured the Mayor that work will be commenced as soon as the frost is out of the ground, and that the car service extension will be in operation in Aug.

St. Thomas Municipal Ry.—A press report states that the ratepayers will be asked at an early date to vote on the proposed assure of $50,000 of debentures for general improvements on this railway. The work to be done includes the reconstruction of the line on Talbot St., and the improvements of the car barn. It is also proposed to improve the cars and to purchase some additional only. (Apr., pg. 208).

Sudbury-Copper Cliff Suburban Electric Ry.—The Ontario Legislature has extended for three years the time within which the company may complete the construction of its proposed extensions. The company has 7.9 miles of line in operation in Sudbury, Ont., and from Sudbury to Copper Cliff, and has power to build other lines to serve the surrounding country, of which a line to Murray Mine is the one which is likely to be built at an early date.

Toronto Ry.—We are advised by a city official that the company has signified to the city council its intention of reconstructing 6.324 miles of existing tracks as follows: Broadview Ave. Line—Queen St. to Danforth Ave., 2.339 miles of single track. Gerrard St. Line—Broadview Ave. to Carlaw Ave., 0.98 mile; Carlton St. Line—Sherbourne St. to Parliament St., 0.456 mile. Spadina Ave. Line—Queen St. to College St., 1.185 miles. Front St. Line—From Yonge St. to York St., 0.532 mile. Parliament St. line—From Queen St. to Gerrard St., 0.812 mile. How much of this work will be done this year it is impossible to say, as everything depends upon the delivery of the steel, and on the reconstruction of the track allowances by the city. $390,000 has been provided in the city estimates on account of this, and general repair work throughout the city for the current financial year. (Feb., pg. 88).

Winnipeg Electric Ry.—A press report states that the Winnipeg Board of Trade has asked that access to the Winnipeg Stockyards be made possible by an extension of the Ry. (Oct., 1918, pg. 453).

Restrictions on Granting Franchises on Highways Near City.

G. H. Gooderham, M.L.A., introduced a bill in the Ontario Legislature, at its recent session, to amend the Municipal Franchise Act, R.S.O. chap. 197, sec. 3, by adding the following as sec. 9A: z

"The council of a local municipality shall not grant any franchise upon any highway of the municipality within a radius of five miles of the boundary of any city of 200,000 inhabitants and upwards without notice to and the approval and consent of the council of such city, expressed by bylaw and the assent of the municipal electors of such local municipality as provided by the preceding section."

The bill was passed without amendment.

Proposed Purchase of Detroit United Railways Defeated.

The ratepayers of Detroit, Mich., voted Apr. 7 upon the adoption of an agreement made between the Detroit United Rys. and the city council, for the purchase of the company's city lines and franchises, subject to certain limitations, a summary of which agreement was given in Canadian Railway and Marine World for Apr., pg. 206. Of the total votes polled, 63,883 were for the approval of the agreement, and 70,271 against. In order to approve an agreement of this kind, the state constitution requires that there shall be three-fifths of the vote cast affirmative. The total number of votes cast was 134,154, and the three-fifths of affirmative votes required would have been approximately 80,500 votes. At a meeting of the city council, Apr. 17, it was decided to call a conference of the Mayor, the members of the Street Railway Commission, and representatives of the Detroit United Ry., for May 9, to discuss the matter.

Electric Railway Employes' Wages, Working Conditions, Etc.

Calgary Municipal Ry.—The Calgary city commissioners on Mar. 26, withdrew their recommendations to the city council as to the wage schedule for the municipal railway employes for 1919, and the matter is expected to go to arbitration. In the course of the negotiations, the commissioners conceded the 8-hour day, the 48-hour week, an increase of 8c an hour and a guarantee of 7 hours a day for spare men. The men asked for an increase of 15c an hour.

Edmonton Radial Ry.—The non-union employes notified the city clerk, Apr. 7, that application has been made to the Labor Department for the appointment of a board of conciliation under the Industrial Disputes Act. According to press reports, there are rumors of a strike by the union employes, with whom there is a special agreement with the council, unless the bylaw governing employment on the railway is repealed. Questions of wages, hours of labor, and conditions of employment are involved.

Hamilton St. Ry.—Employes were reported Apr. 16 to be considering the question of asking the company for shorter hours. Under the present agreement, which has one more year to run, provision is made for a 10-hour day, but the men are now working 9½ to 9¾ hours as a rule, although at times they work more than 10 hours, for which they receive time and a half for all extra time.

The Hull Electric Co.'s employes, whose agreement expires Apr. 30, applied recently for considerable advances in wages of men in all departments, and this was followed by an application for a board of conciliation.

London and Port Stanley Ry.—At a meeting of the London Railway Commission, Apr. 5, it was stated that the wage increase, announced recently, were the result of a conference between Sir Adam Beck, chairman, and J. E. Richards, manager of the L. and P. S. Ry., and the employes. The amount involved is approximately $10,000 a year. The provision as to hours, according to a press report, is that the men are guaranteed a 55 hour week at 8 hours a day, but that the 10c an hour extra payment for overtime shall not begin to run until after 2 hours beyond the 8 shall have been worked.

London St. Ry.—On Apr. 1 the employes asked for an increase of 10c an hours for conductors and motormen and of from 10c to 25c for the shopmen. After considerable negotiations, the company's management entered into an agreement with the men's committee to increase wages of conductors, motormen, barnmen and other employes, 3c an hour, and this was ratified at a men's mass meeting Apr. 19. The new rates for conductors and motormen are: 1st year, 33c an hour; 2nd year, 36c; 3rd and subsequent years, 38c. Overtime beyond schedule working hours per day is to be paid at the rate of 12c an hour, instead of 10c as previously. Spare men did not have a 10c overtime rate previously, but under the new agreement, they do. Heretofore, regular conductors and motormen were paid for Sunday work the same as their regular schedule for a week day called for. This is done away with in the new agreement, and regular conductors and motormen, together with spare men, and all other employes working on Sundays, are to receive 12c an hour in addition to their regular rates for Sunday work.

Montreal Tramways Co.—Toward the end of March, the Minister of Labor appointed a board of conciliation to deal with the employes' requests for wage increases, and the members being Jos. Quintal, President, Montreal Chamber of Commerce, representing the company; J. T. Foster, President of Trades and Labor Council, representing the men, and Jas. Perrault, architect, appointed chairman by the Minister of Labor.

Ottawa Electric Ry.—A press report of Apr. 26, states that the O.E.R. employes are preparing to ask for a substantial increase in wages. The present agreement expires June 1.

Sandwich, Windsor & Amherstburg Ry.—The conductors and motormen asked recently for 50c an hour for the first 6 months, and 65c an hour thereafter. The present wages are: 1st 6 months, 35c; 2nd 6 months, 37c; 2nd year, 38c; 3rd year, and thereafter, 40c. They also asked 3c an hour extra in lieu of uniforms, the company to supply caps and badges. The request included a minimum working day of 8 hours, with one hour leeway for completing runs; work over 8½ hours to be paid as overtime; all runs to be completed within 12 consecutive hours; runs on Sundays and holidays to be paid as overtime. All conductors and motormen, who are eligible, to become members of union. On the men's application a board of conciliation was appointed, consisting of F. H. McGuigan, Toronto, representing the company; A. Hooper, Windsor, representing the men, and Judge Wallace, of Oxford County, as chairman, the latter in place of Judge Bowles of Simcoe County, who was unable to act owing to illness.

Winnipeg Electric Railway.—The conductors and motormen, whose agreement will expire shortly, applied recently for the following wages: 1st 6 months, 60c an hour; 2nd 6 months, 65c an hour; 2nd year and thereafter, 70c; Sunday work, 10c an hour extra. The present rates are: 1st 6 months, 39c; 2nd 6 months, 41c; 2nd year, 44c; after 2nd year, 47c. The following requests were also made: Motormen operating cars to which trailers are attached, to receive 5c an hour extra for each trailer; 8 hours to constitute a day's work, overtime to be paid time and a half. Extra conductors and motormen reporting regularly to be paid minimum wage of $25 a week. All conductors and motormen to join employes' union.

Montreal and Southern Counties Ry. Franchise.—The Montreal Administrative Commission has under consideration a proposition for the renewal of the company's contract, by which it obtains an entrance into the city over the Victoria bridge.

Complaint has been made to the Edmonton, Alta., City Council, of the passing of electric current from the Edmonton Radial Ry., at the street railway crossing of 124th St., and the electrifying of the rails of a Canadian Northern Ry. spur, thereby endangering the public.

Municipal Railway Operating Results, Etc.

Calgary Municipal Ry.—T. H. McCauley, Superintendent, in a report on the railway's finances for 1918, is reported to have stated that the total deficit was $34,680.21, which may possibly be decreased when certain credits, etc., have been adjusted. The earnings for the year were the largest the railway has experienced since 1913, although the influenza epidemic and continued fine weather through the winter reduced the daily receipts. While receipts have increased, operating expenses have also gone up, and the 4% tax which was levied June, 1918, by the council totalled $24,667, a considerable portion of the deficit.

Daily receipts increased from $1,594 in 1917 to $1,954 in 1918, although in the same period daily operating expenses increased from $1,590 in 1917 to $2,163.14, an increase of 2.488c a mile, or seven-eighths of a cent a mile.

The line carried 677,781 less passengers in 1918 than in 1917, although, due to an increase of 1/9% in the fares, the total earnings surpassed those of 1917 by $107,124, the largest increase in five years, the total for 1918 being $635,677 and for 1917, $582,553. Against that, operating expenses jumped from $356,096 in 1917 to $441,623 last year. The estimated deficit for 1919 is $10,000.

Port Arthur Civic Ry.—In a report on the public utilities of Port Arthur, Ont., prepared for the Board of Trade by M. M. Inglis, Manager of the city's public utilities, the following particulars are given:—

"The street railway comprises 19.75 miles of track completed as single track within the city limits, and operation extends over the city of Fort William system also. The system has been in operation since 1891, and the following equipment is in use:—22 motor cars, 3 trailers, 1 baggage car, 2 snow ploughs and sweepers. The industrial activity during the past year is reflected in traffic conditions, and more especially when compared with previous years.

Passengers Carried.

	1916	1917	1918
Transfers	341,023	248,970	241,789
Military	159,219	19,569	6,524
Ordinary	101,774	349,271	1,571,057
Work	557,300	335,478	1,398,059
School	71,066	116,195	154,783
City	22,881	27,276	28,293
Dead Head........	7,589	1,137	5,169
Cash	1,487,361	213,588	713,653
Total	2,748,213	3,246,953	4,119,332

"The average fare per revenue passenger for 1918 was 3.87c, and the total car mileage 648,369 miles.

"In making comparisons it should be noted that the fares collected at the boundary of the two cities are included in the above distribution from July 25, 1917, when the new rates of fare came into operation."

The capitalized assets of the public utilities are placed at $3,705,863.86, the street railway representing $956,255.87.

Regina Municipal Ry.—The following figures were reported by the city commissioners of Regina, Sask., to the council, Jan. 31:—

	1917	1918
Regular tickets	$107,090	$ 55,668
Labor tickets	17,231	7,798
Child's tickets	4,137	4,519
Book tickets	18,861	16,303
Employes' tickets	1,006	223
Hospital sold tickets........	....	975
Total tickets	$148,325	$ 85,486
Cash fares	66,749	145,542
Total	$215,074	$231,029
Increase	....	15,955

Commission's Report on New Brunswick Power Co's Franchise, Rates, Etc.

The New Brunswick Legislature in 1918 authorized the appointment of a commission to investigate matters relating to the New Brunswick Power Co, which operates a street railway in St. John and furnished heat light and power to the public. On June 5, 1918, the Government appointed G. W. Currier, Boston, Mass.; H. Holgate Montreal, and Prof. A. S. Richey, Worcester, Mass., as a commission. The commissioners in their report presented recently, say that they appointed Lybrand, Ross Brothers and Montgomery., a firm of accountants, skilled in public service corporation affairs to examine the company's books. After an examination of the accountants' report the commissioners made an interim order increasing the rates for street railway, gas and electric service. These increased rates have been reflected in the company's gross income, but have not been in force for a sufficient time to enable the commissioners to determine with any accuracy the net income which they will produce.

The commissioners, after reviewing the evidence offered by the company and the city, and a careful study of accountants' report, and other reports, arrived at the following conclusions: The original cost of the property of the company which on Jan. 1, was used in the production of railway, gas, electric light and power service was $2,800,000. This does not include $118,000 apparently invested in undeveloped water powers. The present bond issue, $1,750,000 face value, the present issue of first preferred stock, $1,000,000 face value, and the present issue of second preferred stock should be permitted to remain as at present, but the present $2,000,000 of common stock should be reduced to an aggregate par value not exceeding $500,000, which, however, should not be entitled to dividends until a surplus revenue fund of $300,000 has been built up. The control of the company should be vested in a board of directors, 4 to be elected by the company and 3 to be appointed by the New Brunswick Government, the directors to be paid $1,000 a year each, the public directors to be paid by the City of St. John. The directors should fix such rates for railway, electricity and gas service as will meet, but not exceed, the cost of service, as found by a special auditor who should report exery six months. The rates fixed by the interim order are to remain in force until July 1, and thereafter until revised by the directors. The public directors may appeal to the Public Utilities Commission against any rate fixed which is not in accord with the principle of service at cost as laid down. The directors are to determine the extent and character of the services required, and in the case of differences the question should be settled by the Public Utilities Commission, except that in case of a capital expenditure of $25,000 which might endanger the minimum return the company may appeal to the government. The company is to create a depreciation fund of $200,000, at the rate of $75,000 a year, and afterwards at a rate of 7% of the rate base, against which should be charged all renewals, retirements and replacements other than maintenance. The return to the company is to be not less than 6% nor more than 9% on the fixed valuation. The principles upon which this return is to be ascertained are explained in tables appended to the report. The commissioners recommend that no special taxes of any kind should be assessed against the company, and that the acceptance of an act embodying these recommendations should be made to constitute an agreement on the part of the company to sell to the province, or any political subdivision thereof, all its property which may have been included in the rate basis, and its franchise, as a going concern, for an amount of cash equal to the base as determined plus 10% and plus any premium required to retire the bonds. The report adds: "As the company's income will be strictly limited to a reasonable return on its investment, it is not fair, nor is it in the public interest, to expose the company to the hazard of competition, the possibility of which would impair its credit."

A bill was introduced in the New Brunswick Legislature to bring the commission's recommendations into effect. The St. John City Council expressed itself strongly against some of the commission's findings, and consequently to the terms of the bill. The amendments prepared by the council, and laid before a committee of the legislature by a deputation, affected a number of points, the chief being: The bill based on the commission's report fixes $2,800,000 as the rate base and provide that the company shall be entitled to a return of 7% thereon, while the city is given the option of acquiring the company's property at that figure. The city wishes the rate base reduced to $1,850,000, plus 10%, with the option of purchase. The city asks further that the three public directors be appointed by the city council instead of by the N.B. Government; that the clause as to exemption from taxation be eliminated; that snow cleaning be paid for by the company on a basis of $500 a mile of single track a year, and that the company pay a portion of the cost of street surface or pavement maintenance. The bill was discussed at considerable length, but at the time of writing, the question of its amendment had not been settled.

The Ontario West Shore Railway Fiasco.

The Ontario Legislature in 1902 incorporated the Huron, Bruce and Grey Electric Ry. Co. to build a railway, railways or a radial railway system, from Goderich, to serve the three counties named. In 1903 the company's title was changed to the Ontario West Shore Ry. Co., and it was authorized to build additional lines and to issue a portion of its capital as preferred stock. The company has from time to time been granted extensions of time for construction. After some years of negotiating, the local promoters of the company entered into an agreement with a company of which J. W. Moyes, then of Toronto, but whose present whereabouts are unknown, was president, for the building of a line from Goderich to Kincardine. Towards the building of this line the municipalities guaranteed bonds as follows:—Goderich, $150,000; Kincardine, $50,000; Ashfield Tp., $150,000; Huron Tp., $75,000. The total bond issue was for $600,000, and the sale of the guaranteed bonds realized $385,000. Construction was started and up to 1911 there had been laid 16 miles of track, from just outside Goderich toward Kincardine, and materials were on hand for the completion of several additional miles. The construction company could not raise any more money, and the municipalities were called upon to pay interest on the guaranteed bonds. The line was taken possession of subsequently in the interests of the municipalities, and several unsuccessful efforts were made to sell it. There was a government investigation into the financial situation, during which J. W. Moyes disappeared, which resulted in a report showing overpayments on account of construction. The local municipalities made efforts to recover some of this overpayment and to make a sale of the rails, etc. Under this plan there has been realized $135,000, which stands to the credit of T. Stothers, the trustee appointed by the Ontario Legislature for the municipalities in 1913, with the Toronto General Trusts Corporation.

Ontario Legislature Refuses to Penalize London Street Railway.

The Ontario Legislature, in 1918, among other amendments to the Ontario Railway Act, R.S.O., chap. 185, added a section, 260 (a), which is given below. At the legislature's recent session, S. Eilber, M.L.A., introduced a bill to amend section 260 (a), which is reproduced below, both in its original form and as it was proposed to amend it, the proposed amendment being shown in bold faced type.

"260a (1)—The board (Ontario Railway and Municipal Board), for the purpose of enforcing compliance with any order heretofore or hereafter made by it, requiring any railway company, operating a railway or street railway in whole or in part upon or along a highway under an agreement with a municipal corporation, to furnish additional cars or equipment for its service, **or to comply with any regulation contained in any bylaw of a municipal corporation, or to comply with any order or direction of an enginer of a municipal corporation given under the provisions of any bylaw of a municipal corporation,** may order such company to pay to the corporation of the municipality in which the company so operates, a penalty not exceeding $1,000 a day for non-compliance with any such order."

The City of London claimed that when the company reduced its cost service July 1, 1918, that it did so in violation of the city's official requirements, regarding such service, and it would, therefore, seem that the amendment was aimed to enforce such service, the city apparently not wishing to ask for enforcement of the penalties provided for in the bylaws affecting the company. Counsel of the London St. Ry. opposed the bill before the legislature's private bills committee and it was thrown out.

The British Columbia Electric Ry. is applying to the Dominion Government for the approval of plans for the laying of a submarine cable across Victoria harbor, for supplying electrical energy for industrial purposes on the old Songhees Indian reserve.

Marine Department

Canadian Government Merchant Marine, Ltd., Shipbuilding, Operation, Etc.

Orders for Steel Cargo Steamships.—Complete particulars of all orders placed by the Marine Department are given in a full page table on pg. 271 of this issue.

Contracts Signed.—Since Canadian Railway and Marine World for April was published, we have been advised of the signing of two contracts between the Marine Department and the Nova Scotia Steel & Coal Co., for two, 2,800 ton d.w. steel cargo steamships, department contracts 40 and 41, builder's yard nos. 5 and 6 respectively.

Keels Laid.—Since the publication of the table in Canadian Railway and Marine World for April, we have been advised of the laying of keels as follows:—

Contract 17, builder's yard no. 459, Davie Shipbuilding & Repairing Co., Lauzon, Que., 5,100 tons, Mar. 11.

Contract 18, builder's yard no. 460, Davie Shipbuilding & Repairing Co., Lauzon, Que., 5,100 tons, Mar. 28.

Contract 19A, builder's yard no. 41, Port Arthur Shipbuilding Co., 3,400 tons, Mar. 31.

Contract 20A, builder's yard no. 42, Port Arthur Shipbuilding Co., Port Arthur, Ont., 3,400 tons, Mar. 31.

Contract 22, builders yard no. 2, Halifax Shipyards Ltd., Halifax, N.S., 8,100 tons, Mar. 15.

Contract 44, builders yard no. 4, British American Shipbuilding Co., Welland, Ont., 4,350 tons, Mar. 29.

Launchings of Vessels—Two more of the steel cargo steamships under contract were launched during April, as follows:—Apr. 5, department contract 4, builders' yard No. 100, 4,300 tons d.w. capacity, Canadian Volunteer, by Wallace Shipyards, Ltd., Vancouver, B.C., and Apr. 19, department contract 24, builders' yard No. 68, 8,100 tons d.w. capacity, Canadian Ranger, by Canadian Vickers, Ltd., Montreal.

The s.s. Canadian Voyageur arrived at New York, Apr. 4, with a cargo of sugar from Barbados, and, after discharging, loaded a general cargo and sailed from New York, Apr. 17, for St. Kitts, Antigua, Guadeloupe, Martinique and Barbados. From the latter place she will proceed to Cardenas and Matanzas to load a cargo of sugar for Montreal.

British American Shipbuilding Co., Welland, Ont., laid keel for department contract 44, builders yard no. 4, of 4,350 tons, Mar. 29. It expects to lay keel of department contract 45, builders yard no. 5, of 4,350 tons, about the middle of May.

The Canadian Vickers, Ltd., Montreal. The third of the steel cargo steamships to be built by this company for Canadian Government Merchant Marine Ltd., department contract 24, builders' yard no. 68, was launched Apr. 19, and named Canadian Ranger, the ceremony being performed by Mrs. Orr Lewis, wife of the company's president. The Canadian Ranger has a cargo carrying capacity of 8,100 tons d.w., and her dimensions are, length overall, 400 ft., breadth moulded, 52 ft., depth moulded, 31 ft. She is equipped with triple expansion engines of 3,000 i.h.p., for a speed of 11 knots an hour at sea. She is of the 2 deck type, with poop, bridge and forecastle. The contract was signed Oct. 11, 1918, the keel being laid on Nov. 30, 1918, for delivery about June 1. She has been built under special survey, to meet the requirements of Lloyd's 100 A1 classification certificate.

J. Coughlan and Sons, Vancouver, B.C., expect to launch the last steamship for which they have contracts for the British Government during May, and then to lay the keel of one of the four 8,100 ton steamships ordered by the Marine Department for Canadian Government Merchant Marine Ltd.

Davie Shipbuilding & Repairing Co., Lauzon, Que., which has contracts, from the Marine Department, for 2 steel cargo steamships, of 5,100 tons d.w. each, laid the keels as follows: department contract 17, builders yard no. 459, Mar. 11; department contract 18, builders yard no. 460, Mar. 28.

Halifax Shipyards Ltd., Halifax, N.S., laid the keel for department contract 22, builders yard no. 2, of 8,100 tons, Mar. 15. This makes two keels laid ,the first, for department contract 21, builders yard no. 1, 8,100 tons, having been laid Feb. 24.

Nova Scotia Steel & Coal Co., New Glasgow, N.S., which has contracts from the Marine Department for 2 steel cargo steamships of 2,800 tons each, department contracts 40 and 41, builders' yard nos. 5 and 6, laid the keels for both toward the end of March, and expects to complete both ships this year. They will have the following dimensions: Length between perpendiculars, 270 ft.; beam, 38 ft.; depth moulded, 20½ ft.

Port Arthur Shipbuilding Co., Port Arthur, Ont., which laid two keels for 3,400 ton vessels in December, as mentioned previously, laid two more keels, for 3,400 ton vessels, Mar. 31, viz.; Marine Department contract 19A, builder's yard no. 41, and department contract 20A, builder's yard no. 42. It is expected that keels for department contracts 32 and 33, builder's yard nos. 43 and 44, of 4,300 tons each, will be laid early in August. This company has contracts for the Marine Department for four steamships of 3,400 tons and 2 of 4,300 tons.

Wallace Shipyards Ltd., Vancouver B.C.—The fourth of the steel cargo steamships under contract at various yards throughout the Dominion for Canadian Government Merchant Marine Ltd., was launched at this yard Apr. 5, and named Canadian Volunteer, by Lady Hibbert Tupper. The contract for this vessel was signed Mar. 15, 1918, the keel was laid Oct. 1, 1918, the approximate date for delivery being Mar. 31, 1919. The chief delay was occasioned by the British Government requisitioning the boiler furnaces, and had this not occurred, it was the intention to launch the vessel completely equipped, but notwithstanding this, all the machinery was aboard and the pipe connections made. She has a deadweight capacity of 4,300 tons, and is of the single deck type, with poop, bridge and forecastle, built to Lloyd's classification, and for a speed of 11 knots at hour at sea. Full details of the dimensions, etc. of this type of vessel, will be found elsewhere in this issue, in tabular form. Immediately after the launching of this vessel, work was commenced on the keel laying for the Canadian Aviator, 5,100 tons d.w. capacity, department contract 6, builders' yard no. 101, the approximate date for delivery being July 31. The Canadian Trooper, department contract 5, builders' yard no. 106, is well on towards completion, and the launching is expected to take place at an early date. The approximate date for delivery being May 31.

The Status of Dominion Steel Corporation's Chartered Vessels Under Requisition.

At the outbreak of war a number of steamships, which were then under charter for varying periods, were requisitioned by the British Government for war purposes. Since the cessation of hostilities, and the consequent releasing of such vessels by the government, the question has arisen whether the requisitioning of the vessel by the government for war purposes, put an end to its charter, or merely suspended it. As a charterer of numerous vessels, the Dominion Steel Corporation took action recently in England against the British and Chilean Steamship Co., Liverpool, Eng., as owners of the s.s. Wabana, seeking a declaration that the charter-party relating to that vessel, of Oct., 1909, and corrected Jan., 1910, was a valid and subsisting document, and that the owners were under an obligation to place her at the plaintiff's service. The point at issue was whether the charter was brought to an end by the doctrine of commercial frustration, as alleged by the defendant. The s.s. Wabana was under charter for seven consecutive seasons, for the coal traffic on the St. Lawrence, with an option for an extension of three seasons, which option the plaintiff claims to have exercised. At the conclusion of the St. Lawrence navigation season of 1914, the vessel was delivered to the defendant, in accordance with the terms of the charter. She was requisitioned in Apr., 1915, and was released from requisition in Feb., 1919. The defendant claims that the charter-party was no longer in force and that all rights thereunder ceased by reason of the requisition. It was also claimed that the increase in operating costs had destroyed the basis on which the parties had contracted, and changed the circumstances in their contemplation at the date the charter-party was entered into.

The judgment declared that there had been no frustration of the adventure, and the court made the declaration asked for, and granted the plaintiff an injunction. The plaintiff gave an undertaking that no proceedings with regard to the question of the government hire, as against the charter-party hire, would be taken in any Canadian or U.S. courts, the matter being decided in the British courts.

Orders for Steel Cargo Steamships for Canadian Government Merchant Marine Ltd.

The following is a complete list of steel cargo steamships which the Dominion Marine Department has authorized, by order in council, to place orders for, and which orders are to be carried out. Where a contract date is not given the contract had not been signed at the time of our latest official advice.

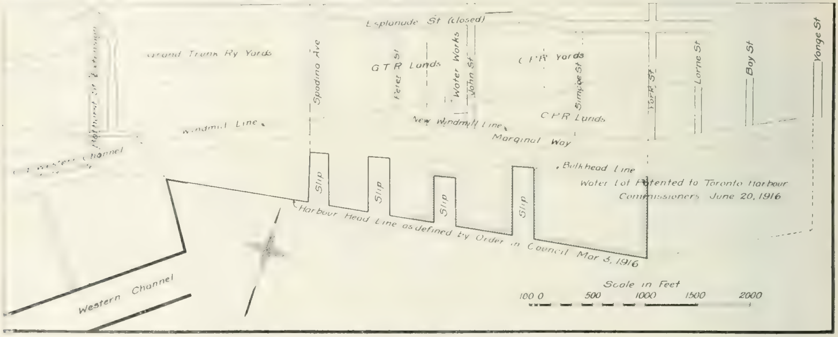
The following contractions are used in the column giving the type of the vessels to be built:—s.d., single deck; 2.d., two deck; 3.d., three deck; lake, lake type; p., poop; b., bridge; f'c's'le, forecastle.

Contract no.	Contract date	Builder	Yard no.	Tons d.w.	Price per ton d.w.	Total price	Type	Classification	Speed, knots	Approximate delivery date	Keel laid	Launched	Name
1	Mar. 4, 1918	Canadian Vickers Ltd., Montreal	66	4,300	$207.	$ 890,100	S.d., p., b. and f'c's'le......	Lloyd's	11	Dec. 31, 1918	June 10, 1918	Nov. 23, 1918	Canadian Voyageur
2	May 22, 1918	" "	67	8,100	180.	1,458,000	2.d., p., b. and f'c's'le......	"	11	Jan. 31, 1918	July 17, 1918	Dec. 3, 1918	Canadian Pioneer
3	May 18, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	61	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	May 1, 1919	....	Dec. 21, 1918	Canadian Warrior
4	Mar. 15, 1918	Wallace Shipyards Ltd., Vancouver, B.C.	100	4,300	207.	890,100	S.d., p., b. and f'c's'le......	Lloyd's	11	Mar. 31, 1919	Oct. 1, 1918	Apr. 5, 1919	Canadian Volunteer
5	Nov. 25, 1918	" "	106	4,300	217.	933,100	S.d., p., b. and f'c's'le......	"	11	May 31, 1919	Nov. 15, 1918	....	Canadian Trooper
6	Nov. 25, 1918	" "	101	5,100	210.	1,071,000	S.d., p., b. and f'c's'le......	"	11	July 31, 1919	....	....	Canadian Aviator
7	Nov. 25, 1918	" "	102	5,100	210.	1,071,000	S.d., p., b. and f'c's'le......	"	11	Sept. 30, 1919	....	....	Canadian Scout
10	July 5, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	62	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	May 15, 1919	June 3, 1918	....	Canadian Recruit
11	Oct. 17, 1918	" "	63	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 15, 1919	....	....	Canadian Signaller
12	Oct. 17, 1918	" "	64	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	....	....	Canadian Gunner
13	Aug. 9, 1918	Tidewater Shipbuilders Ltd., Three Rivers, Que.	5	5,100	200.	1,020,000	S.d., p., b. and f'c's'le......	Lloyd's	11	Aug. 1, 1919	Jan. 8, 1919	....	....
14	Aug. 9, 1918	" "	6	5,100	200.	1,020,000	S.d., p., b. and f'c's'le......	"	11	Sept. 1, 1919	Jan. 10, 1919	....	....
15	Jan. 24, 1919	" "	7	5,100	200.	1,020,000	S.d., p., b. and f'c's'le......	"	11	Nov. 15, 1919	....	....	....
16	Jan. 24, 1919	" "	8	5,100	200.	1,020,000	S.d., p., b. and f'c's'le......	"	11	May 15, 1920	....	....	....
17	Sept. 4, 1918	Davie Shipbuilding & Repairing Co., Lauzon, Que.	459	5,100	200.	1,020,000	S.d., p., b. and f'c's'le......	"	11	Nov. 1, 1919	Mar. 11, 1919	....	....
18	Sept. 4, 1918	" "	460	5,100	200.	1,020,000	S.d., p., b. and f'c's'le......	"	11	Nov. 8, 1919	Mar. 28, 1919	....	....
19	Sept. 4, 1918	Port Arthur Shipbuilding Co., Port Arthur, Ont.	39	3,400	205.	697,000	Lake, s.d., p., b. and f'c's'le	"	9	June 1, 1919	Dec. 9, 1918	....	Canadian Trader
19a	Mar. 1, 1919	" "	41	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Sept. 30, 1919	Mar. 31, 1919	....	....
20	Sept. 4, 1918	" "	40	3,400	205.	697,000	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	Dec. 10, 1918	....	Canadian Sailor
20a	Mar 1, 1919	" "	42	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Oct. 31, 1919	Mar. 31, 1919	....	....
21	Sept. 13, 1918	Halifax Shipyards, Ltd., Halifax, N.S.	1	8,100	195.	1,579,500	2.d., p., b. and f'c's'le......	"	10	Dec. 19, 1919	Feb. 24, 1919	....	....
22	Sept. 13, 1918	" "	2	8,100	195.	1,579,500	2.d., p., b. and f'c's'le......	"	10	Apr. 1920	Mar. 15, 1919	....	....
23	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	73	4,300	215.	924,500	S.d., p., b. and f'c's'le......	"	11	May 27, 1919	Aug. 26, 1918	....	Canadian Navigator
24	Oct. 11, 1918	" "	68	8,100	188.	1,522,800	2.d., p., b. and f'c's'le......	"	11	May 1, 1919	Nov. 30, 1918	Apr. 19, 1919	Canadian Ranger
25	Oct. 11, 1918	" "	69	8,100	188.	1,522,800	2.d., p., b. and f'c's'le......	"	11	June 1, 1919	Dec. 2, 1918	....	Canadian Seigneur
26	Oct. 11, 1918	" "	70	8,100	188.	1,522,800	2.d., p., b. and f'c's'le......	"	11	July 1, 1919	....	....	Canadian Miller
27	Oct. 11, 1918	" "	71	8,100	188.	1,522,800	2.d., p., b. and f'c's'le......	"	11	Aug. 1, 1919	....	....	Canadian Spinner
28	Oct. 11, 1918	" "	72	8,100	188.	1,522,800	2.d., p., b. and f'c's'le......	"	11	Sept. 1, 1919	....	....	Canadian Planter
29	Jan 24, 1919	Victoria Machinery Depot, Victoria, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le......	"	11	Jan. 31, 1920	....	....	....
30	Jan. 24, 1919	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le......	"	11	Nov. 30, 1920	....	....	....
31	Dec. 11, 1918	Collingwood Shipbuilding Co., Kingston, Ont.	15	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	Nov. 1, 1919	....	....	Canadian Beaver
32	Mar 1, 1919	Port Arthur Shipbuilding Co., Port Arthur, Ont.	43	4,300	215.	935,250	S.d., p., b. and f'c's'le......	Lloyd's	10½	Nov. 1, 1919	....	....	....
33	Mar 1, 1919	" "	44	4,300	215.	935,250	S.d., p., b. and f'c's'le......	"	10½	Nov. 15, 1919	....	....	....
34	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	11	8,100	198.	1,603,800	2.d., p., b. and f'c's'le......	"	11	July 31, 1919	....	....	....
35	Nov. 22, 1918	" "	12	8,100	198.	1,603,800	2.d., p., b. and f'c's'le......	"	11	Aug. 31, 1919	....	....	....
36	Nov. 22, 1918	" "	13	8,100	198.	1,603,800	2.d., p., b. and f'c's'le......	"	11	Sept. 30, 1919	....	....	....
37	Nov. 22, 1918	" "	14	8,100	198.	1,603,800	2.d., p., b. and f'c's'le......	"	11	Oct. 31, 1919	....	....	....
38	Dec. 16, 1918	Halifax Shipyards Ltd., Halifax, N.S.	3	10,500	197½	2,073,750	3.d., p., and f'c's'le.......	"	12	Aug. 1, 1920	....	....	....
39	Dec. 16, 1918	" "	4	10,500	197½	2,073,750	3.d., p., and f'c's'le.......	"	12	Nov. 1, 1920	....	....	....
40	Mar 31, 1919	Nova Scotia Steel & Coal Co., New Glasgow, N.S.	5	2,800	210.	588,000	S.d., p., b. and f'c's'le......	"	8½	Oct. 1919	Mar., 1919	....	....
41	Mar 31, 1919	" "	6	2,800	210.	588,000	S.d., p., b. and f'c's'le......	"	8½	Nov. 1919	Mar., 1919	....	....
42	Feb 21, 1919	Prince Rupert Dry Dock and Engineering Co., Prince Rupert, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le......	"	11	Feb. 1920	....	....	....
43	Feb 21, 1919	" "	2	8,100	198.	1,603,800	2.d., p., b and f'c's'le......	"	11	June 1920	....	....	....
44	Jan 23, 1919	British American Shipbuilding Co., Welland, Ont.	4	4,350	215.	935,250	S.d., p., b. and f'c's'le......	Brit. Corp.	10	Nov. 1919	Mar 29, 1919	....	....
45	Jan 23, 1919	" "	5	4,350	215.	935,250	S.d., p., b. and f'c's'le......	"	10	June 1920	....	....	....
				263,850		$52,691,450							

Toronto Harbor Improvements for 1919.

The amount involved in the Toronto Harbor Commissioners' improvement programme for this year is approximately $3,300,000, of which, about $2,000,000 will be expended, provided satisfactory arrangements can be made for the disposal of the commissioners' bonds.

It is intended to continue the industrial harbor development easterly from where it now ends between John St. and Spadina Ave., through to York St., and to reclaim about 90 acres of additional property for industrial purposes, and possibly some park reclamation work will be undertaken. This latter work is to a great extent dependent on the completion of the breakwater, which is being undertaken by the Dominion Government, but it is the intention to top dress and complete the park area between Sunnyside and the Humber River, as far as possible.



Toronto harbor improvement, location plan, harbor headwalls.

It is expected that the Dominion Government will complete about 4,400 ft. of cribwork on the western breakwater, and also the turning basin in the eastern section of the harbor, which will provide for about 4,000 ft. of dock wall, with concrete superstructure, and it will also finish what is known as the circulating channel, which will provide for dockage construction for another 1,800 ft. of sea wall.

The Harbor Commissioners have awarded three contracts, to Russell and Roddick, R. Weddell and Son, and Port Arthur Construction Co., jointly, for the construction of approximately 5,200 lin. ft. of harbor head wall, which is to form the piers and slips of the new harbor. Development from Peter to York Sts., as shown by the shaded lines on the accompanying plan. The type of construction will be rock filled timber cribs and concrete superstructure. The work will be started as soon as the material can be procured, and is expected to be completed in about eight months of working weather and will represent an approximate expenditure of $900,000.

A 125 ft. barge has been built as an experiment, in which all the plates were joined by electric-welding, a saving of about 20% resulting, over riveted barges.

Coasting Privileges for Canadian Vessels Rescinded by United States.

W. F. Nickle, M.P., asked in the House of Commons April 3, if the Government's attention had been directed to the fact that the United States authorities have discontinued the practice of granting licenses to Canadian vessels to engage in coasting trade within the U.S., and, if so, what steps the Government were taking in the matter?

The acting Minister of Trade and Commerce replied: "Yesterday the member for Kingston transmitted to me a telegram from one of the Dominion Marine Association's officials indicating that licenses had been refused permittting Canadian steamships to engage in the coasting trade in the U.S. In order that I might learn the actual facts I immediately transmitted the following message to the Chairman, United States Shipping Board:

"'Will be obliged if you will inform me officially by wire of reasons why applications made by Canada Steamship Lines for permission Canadian steamships J. H. G. Hagarty and W. Grant Morden engage in U.S. coasting trade Great Lakes refused.' The department has not yet received any reply to this communication. If it should transpire that Canadian shipping has been refused permission to engage in the coasting trade of the U.S., it will be quite proper for Canada to immediately cancel the like privileges granted to U.S. shipping in Canadian waters."

On April 8, the acting Minister of Marine said: "I have received the following message from Washington: 'Advices from our lakes representative indicates apparent scarcity business on lakes for American ships for this season. Coastwise permits are now almost invariably declined on Atlantic and Pacific coasts, only exceptional situation warranting departure from this policy.'

"By order in council the Minister of Customs is permitted to grant coasting privileges to U.S. shipping in Canadian waters. The order in council, which is dated the 5th February, 1918, provides that 'during the period of the war, until otherwise ordered the Minister of Customs may, under conditions specified by him, authorize collectors of customs to issue licenses permitting vessels of the U.S. of America to engage in the coasting trade of Canada.'

"Inasmuch as the U.S. now declines to confer the privileges upon Canadian vessels engaged in their coasting trade, it is contemplated that no further licenses be granted to U.S. shipping for coasting trade in Canadian waters except under very exceptional circumstances. This will place our policy in this regard on a parity with that of the U.S."

In reference to the foregoing we are advised that licenses were refused this year to Canadian ships applying to the United States for permits to coast, and on enquiry at Washington, it was stated that the Lake Carriers' Association (a U.S. organization), considering that its members could handle the traffic themselves, had recommended, accordingly and that the Shipping Board had endorsed the recommendation with the result named. The Dominion Marine Association then made representations to Ottawa, resulting in enquiries by the government to the authorities at Washington, and a report in reply on the line above mentioned, with the result that the Dominion Government decided upon the measure of reciprocity possible under the circumstances. Accordingly, permits are to be refused to ships applying for leave to carry coastwise in Canada. At least one application has been refused already. The Dominion Marine Association had not the slightest objection to a continuance of the reciprocal arrangements extended by both nations and the present action results entirely from the unexpected move in the U.S., which seems to have surprised the Dominion Government as much as it did the Dominion Marine Assocation.

The Ottawa Salvage Co., Ltd., has been incorporated under the Dominion Companies Act, with $50,000 authorized capital and office at Ottawa, Ont., to rescue persons endangered through distress of weather or vessel, by wreck or other calamity, and to rescue from danger, or salve when wrecked, vessels and their contents, on waters in the Dominion and elsewhere, and to salve vessels and other materials abandoned in such waters or having no known owner.

Cargo Steamship Building in Canada for British Government.

Steamships Launched and Under Construction.—We were officially advised Apr. 15, that no launchings had taken place since Mar. 15, a complete list of which was given in our last issue. At that date, there had been launched, 32 steel steamships, 157,100 tons, and 45 wooden steamships, 138,600 tons, a total of 77 steamships, with an aggregate tonnage of 297,700.

Following is a list showing the other vessels in process of construction, giving the builders' names, the names which will be given the various vessels, and the deadweight capacity of each:

Steel Steamships.

Builder.		**Tons d.w.**
British American Shipbuilding Co. Welland, Ont.		
	War Racoon	3,500
Canadian Allis-Chalmers, Ltd., Bridgeburg, Ont.		
"	War Vixen	3,500
"	War Wallaby	3,500
"	War Wombat	3,500
J. Coughlan & Sons, Vancouver, B.C.		
"	War Chariot	8,800
"	War Column	8,800
"	War Company	8,800
Midland Shipbuilding Co., Midland, Ont.—		
"	War Magic	3,100
"	War Fury	3,400
Polson Iron Works, Ltd., Toronto, Ont.		
"	War Algoma	3,500
"	War Halton	3,500
	11 steel steamships	54,200

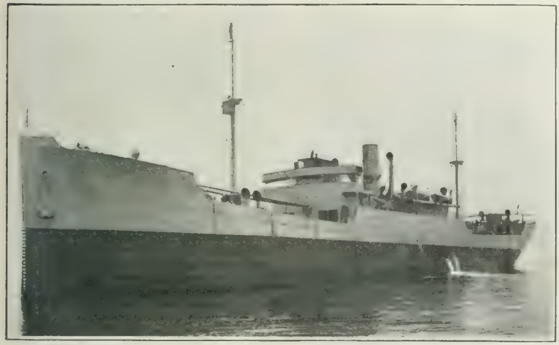
Wooden Steamships.

Grand & Horne, St. John, N.B.		
	War Moncton	3,080

Total 11 steel steamships, 1 wooden steamship, 57,280 tons.

Sales of Vessels.—Several of the steamships which have been built in Canada, under orders from the Imperial Munitions Board, for the British Government, are reported to have been sold to various parties, chiefly in Great Brtain, and at least to one in the U.S. While we have received no official confirmation of such sales, they are in general conformity with the policy announced by the British Government. Had the war continued, it was the intention to continue the policy of assigning these vessel to various companies for operation on the government's behalf, but the cessation of hostilities, and the government's decision to return requisitioned vessels to their owners, also brings into effect the decision to sell such vessels as had been built on government account.

The s.s. War Selkirk, built by Western Canada Shipyards, Vancouver, and the War Yukon, built by Cameron Genoa Mills Shipbuilders, Victoria, B.C., are reported sold to the London Transport Co., London, Eng. They are both wooden ships. The s.s. War Convoy, built by J. Coughlan & Sons, Vancouver, is reported to have been sold to G. T. Williams and associates, of New York, for over $1,500,000. She was launched Dec. 18, 1918, and underwent her trial trips Mar. 17, 1919, maintaining a speed of 12.50 knots over a 6 mile course. She is of steel, with a deadweight capacity of 8,800 tons.



Steel Cargo Steamship, War Convoy,
8,800 tons d.w., built for British Government by J. Coughlan & Sons, Vancouver, B.C.

"Lame Ducks" Story Contradicted.—With reference to a dispatch from St. John's, Nfld., to the effect that that port was a haven for "lame ducks" built through the Imperial Munitions Board for the British Government overseas traffic, an official of the board is reported to have made the following statement at Halifax, Apr. 4.—"The Imperial Munitions Board has approximately 100 steel and wooden ships during the past year in Canada. The two wooden ships mentioned are the only ones on voyage from Eastern Canada to the United Kingdom, that have put into port for repairs. Owing to the early close of navigation in the St. Lawrence last year, it was necessary to send several wooden ships to Halifax in an incomplete condition. These vessels have been completed and all except two have already arrived at British ports and the remaining two will sail next week. It is noted, however, that these ships did not come to Halifax for repairs, but to be completed, thus saving time, which would have been lost, if the work had been done in the St. Lawrence. Of the two vessels at St. John's, one sailed from Quebec and put into that port with slight boiler defects. This vessel should have sailed along with the others, except for the wretched laboring conditions existing, and contrary to the misstatement of the correspondent, excellent reports regarding the construction of this vessel have been received from the St. John's Lloyd's surveyor and the drydock officials. Regarding the second vessel, the statement is that she took 17 days for the voyage from Halifax to St. John's. She was well on her way across the ocean, but returned owing to a steering chain breaking in heavy weather, which might have happened to any ship. With regard to the correspondent's suggestion that these vessels are not suitable for trans-Atlantic trade, they were not intended for it when designed, but for short voyages between British and French ports, for which purposes they are very well suited. The statement that the first vessel had to have her cargo unloaded at Halifax is incorrect. The suggestion that three of them have foundered is also incorrect, as all have arrived safely in England, after a North Atlantic passage in the worst time of the year, and have continued in service since.

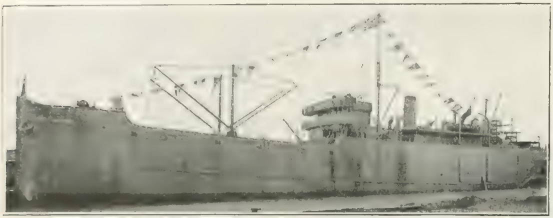
"The statement of Capt. Martin, of the War Ontario, an old Donaldson Line skipper, is of interest in reference to the voyage across of these vessels. He states that never in all his experience has he encountered such heavy weather. For three days he was hove to in a south-east hurricane, with mountainous seas, while the weather throughout the voyage was exceedingly severe. Notwithstanding this condition the vessel made the passage to Queenstown in 16 days, and he further states that he did not ship a cup of water during the whole time. In view of these facts it does not seem justified that the two vessels should be singled out for mention on which to hang a tale of woe, concerning one of

Steel cargo steamship, War Leveret, 3,500 tons d.w., for British, immediately after launching by Canadian Allis-Chalmers Ltd., at Shipyard, Welland County, Ont.

Canada's native industries, that of wooden shipbuilding."

"There are five vessels at Quebec completed, ready to sail, and will do so as soon as the ice is cleared. There is also one at St. John's, which will be ready about July and one at Toronto. These ships will complete the entire wooden shipbuilding programme of the Imperial Munitions Board in Canada."

Canadian Allis-Chalmers Ltd., Bridgeburg, Ont., which has orders for 4 steel cargo steamships, of 3,500 tons each, for the British Government, launched the first one, War Leveret, Mar. 3. An illustration of her is given in this department.



Wooden Cargo Steamship, War Ontario,
3,080 tons d.w., built by Toronto Shipbuilding Co. for British Government.

The second one, to be named War Vixen, was expected to be launched in April. Work has started on the two last, which will be named War Wallaby and War Wombat. Considerable difficulty is reported in dealing with the labor situation, owing to lack of housing, in the vicinity of the yards, and the Ontario Housing Commission is reported to have been appealed to for assistance in the matter.

J. Coughlan and Sons, Vancouver, B.C.—The seventh of the 9 steel steamships of 8,800 tons d.w. capacity, built for the British Government under orders from the Imperial Munitions Board, was expected to be launched about Apr. 26, and named War Column. The eighth will probably be launched about the end of May, and named War Company. The s.s. War Cavalry was expected to be ready for her trials at the end of April.

Grant and Horne, St. John, N.B.—The s.s. War Fundy, an illustration of which is given in this issue, is one of the two wooden steamships ordered from this firm by the Imperial Munitions Board for the British Government. The keel was laid Aug. 13, 1917, but owing to delays in getting suitable timber, the frames were not all erected before the end of November. All the main deck beams were in place by the beginning of Mar. 1918, and the deck was laid by the middle of April. The hull was complete, including the hatches, main deck houses, and bridge, together with the winches and some of the machinery, when she was launched on Aug. 24. The boilers and engines were installed by the Union Foundry Co., under the superintendence of an official of the board. The trial trip was made Feb. 17, 1919, a run of 4 knots being made just outside the harbor in 22 minutes, indicating a speed of 10.9 knots, currents being negligible. In running over a land measured course of 15 knots, a speed of 10.5 knots through the water was attained, allowing for an average current of 1½ knots, the estimated speed from engine revolutions being 11.1 knots. The vessel was handed over to the owners Feb. 28, for loading with cargo for a British port.

Southern Salvage Co., Liverpool N.S.—The s.s. War Halifax, which was launched Sept. 21, 1918, loaded lumber at Halifax, early in April, for Great Britain.

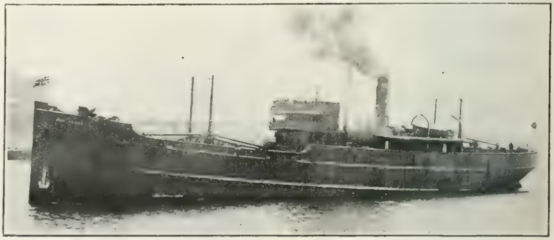
Canadian Pacific Railway's Atlantic and Pacific Fleet.

The C.P.R. directors' report, for the year ended Dec. 31, 1918, contains the following paragraph: At the outbreak of hostilities your company had in commission in Atlantic and Pacific service, 38 steamships, with an aggregate gross tonnage of 342,000 tons. Since Aug., 1914, the construction of 4 steamships previously authorized, having a gross tonnage of 54,000 tons, has been completed, and 12 steamships of 69,000 gross tonnage have, in the same period, been purchased. During the war 15 steamships were lost by enemy action or through accidents at sea, and 9 have been sold to the British Admiralty after having been requisitioned. The construction at the yards of the Fairfield Shipbuilding Co. of a ship 625 ft. long between perpendiculars, having a gross tonnage of 21,000 tons, is to be proceeded with, pursuant to the authorization previously given, and three passenger ships, of what is known as the intermediate class, for Atlantic service, two of which have been previously authorized, will be put under construction as soon as possible at the yards of John Brown & Son and the Fairfield Shipbuilding Co. At the end of the fiscal year your company had in ocean service 28 steamships having a gross tonnage of 264,000 tons, and 6 steamships under order or purchased but not delivered having a gross tonnage of about 80,000 tons. On their delivery the total tonnage of the fleet will be slightly in excess of aggregate tonnage of the vessels in commission on Aug. 3, 1914.

The 15 steamships mentioned in the report as having been lost through enemy action, or accidents at sea, are as follows: Through enemy action,—Calgarian, 17,515 gross tons; Carthaginian, 4,444 tons; Ionian, 8,268 tons; Hesperian, 10,920 tons; Lake Michigan, 9,288 tons; Milwaukee, 7,323 tons; Montreal, 8,644 tons; Mount Temple, 9,792 tons; Montford, 6,578 tons; Missanabie, 12,469 tons; Medora, 5,135 tons; Miniota, 4,928 tons; Pomeranian, 4,421 tons; through accidents at sea, Corinthian, 7,333 tons; Lake Manitoba, 9,674 tons.

The 9 steamships sold to the British Government, are Montezuma, 8,360 tons; Montcalm, 5,505 tons; Montrose, 7,207 tons; Mount Royal, 7,998 tons; Mongolian, 4,838 tons; Numidian, 4,836 tons; Ruthenia, 7,208 tons; Tyrolia, 7,535 tons. The s.s. Empress of India was purchased by Indian princes and presented to the British Government for use as a hospital ship. Her gross tonnage is 5,934. The total tonnage lost through enemy action and other causes, is 126,552, and the tonnage sold is 59,421, a grand total of 185,973 gross tons.

Vessels purchased during the war are as follows: Botsford, 4,782 tons; Dunbridge, 6,650 tons; Holbrook, 6,655 tons; Montezuma, 5,038 tons; Montcalm, 6,542 tons; Medora, 5,135 tons; Mattawa, 4,874 tons; Miniota, 4,928 tons; Methven, 4,852 tons; Mottisfont, 5,692 tons; War Beryl, 10,800 tons; War Peridot, 10,800 tons. Vessels built and added to the fleet during the same period are: Missanabie, 12,469 tons; Metagama, 12,420 tons; Melita, 13,967 tons; Minnedosa, 15,000 tons. The total tonnage of vessels purchased was 76,748 tons, and of those built, 53,856 tons, a grand total of 130,604 gross tons. There are now 4 steamships under construction, with a gross tonnage of 67,000.



Wooden cargo steamship, War Fundy, 3,080 tons d.w., built for British Government by Grant & Horne, St. John, N.B.

Editor's Note.—It will be noticed that the name Montcalm appears both in the list of vessels sold and purchased. They are two distinct vessels.

Alex. Johnston, Deputy Minister of Marine, before leaving Vancouver, for the east, Apr. 10, is reported to have stated that there is no reason why Vancouver, as a port, cannot capture a large portion of the business now going to U.S. ports, and that he would urge on the government the importance of immediate action in the development of the port.

General Shipbuilding Matters Throughout Canada.

Fraser, Brace Shipyards Ltd., Montreal, which has a contract for 8 wooden steamships for the French Government, laid the keels as follows: 3 on Oct. 3, 1918; 3 on Nov. 9, 1918; 1 on Dec. 3, 1918, and 1 on Jan. 22, 1919. One hull was launched Feb. 19, two others Feb. 28, and they expected to launch the remaining five in May.

Foundation Co., Victoria, B.C.—The third of the twenty, 3,000 ton d.w. wooden steamships which this company is building for the French Government was launched Apr. 10, and named Mulhouse, by Mrs. John Hart, wife of the B.C. Finance Minister, who was presented with a gold vanity case, by the builders.

Jos. McGill Shipbuilding Co., Shelburne, N.S., is reported to have four vessels under construction, a beam trawler to cost approximately $300,000, two fishing schooners, and a 300-ton freight vessel.

New Westminster Construction and Engineering Co., New Westminster, B.C.—The third of the five 1,500 ton d.w. wooden steamships which this company is building for the French Government, was expected to be launched about the end of April, or early in May. The first two vessels, named respectively Victoria and Frontenac, are expected to be ready for sea early in May, provided delivery of certain equipment can be obtained in time.

Nova Scotia Shipbuilding and Transportation Co., Liverpool, N.S., launched the schooner Faustina Apr. 8, for J. F. Creaser Co., La Have, N.S., and John Penny, Newfoundland. The keel was laid early in January. Her dimensions are, length, 117 ft. overall; breadth, 26 ft.; depth of hold, 12½ ft.; net tonnage, 150.

Polson Iron Works Ltd., Toronto—As stated in Canadian Railway and Marine World for April, the Ontario Supreme Court made an order Mar. 19 to wind up this company, and appointed G. T. Clarkson, of Toronto, as liquidator. On Apr. 9, Mr. Clarkson notified the creditors that the company entered into a contract in Nov., 1917, with Christopher Hannevig of Christiania, Norway, and New York, N.Y., to build 2 steel cargo steamships during 1918 for $735,000 each, but if they were not delivered until 1919 the price would be reduced to $665,000 each. Little or no work, except the laying of the keels, has been done on these ships, but the company has on hand materials therefor which cost about $335,000, viz.: steel bought for ships, $150,000, other steel allocated to them, $35,000, engines, boilers and other equipment in process of manufacture, $150,000. Steel has dropped in price about 30% since the purchases referred to were made, and it is questionable whether more than $180,000 could be obtained from the products on sale. Against the materials bought, Mr. Hannevig has advanced $568,000 to the company, an over payment of $233,000. Mr. Hannevig having expressed his willingness to release all claims against the company's estate, if it will transfer the materials on hand, including the keels, to him, the liquidator recommended that the offer be accepted, stating that if this was not done and the estate retained the materials, there would be little or no chance of completing the ships in 1919, and Mr. Hannevig would have an additional and substantial claim for damages. The estate, with its encumbrances and liabilities, is not in a position to finance for the completion of the ships, and to do so under present conditions, including those of labor, might mean a risk which would be costly to the creditors. It was decided at a creditors' meeting on Apr. 12 to act on the liquidator's recommendation.

At the same meeting, it was reported that the company had contracts from the Imperial Munitions Board for 6 steel cargo steamships for the British Government, one of which had been delivered. Counsel advised that the other 5 belonged to the board absolutely, but the board, which had already paid almost as much as the contract price, had agreed to advance the money necessary to complete them probably $600,000, to waive any claim for damages and to rank with the unsecured creditors for any money it might be necessary to advance.

Steel Cargo Steamship, War Noble.
8,800 tons d.w., built for British Government by J. Coughlan & Sons, Vancouver, B.C.

The liquidator submitted the following statement of the estate's position, consequent on the acceptance of Mr. Hannevig's offer.

Liabilities.		
Trade		$ 100,000
Damages, etc		75,000
Imperial Munitions Boards, say		600,000
		$1,075,000
Assets.		
Real estate, plant and general assets		$1,000,000
Less.		
Bonds	$292,000	
Preferred claims	100,000	
Taxes and rent	25,000	$417,000
		$583,000

Probable dividend, about 54%.

Prince Rupert Drydock and Engineering Co., Prince Rupert, B.C.—Newman Erb, of New York, president of this company, who visited Prince Rupert during April, to inspect the plant, is reported to have said that work on the two 8,100-ton steel steamships for the Canadian Government Merchant Marine Ltd., will be pushed along, as soon as the material, which has been ordered, is received, and this should necessitate the employment of a considerable number of men for 18 months or two years. As the business develops, it is the intention to enlarge the shipbuilding plant considerably.

W. D. Sweeney, Yarmouth, N.S., launched the s.s. Glenholme, Apr. 16, for the St. John Steamship Co. Her dimensions are, length, 188 ft., overall; 96 ft. on keel; breadth, 30 ft. 5 ins.; depth, 12 ft., approximately 140 tons. She is intended for coastal service in the Bay of Fundy, between St. John and Minas Basin.

N. Tessier, Hull, Que., is building a steamboat for the Chats Falls Navigation Co., Ottawa, for service between Britannia on the Bay, and Fitzroy Harbor, as mentioned in our last issue. She will be 90 ft. long, 19 ft. beam, with a hangover of 1 ft. on each side. The engine and boiler were installed during April, and it is expected that she will be ready for operation by June.

The Future of Shipbuilding in Canada.

Since the signing of the armistice treaty, and the practical cessation of hostilities, the principal item of general discussion has been, the resumption of the normal, at least so far as business and general trading are concerned. On account of the comparatively great expansion of shipbuilding in the Dominion, this particular business is receiving a great amount of attention, and various modes of treatment are being recommended in order to foster the growth of the industry, which, it must be admitted, is carried on to some disadvantage, as compared with some other countries. The following statement by one of the leading Canadian shipbuilding firms, puts the matter succinctly, and gives scope for argument as to the means to achieve the desirable end:

"The general opinion in circles where the experts foregather is that Canada can, should and must, build ships. It is argued that she can build them profitably, that she should build them to foster the new industry in which millions of dollars of capital and approximately 25,000 persons are interested, and that she must build ships to hold her place as a great manufacturing and agricultural country with a huge surplus to export every year. It is not generally realized that something like four-fifths of the shipping using Canadian ports is owned outside of this country; and built outside of it. That means that the money spent in building vessels, and the money they earn after they are built, all goes out of Canada. As to the argument of cheaper production, that is entirely exploded, when the question of the operation of the ships and the retention of the earnings in this country is taken into consideration. It is reported that it is not possible to place a contract in any British yard for delivery during 1919."

The Dominion Marine Association has added to its membership recently, the Webster Steamship Co., Montreal; the Geo. Hall Coal Co. of Canada, Montreal, and the Union Steamship Company of British Columbia, Vancouver.

Harbor, River and Graving Dock Estimates for 1919-1920.

The Public Works Department estimates for the year ending Mar. 31, 1920, [illegible] to the House of Commons [illegible], [illegible] the following items, among others, chargeable to capital:—

HARBOR AND RIVERS

[illegible] W[illegible]am [illegible] improvements	$ [illegible]00,000.00
[illegible] improvements	7[illegible]0,000.00
S[illegible] improvements	[illegible]00,000.00
	$1,[illegible]0,000.00

The following public works items (Marine Department) are chargeable to capital.

River St. Lawrence ship channel	$ 178,000.00
[illegible] and completion of dredging [illegible] St. Lawrence River [illegible] to Father Point	68,900.00

The following items for harbors and rivers are chargeable to income:—

NOVA SCOTIA

A[illegible] and groyne	$ 800
A[illegible] repairs to wharf	3,000
B[illegible] repairs to pier	1,300
B[illegible] repairs to wharf	3,000
B[illegible] wharf	1,800
C[illegible] Cove breakwater wharf	6,200
C[illegible] Point repairs to wharf	2,000
D[illegible] repairs to wharf	1,000
D[illegible] Cove repairs to wharf	2,000
D[illegible] to breakwater	10,000
D[illegible]	3,000
E[illegible] wharf extension	650
E[illegible] repairs to wharf	3,500
F[illegible] completion of wharf	1,700
F[illegible] repairs to wharf	1,200
[illegible] repairs to breakwater ap[illegible]	1,270
[illegible] wharf extension	1,200
G[illegible] beach protection	1,000
G[illegible] repairs to wharf	1,000
Harbors and rivers generally, repairs and improvements	60,000
[illegible] wharf extension	2,800
[illegible] harbor improvements	18,000
J[illegible] repairs to protection work	1,000
L[illegible] Cove to repair and strengthen wharf	4,600
M[illegible] Cove repairs to wharf	1,250
M[illegible] repairs to breakwater	1,500
M[illegible] River breakwater repairs and improvements	2,000
M[illegible] repairs to wharf	3,300
N[illegible] Harbor repairs to breakwater wharf	1,100
N[illegible] of wharf	1,200
N[illegible] West Cove [illegible] repairs to wharf	4,000
P[illegible] repairs to breakwater	1,000
P[illegible] wharf repairs and extension	7,000
P[illegible] repairs to wharf	4,000
S[illegible] repairs to wharf	1,200
S[illegible] Cove to repair and strengthen [illegible]	5,700
S[illegible] improvements	1,000
S[illegible] Point breakwater [illegible]	8,400
[illegible] breakwater extension	2,100
[illegible] wharf extension	5,760
[illegible] repairs to [illegible]	1,000
[illegible] repairs to breakwater	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible] improvements	[illegible]
[illegible]	[illegible]
[illegible]	1,[illegible]
	[illegible]

PRINCE EDWARD ISLAND.

[illegible]	$ [illegible]
[illegible] improvements	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible] wharf	[illegible]
[illegible]	[illegible]
South Cardigan, repairs to wharf	500
Wood Islands, repairs to breakwaters	1,000
	$ 67,450

NEW BRUNSWICK.

Back Bay, wharf repairs and improvements	1,700
Bathurst, repairs to wharf	2,000
Beaver Harbor, repairs to wharf	1,200
Buctouche, repairs to wharf	2,000
Campbellton, repairs to wharves	7,000
Cape Bald, repairs to breakwater pier	3,200
Chockfish, to repair breakwaters	1,200
Dalhousie, repairs to wharf and breakwater	750
Fort Dufferin, reconstruction of breastwork	18,000
Grand Anse, repairs to breastwork and groyne	1,500
Harbors and rivers generally, repairs and improvements	65,000
Leonardville (Deer Island), repairs to wharf	1,670
Mizzenette, wharf repairs and improvements	3,000
Moncton, repairs to wharf	1,500
Negro Point, breakwater repairs	15,000
Neguac, to complete repairs to wharf	4,700
Oak Point, repairs to wharf	3,000
Oromocto, repairs to wharf	1,300
Petit Rocher, repairs to breakwater	9,000
Portage River, breakwater repairs and improvements	1,000
Richibucto Beach, breakwater repairs and improvements	1,250
Shippigan Gully, repairs to breakwaters	17,000
Stonehaven, breakwater improvements	1,600
Tracadie Beach, breastworks	1,000
Tynemouth Creek, to repair and reconstruct breakwater	5,800
	$ 173,370

QUEBEC.

Anse a Beaufils, improvement of channel	2,500
Anse aux Gascons, wharf	36,000
Anse au Griffond, repairs to jetty	1,000
Anse St. Jean, repairs to wharf	1,500
Baie St Paul, repairs to wharf	2,500
Batiscan, wharf repairs and improvements	2,850
Beloeil, repairs to protection pier	3,700
Berthier (en bas), repairs to wharf	18,600
Cabano, repairs to wharf	1,600
Cap St. Ignace, repairs to wharf	1,000
Cap de la Madeleine, repairs to wharf	1,000
Champlain, repairs to wharf	3,000
Cote. Ste. Catherine Wharf, repairs and improvement	2,000
East Templeton, repairs to wharf	900
Esquimaux Point, wharf improvements	2,700
Fabre, repairs to wharf	1,100
Father Point, repairs to wharf	600
Fort William, wharf repairs and improvements	3,000
Garthby, repairs to wharf	1,200
Gaspe Basin, wharf improvements	3,300
Grondines, wharf repairs and improvements	850
Grosse Isle Quarantine Station extension of wharves	50,000
Grosse Isle, repairs to wharf	6,500
Grosse Roche, repairs to wharf	800
Harbors and rivers generally, repairs and improvements	75,000
Hudson, to complete reconstruction of wharf	1,350
Ile aux Grues, repairs to wharves	2,100
Isle Verte, repairs to wharf	1,100
Laprairie, rebuilding of ice breaker	1,800
Laprairie, protection works, maintenance and repairs	11,000
Les Eboulements, repairs to wharf	3,800
Les Escoumains, repairs to wharf	1,400
Lotbiniere, repairs to wharf	2,900
M[illegible], reconstruction of wharf	22,000
Malbaie, Gaspe Co., repairs to wharf	2,500
Matane, to complete repairs to wharf	1,000
Mont Louis, repairs to wharf	700
Montmagny, repairs to wharf	2,000
Murray Bay, repairs to wharf	2,100
Norway Bay, repairs to wharf	1,700
Notre Dame du Portage, repairs to wharf	1,500
P[illegible], repairs to wharf	1,300
P[illegible], repairs to wharf	1,500
Pointe [illegible], repairs to breakwater-wharf	3,600
Pointe aux Trembles, repairs to wharf	7,800
Pointe Fortune, construction of wharf	2,600
Pointe Platon, Ste. [illegible], repairs to wharf	16,000
Richmond, reconstruction of ice breaker	13,300
Rimouski, harbor improvements	69,000
Riviere du Loup (en bas), repairs to wharf	2,400
Riviere Ouelle, repairs to wharf	1,200
St. Alphonse, repairs to wharf	3,300
St. Andre de Kamouraska, repairs to wharf	1,100
Ste. Anne de Beaupre, wharf repairs and reconstruction	39,000
Ste Anne de Chicoutimi, repairs to wharf	1,750
St. Emelie, repairs to wharf	600
Ste. Famille, wharf repairs and reconstruction	17,000
St. Fulgence, repairs to pier	1,000
St. Ignace de Loyola (north), repairs to wharf	4,400
St. Irenee, repairs to wharf	2,100
St. Jean d'Orleans, repairs to wharf	35,000
St. Jean Port Joli, repairs to wharf	1,300
St. Laurent, Island of Orleans, repairs to wharf	15,000
St. Michel de Bellechasse, repairs to wharf	53,600
St. Paul, Ile aux Noix, repairs to wharf approach	1,700
St. Pierre les Becquets, repairs to wharf	2,000
St. Simeon, wharf repairs and improvements	1,300
St. Sulpice, repairs to wharf	1,200
St. Zotique, wharf reconstruction and repairs	3,100
St. Joseph de Letellier, repairs to wharf	1,200
Stratford Center, repairs to wharf	1,200
Sorel, repairs to ice piers	4,500
Trois Pistoles, repairs to wharves and breakwater	3,700
Vercheres, wharf	10,000
Verdun, repairs to wharf approach	1,700
	$ 610,700

ONTARIO.

Bayfield, repairs to pier	$ 3,800
Belleville Harbor, improvements to wharf and warehouse	1,000
Burlington Channel, repairs to pier	23,900
Burlington, in final settlement of all claims of Hutchison & Latimer in connection with contract for revetment wall	2,000
Cobourg, repairs to piers	26,800
Connaught Station, wharf	4,900
Cornwall, new wharf	5,000
Fighting Island, Detroit River, dredging	60,000
French River dams, repairs and maintenance	3,000
Goderich, repairs to docks	2,700
Grand Bend, repairs to piers	1,250
Haileybury, repairs to wharves	1,400
Harbors and rivers generally, repairs and improvements	65,000
Hilton, repairs to wharf	1,300
Huntsville, repairs to wharf	840
Kagawong, wharf	9,000
Kincardine, repairs to piers	2,400
Kingston, maintenance and operation of combined roadway wharf and bridges	11,300
Kingston, harbor improvements	7,000
Kingston, repairs to R.M.C. dock	1,350
Kingsville, repairs to pier	850
Leamington, repairs to pier	950
Midland, repairs to wharves	3,310
Oakville, repairs to pier	1,000
Owen Sound, repairs to wharf	850
Parry Sound, renewals to breastworks at Two and Seven Mile Narrows	1,250
Pelee Island, repairs to piers	750
Pembroke, repairs to wharf	1,500
Petawawa, repairs to wharf	1,900
Port Burwell, repairs to pier	5,700
Port Colborne, repairs to breakwaters	52,000
Port Dover, repairs to pier	1,500
Port Elgin, repairs to wharf and breakwater	5,000
Port Findlay, repairs to wharf	1,000
Port Hope, repairs to pier	11,500
Port Rowan, repairs to pier	1,000
Port Stanley, harbor improvements	1,100
Puce, repairs to harbor works	850
Sault Ste. Marie, repairs to wharf	2,100
Southampton, repairs to harbor works	6,000
Thessalon, repairs to wharf	11,000
Wheatley, repairs to pier	850
	$ 318,930

MANITOBA.

Dauphin River, wharf	$ 6,700
Delta, closing channel	3,000
Harbor and rivers generally, repairs and improvements	15,000
Pas, wharf	19,000
Little Pembina River, diversion to Pelican Lake	19,500
Red River, repairs to channel protection work	5,000
	$ 68,200

SASKATCHEWAN AND ALBERTA.

Harbors and rivers generally, repairs and improvements	$ 20,000

BRITISH COLUMBIA.

Arrow Park, repairs to wharf	$ 940
Alice Arm, landing float	2,000
Chilliwack, repairs to wharf and landing	2,100
Comox, repairs to wharf	20,300
Dewdney, repairs and additions to wharf	800

Fraser River dredging North Arm	100,000
Fraser River (lower), improvements	25,000
Fraser River, improvements at Westham Island	1,000
Half Moon Bay, wharf	6,500
Harbors and rivers, generally, repairs and improvements	95,000
Harrop, repairs to wharf	675
New Massett, rebuilding wharf	10,500
Okanagan Center, wharf	5,800
Okanagan River, reconstructing dam and repairing bank protection works	5,800
Old Massett, repairs to wharf	1,000
Powell River, addition to wharf and dredging	16,500
Port Clements, repairs to wharf	4,200
Port Essington, landing float	3,500
Prince Rupert Quarantine Station, repairs to wharf	4,500
Queen Charlotte City, repairs to wharf	4,600
Refuge Bay, repairs to wharf	4,000
Roberts Bay, repairs to float and approach	1,500
Saanichton, repairs to wharf	1,000
Shoal Bay, repairs to wharf	1,100
Sidney, repairs to wharf	7,000
Skidegate, repairs to wharf	6,500
Spiller River, repairs to wharf	3,000
Squamish, repairs to wharf	675
Stewart, reconstruction of wharf	34,000
Tofino, repairs to wharf	1,700
Williams Head Quarantine Station, repairs to wharf	20,000
Wolfsen Bay, repairs to wharf	1,300
	$ 398,490

GENERALLY.

Harbors and rivers, generally	$ 30,000

DREDGING.

Maritime Provinces	$ 350,000
Ontario and Quebec	350,000
Manitoba, Saskatchewan and Alberta	45,000
British Columbia	300,000

The following Public Works Department items are chargeable to collection of revenue:

SLIDES AND BOOMS.

Upper Ottawa Improvement Co's. yearly allowance for logs passed through Chenaux boom	$ 1,800
Gatineau River, annual allowance for use of Gilmour & Hughson's booms at Cascades	600
Ottawa district, slides and booms, etc.	43,500
Saguenay district, booms, piers, etc.	9,000
	$ 54,900

GRAVING DOCKS.

Champlain graving dock	$ 20,000
Lorne graving dock	27,300
Esquimalt graving dock	22,000
	$ 69,300

HARBOR AND RIVER WORKS, ETC.

East River, lock and dam	$ 2,000
Burlington channel bridge	5,800
Montreal River, dam at Latchford	3,000
River Yamaska lock and dam	2,500
Riviere du Lievre lock and dam	2,500
St. Andrew's rapids lock and dam, Red River, Man.	18,500
Selkirk, Man., repair slip	5,000
	$ [illegible]

MISCELLANEOUS.

Maintenance and operation of water storage dams on Ottawa river and tributaries, surveys in connection therewith and settlement of land damages	$ [illegible]
Dry docks generally, inspection, etc.	1,000
Operation and maintenance of inspection [illegible]	[illegible]
Compassionate allowance to widow of Neil McL[illegible] who was drowned in the Madawaska River at Arnprior, Ont., April [illegible], while at work as assistant to sluicemaster	[illegible]
[illegible]	[illegible]
	$[illegible]

AUTHORIZED BY STATUTE.

Collingwood dry dock no. 1	[illegible]
Collingwood dry dock no. 2	[illegible]
Montreal floating dock	[illegible]
Port Arthur dry dock	[illegible]
Prince Rupert floating dock	[illegible]
	$ [illegible]

Supervision of Lakes and Ocean Freight Rates.—The Trade and Commerce Department's estimates for the year ending Mar. 31, 1920, submitted in the House of Commons recently, contain $6,000 for the supervision of lake and ocean freight rates, a precisely similar amount to that voted for the previous fiscal year.

Proposed Plan for Operation of United States Merchant Marine.

E. N. Hurley, chairman of the United States Shipping Board, has proposed a plan for the future control and operation of the ships which have been built under the board's auspices. Briefly, the scheme which he proposes to recommend to Congress contemplates the eventual sale of all the government owned ships to private interests, but the retention of partial government control through a period of years by means of the government holding of a mortgage and the Government issuance of insurance. There is to be establihed a special fund, under government control, which will be used to foster the development of certain trade routes.

Mr. Hurley states that when the present contracts are completed there will be under the United States flag next year 16,732,700 tons of ocean going steel cargo and pasenger ships. He is convinced that government ownership and operation of these ships, except as a last resort, is undesirable. On the other hand, he thinks that were the ships built at government expense to be used now merely for he advantage of groups of ship operators with sufficient capital to purchase the ships from the government he would unhesitatingly advocate the retention of the whole fleet by the government. His plan is intended to provide as soon as possible the necessary development of the U. S. merchant marine, at the same time guaranteeing to the U.S. people as large a return as possible from the war expenditure for ships.

The primary recommendation of the plan is that the ships should be sold at a price which fairly reflects the current war market for similar tonnage. Twenty-five per cent of the purchase price of each ship is to be paid down, the remainder to be paid in annual installments over a period not exceeding 10 years. The government will take a mortgage for this unpaid balance, charging interest, at the customary commercial rate of 5%, but inasmuch as the government ordinarily borrows money at 4%, the 1% difference will be diverted to the merchant marine development fund noted above. At the same time, the purchaser is to be required to insure with a U.S. marine insurance company his equity in the vessel, but the government will carry in its own fund for the purchaser's account the hull and machinery insurance covering that part of the vessel for which payment has not been made. Inasmuch as the government can carry this insurance for a least 1% less than the market rate, this 1%, too, will be diverted to the development fund.

Each purchaser who wishes to operate in foreign trade should be obliged to incorporate under a federal charter, for which legislation will have to be obtained, and provision is to be made that all control shall remain in U.S. hands. One member of the board of drectors of each company is to be named by the government, and these directors will be formed into a board of government directors, who will have certain advisory powers n relation to the administration of the development fund. This fund is to be used to relieve such financial difficulties as may be encountered in the development of an adequate and well balanced U.S. merchant marine. For instance, one suggestion is that if the government thinks that a certain trade route should be opened, a company may buy ships for the express purpose of operating on that route. If operation does not prove profitable at once, it will be necessary to provide for the payment of defaulted interest from the merchant marine development fund in the discretion of the government agency, and when the ships of the route earn their annual interest rate and a profit, one-half the profit earned each year should be paid into the develment fund until all moneys drawn from that fund, on account of the vessel in question, shall have been replaced. The other half should go to the stockholders of the company. If the route does not prove profitable, the ships on it may be transferred by the government to other routes and if the government becomes convinced that the vessel has failed to make expenses solely or chiefly because of incapable management, it may foreclose the mortgage which it holds on the vessel.

A final clause in the plan is that, until sold under the terms stated, all vessels should remain the property of and should be operated by the U.S. Government. Mr. Hurley specifically states that the wooden ships are not included in this plan.

Canal Estimates for 1919-1920.

The Railways and Canals Department's estimates for the year ending Mar. 31, 1920, submitted to the House of Commons recently, contain the following items, among others, chargeable to capital account:—

Welland Ship Canal—construction	[illegible]
Trent Canal—construction and betterments	1,000,000.00
Trent Canal—towards construction of [illegible] lock [illegible] Otonabee River at [illegible] St. Peter[illegible], Ont.	[illegible]
	$[illegible]

The following items are chargeable to income:—

Chambly Canal improvements	[illegible]
Carillon and Grenville Canal improvements	[illegible]
Lachine Canal [illegible]	[illegible]
Soulanges Canal improvements	[illegible]
[illegible] St. Lawrence Canal—improvements	[illegible]
Rideau Canal [illegible]	[illegible]
St. Peter's Canal [illegible]	[illegible]
Trent Canal improvements	[illegible]
Welland Canal improvements	[illegible]
	$ [illegible]
Surveys and inspections [illegible]	[illegible]

The Bishop Navigation Co. Ltd., the incorporation of which was announced in a recent issue, is being organized to take over the s.s. Lake Manitoba, owned formerly by the Canadian Pacific Ocean Services Ltd., and which was considerably damaged by fire at Montreal, last year. The vessel has been practically rebuilt, and renamed W. A. Bishop, in honor of Col. W. A. Bishop, V.C., of the Royal Air Force. The vessel was acquired by interests associated with Halifax Shipyards, Ltd., and the Montreal Transportation Co. The organization of the company has not been completed, but it is said that the vessel will be used in overseas trade.

Atlantic and Pacific Ocean Marine.

The Nippon Yusen Kaisha is reported to be building 6 passenger steamships of about 20,000 tons, with speed of 20 knots, for its trans-Pacific service.

The Canadian Pacific Ocean Services s.s. Monteagle, which was reported, in Montreal, to have been burned at Hong Kong, China, sailed from there, Apr. 8, for Vancouver.

The s.s. Turbinia, which was built for the Toronto-Hamilton service and performed it for a number of years, is now carrying troops between France and England.

An order in council has been passed rescinding previous regulations respecting the identification and safeguarding of vessels carrying high explosives while navigating the River St. Lawrence ship channel.

Canadian Pacific Ocean Services will, it is announced, recommence its sailings between Montreal and Antwerp, Belgium, this summer, although it is not expected that the traffic will be of any considerable dimensions for some little time. The service will be fortnightly, should the traffic warrant it. W. D. Grossett, agent at Antwerp, before the war, has resumed his duties there.

The first trans-Atlantic steamship of the St. Lawrence navigation season, the s.s. Queen Elizabeth, arrived at Quebec, April 19, light, and loaded grain at the Harbor Commissioners' elevator, afterwards proceeding to Montreal for general cargo. The first vessel of the 1918 season arrived May 6. The first vessel to arrive by the St. Lawrence route was the British s.s. War Redcap, from New York to Montreal, for cargo.

A steamship service between Canada and South American ports is announced to commence about May 5, under the local management of McLean, Kennedy and Co., Montreal. The first vessel to be operated will be the s.s. Clan Keith of the Houston Line, Liverpool, Eng., and a monthly service will be given, to Buenos Aires and Montevideo, with Montreal and St. John, N.B. as the Canadian summer and winter ports respectively.

Maritime Provinces and Newfoundland.

It is stated that the establishment of a harbor commission for St. John, N.B., will be taken up by the Minister of Marine, now that he has returned to Ottawa, from Atlantic, where he has been recuperating after his serious illness.

The Eastern Steamship Corporation resumed sailings between Boston, Mass. and St. John, N.B., Apr. 14, calling at Lubec and Eastport. The s.s. Calvin Austin sailing from Boston on a bi-weekly schedule. This is the first sailing of this line since Nov. 27, 1917.

The Dominion Steel Corporation's s.s. Cape Breton was wrecked and five men were killed and three injured, by the explosion of the combustion chamber of the port boiler, off Cape Spear, while en route from St. John's, Nfld., to Louisburg, N.S., Apr. 5. The vessel was towed into St. John's by the Reid Newfoundland Co.'s s.s. Argyle.

The s.s. Northumberland started running on the Point du Chene-Summerside route, between the mainland and Prince Edward Island, Apr. 23, while the car ferry s.s. Prince Edward Island, which runs between Cape Tormentine, N.B., and Port Borden, P.E.I., is undergoing a general overhaul. It is expected that the s.s. Prince Edward Island will return to her service about the end of May.

The Newfoundland Government received tenders Apr. 25, for the service steamships, steel or composite construction, suitable for ice conditions, for use ini the postal or other service. These vessels must be about 1,000 tons, 200 ft. long, 31 ft. beam , 16 ft. draft when loaded, and with accomodation for 60 cabin and 90 steerage passengers, to class X 100 A 1 at Lloyd's, and with a speed of at least 12 knots. The service to be supplied in 19 fortnightly trips to the north, and 26 fortnightly trips to the south and west, commencing about May 1, each year, for 10 years.

The owners of the s.s. Premier sued the Crystal Stream Steamship Co., St. John, N.B., recently, for damages sustained by their vessel in a collision with that company's s.s. D. J. Purdy, in the St. John River, Oct. 5, 1918. The judgment delivered by Chief Justice, Sir Douglas Hazen, formerly Minister of Marine, held that both parties were to blame for the collision, but that the Crystal Stream Steamship Co. must pay to the owners of the Premier, one-half of the amount by which the damages to the Premier exceed those sustained by the D. J. Purdy. No claim was made for damages to the latter vessel.

Province of Quebec Marine.

The Quebec Ship Laborers' Society is stated to have made an agreement with the shipping companies at Quebec, for a new scale of wages for this season, providing for a 9-hour day at 57½c an hour, and time and a half for overtime. The original demands were for an 8-hour day and 60c an hour, with time and a half for overtime.

Ontario and the Great Lakes.

Canada Steamship Lines freight steamship service between Montreal, Toronto and Hamilton, was resumed Apr. 22, and the Quebec-Montreal service, Apr. 24.

The Imperial Oil Co's. s.s. Iocoma opened navigation at Fort William, Apr. 14, the master, Capt. G. Cross, being presented with a silk hat by the Board of Trade. This date is stated to be the earliest on which a vessel from the east has entered the harbor.

A Hamilton press dispatch states that the first section of the harbor improvements to be undertaken by the Dominion Government there, this year, at an approximate cost of $200,000, will include the first section of the bascule bridge over the Burlington Canal.

Navigation out of Midland, was opened Apr. 5, with the sailing of the Great Lakes Transportation Co.'s s.s. Glenorchy, for Toledo, Ohio, with Capt. F. Burke as master. This is stated to be the earliest date for the opening since 1887, when passengers were carried to a regatta at Penetaguishene, on Christmas Day.

It is reported that another attempt will be made to raise the s.s. Keystorm, which was sunk in the St. Lawrence below Alexandria, several years ago. Several previous attempts have been unsuccessful. The work is being undertaken by Capt. W. Leslie, Kingston. The Keystorm was owned formerly by the Keystone Transportation Co., Montreal.

The Northern Navigation Co. has announced that it will commence its service, May 1, with the sailing of the s.s. Huronic from Sarnia, the s.s. Hamonic following a few days later. These two vessels will handle the traffic until July 1, when the s.s. Noronic will be placed in

The United States Lake Survey reports the levels of the Great Lakes in feet above mean sea level, for March, as follows: Superior 601.89; Michigan and Huron 580.74; St. Clair 575.39; Erie 572.47; Ontario 246.01. Compared with the average March levels for the past ten years, Superior was 0.31 ft. above; Michigan and Huron 0.81 ft. above; Erie 0.79 ft. above, and Ontario 0.37 ft. above.

Manitoba, Saskatchewan and Alberta.

Capt. Lane, an Arctic explorer, is reported to be in charge of the building of several boats on the Clearwater River at McMurray, Alta., for operation in the neighborhood, in the interests of J. H. Bryan, and also to be building a steamboat for Arctic operation on the Mackenzie River. He has taken in a 20-ton steam boiler for installation in the latter vessel. It is stated that he will build two, or more, auxiliary schooners, equipped with gas engines.

Briish Columbia and Pacific Coast.

The whaling season in the Pacific opened during the first week of April, with the departure of the Consolidated Whaling Corporation's fleet for the hunting grounds, from Victoria and other points.

The Dominion Public Works tender Gunhild, is being offered for sale by public tender to May 1. She was built at Quartermaster Harbor, U.S., in 1906, and was purchased, prior to the war, for use of quarantine officials at William Head station, off Victoria. Her dimensions are, length, 61 ft.; breadth, 12.7 ft.; depth, 5.1 ft.; tonnage, 27 gross, 18 net. She is driven by a triple expansion engine with cylinders 6, 9 and 15 ins. diar., by 18 ins; stroke, supplied with steam by a Robert tube boiler, at 185 lbs.

The Grand Trunk Pacific Coast Steamship Co. puts its summer schedule in effect between Vancouver, Charlotte Islands, Prince Rupert and Stewart, Apr. 18, the steamships Prince Albert and Prince John, making the trip weekly, leaving Vancouver on Fridays and Prince Rupert on Wednesdays. The steamships Prince Rupert and Prince George commenced their summer service, Apr. 23, between Victoria, Vancouver, Seattle, Anyox, etc., leaving Vancouver on Saturdays and Tuesdays and Prince Rupert, Wednesdays and Saturdays, respectively.

The C.P.R. s.s. Princess May, of the British Columbia Coast Service, is reported to have been sold to shipping interests at Ecuador, for the South American coasting trade. She was built by Hawthorn, Leslie & Co., Newcastle-upon-Tyne, Eng., in 1888, and has borne the names of Ningchow and Hating, and for a time plied in the Chinese coasting trade. She was remodelled for the Alaska service and renamed Princess May. She was in this service for several years, but has been replaced by more up-to-date vessels. She ran on the Sentinel

Reef, in the Lynn Canal, a few years ago, and has since been utilized more as a utility vessel. Her dimensions are, length, 249 ft.; breadth, 33.2 ft.; depth, 17.7 ft.; tonnage, 1,717 gross, 892 net, and she is screw driven by engine of 450 n.h.p.

Mail Subsidies and Steamship Subventions for 1919-1920.

The estimates for the year ending Mar. 31, 1920, submitted to the House of Commons recently, contain the following items among others:—

ATLANTIC OCEAN STEAMSHIP SERVICES.

Between Canadian Atlantic ports and Australia and New Zealand	$ 140,000.00
Between Canada and Great Britain	1,000,000.00
Between Canada and Newfoundland	70,000.00
Between Canada and the West Indies or South America or both	340,666.66
Between Canada and South Africa	146,000.00
Between Halifax, St. John's, Nfld. and Liverpool	20,000.00

PACIFIC OCEAN.

Between Canada and Australia or New Zealand or both	180,509.00
Between Canada, China and Japan	253,333.34
Between Prince Rupert, B.C., and Queen Charlotte Islands	21,000.00
Between Victoria and San Francisco	3,000.00
Between Victoria, Vancouver, way ports and Skagway	12,500.00
Between Victoria and west coast Vancouver Island	5,000.00
Between Vancouver and northern ports of British Columbia	16,800.00

LOCAL STEAMSHIP SERVICES.

Between Baddeck and Iona, N.S.	5,825.00
Between Charlottetown, Victoria and Holiday's Wharf, P.E.I.	2,500.00
Between Froude's Point and Lockeport, N.S.	600.00
Between Grand Manan, N.B., and the mainland	10,000.00
Between Halifax, Canso and Guysboro	5,000.00
Between Halifax, N.S., and Newfoundland via Cape Breton ports	10,000.00
Between Halifax, Mahone Bay, Tancook Island and La Have River ports, N.S.	4,000.00
Between Halifax and Spry Bay and ports in Cape Breton, N.S.	4,000.00
Between Halifax, N.S., South Cape Breton and Bras d'Or Lake ports N.S.	6,000.00
Halifax and west coast Cape Breton, calling at way ports	4,000.00
Between Halifax and Sherbrooke, N.S.,	2,000.00
Between Mulgrave and Canso, N.S.	6,500.00
Between Mulgrave and Guysboro, N.S., calling at intermediate ports	5,500.00
Between Newcastle, Neguac and Escuminac, calling at intermediate points on Miramichi River and Miramichi Bay, N.S.	2,500.00
Between Pelee Island, Ont., and the mainland	8,000.00
Between Petit de Grat and the Intercolonial Railway terminus at Mulgrave, N.S.	7,000.00
On Petitcodiac River between Moncton, N.B., and way ports, and a port or ports on west coast of Cumberland County	2,500.00
Between Pictou and Montague, calling at Murray Harbor and Georgetown, P.E.I.	5,000.00
Schooner service between Pictou, New Glasgow, Antigonish County ports and Mulgrave, N.S.	1,000.00
From opening to closing of navigation in 1919, between Pictou, Mulgrave and Cheticamp, N.S.	7,500.00
From opening to closing of navigation in 1919, between Port Mulgrave, St. Peter's, Irish Cove and Marble Mountain and other ports on the Bras d'Or Lakes, N.S.	6,500.00
Between Quebec and ports on the north and/or south shores of the Gulf of St. Lawrence, and/or between ports in Prince Edward Island, Nova Scotia, Newfoundland and the Magdalen Islands	70,000.00
Between St. Catherine's Bay and Tadousac, Que.	886.67
Between St. John, N.B., and ports in Cumberland Basin, N.S.	8,000.00
Between St. John, N.B., and St. Andrew's, N.B., calling at intermediate points	4,000.00
Between St. John, N.B., and Bridgetown, N.S.	2,500.00
Between St. John, N.B., and Digby, N.S.	20,000.00
Between St. John, N.B., Digby, Annapolis and Granville, N.S., viz., along the west coast of Annapolis Basin	2,000.00
Between St. John, N.B., and ports on Bay of Fundy and Minas Basin, and Margaretville, N.S.	8,000.00
Between St. John, N.B., Westport and Yarmouth and other ports	10,000.00
During 1919 between St. Stephen, N.B., Ste. Croix River points, Deer Island, Campobello and inner islands, Passamaquoddy Bay and L'Etete or Back Bay	6,000.00
During season of 1919, between Sydney, N.S., and Bay St. Lawrence, calling at way ports.	6,000.00
During season 1919, between Sydney, and Whycocomagh, N.S.	3,000.00
From Sydney to Bras d'Or Lake ports, and ports on the east and west coasts of Cape Breton, N.S.	14,000.00
Expenses in connection with supervision of subsidized steamship services	3,000.00
	$2,467,120.67

AUTHORIZED BY STATUTE.

Canada, China and Japan	121,666.66
	$121,666.66

Coast, Lake and River Steamship Officers for 1919.

The following appointments, made by navigation companies, engaged in Canadian and Newfoundland navigation for their various steamships and tugs, have been reported to Canadian Railway and Marine World, in addition to those given in the last issue. The first column gives the names of the vessels; the second, those of the captains; and the third, those of the chief engineers.

American Interlake Line.

Sir Trevor Dawson	H. Hinslea	W. W. Norcross
Stadacona	G. H. Page	W. L. Shay
Wyoming	T. B. Greenway	G. Schroder

Bowring Bros., St. John's, Nfld.

Portia	S. Parsons	A. Smith
Prospero	A. Kean	J. McKinlay

British Yukon Navigation Co., White Horse, Yukon.

Casca	J. O. Williams	J. P. Bourne
Dawson	W. Turnbull	P. Larssen
Nasutlin	H. Bailey	R. E. Haws
Selkirk	G. H. McMaster	W. C. Vey
Tarahne	C. Coughlan	F. Vey
Tutchi	J. McDonald	J. Lauderdale

Buffalo and Erie Beach Transportation Co., Buffalo, N.Y.

O. Bedell	J. Fontaine	C. Beach

Buffalo and Fort Erie Steamship Co., Buffalo, N.Y.

Orleans	R. Ward	T. Rolfe

The Canadian Fishing Co., Vancouver, B.C.

Celestial Empire	D. Barry	T. Yielding
Flamingo	S. Salvesen	J. Paine
Imbricaria	D. Hansen	R. Averhill
Kingsway	L. Anderson	C. Ferstron
New England	M. Scott	H. Ferchen

Canadian Pacific Ry., British Columbia Lake and River Service, Nelson, B.C.

Bonnington	A. Forslund	S. Peterson
Hosmer	M. McKinnon	P. H. Pearse
Kokanee	W. J. Fraser	J. Donaldson
Kuskanook	W. H. Wright	D. McLeod
Naramata	J. B. Weeks	J. P. Sutherland
Nasookin	W. Seaman	J. G. Cameron
Sandon	M. P. Reid	R. L. Reynolds
Sicamous	G. Robertson	D. H. Biggam
Slocan	W. Kirby	N. Hawthorn
Valhalla	J. Ferguson	T. C. l'Anson

Canada Steamship Lines Ltd., Montreal.

Belleville	J. J. Jarrell	G. Sauve
Bickerdike	T. H. Johnston	J. Aston
Cadillac	W. Beatty	H. Myler
City of Hamilton	O. Patenaude	W. Dugan
City of Ottawa	J. L. Baxter	John Kennedy
Collingwood	P. McKay	J. W. McLeod
E. B. Osler	J. H. Hudson	Jas. McGregor
Emperor	D. W. Burke	G. W. Smith
Fairfax	M. Heffernan	F. Patterson
Haddington	R. J. Wilson	C. Leriche
Home Rule	R. D. Simpson	———
Ionic	O. Wing	A. E. Crosthwaite
J. H. G. Hagarty	C. E. Robinson	C. Robertson
J. R. Binning	R. Hand	———
Kingston	A. E. Stinson	———
Longueuil	M. Manderville	———
Martian	R. McIntyre	R. R. Foote
Midland King	H. J. Aitken	A. E. Kennedy
Midland Prince	A. B. McIntyre	J. A. Pickard
Sarnian	R. Pyette	I. J. Boynton
Seguin	W. Brian	J. B. McLaren
Toiler	W. H. Montgomery	E. Scott
T. P. Phelan	H. A. Leaney	T. H. Hazlett
Toronto	N. McGlennon	
W. D. Matthews	A. J. McLennan	W. Reid
W. Grant Morden	G. W. Pearson	R. Chalmers

Davidson and Smith Elevator Co., Port Arthur, Ont.

Schlesinger	O. Byrnes	H. Stocke
Tioga	J. C. Heaney	L. Linton

Grand Manan Steamship Co., Grand Manan, N.B.

Grand Manan	W. W. Hersey	John Cowie

Grand Trunk Pacific Coast Steamship Co., Vancouver, B.C.

Prince Albert	H. Nedden	R. Knox
Prince George	D. Donald	R. Bell
Prince John	W. S. Morehouse	D. H. Cochrane
Prince Rupert	D. Mackenzie	A. S. Monro

Landto Transportation Co., Buffalo, N.Y.

Lando	D. P. McCarthy	H. W. Fletcher

Levis Ferry Ltd., Levis, Que.

Colomb	G. Chamberland	P. Plante
Lauzon	N. Thivierge	A. Laflamme
Levis	A. Forgues	N. Lamothe
Plessis	A. Chabot	J. C[illegible]
	O. Fortin	S. Beaudet

Miramichi Steam Navigation Co., Chatham, N.B.

Alexandra	Jas. Newlan	N. Smith
Sybella H.	E. Steele	A. McIntyre

Niagara Ferry and Transportation Co., Buffalo, N.Y.

Franklin	M. Lutz	C. Beach

Peace River Development Corporation, Peace River, Alta.

D. A. Thomas	J. A. Herrling	H. J. Hutchinson

Quadra Steamship Co., Britannia Beach, B.C.

Quadra	M. F. Cutler	R. C. W. Ma[illegible]

Quebec Salvage and Wrecking Co., Montreal.

Lord Strathcona	O. Scherrer	A. R. C[illegible]

River Lievre Navigation Co., Buckingham, Que.

George Bothwell	G. N. Bothwell	G. Bothwell

Marine Department Estimates for 1919-1920.

The estimates for the year ending Mar. 31, 1920, submitted to the House of Commons recently, contain the following items chargeable to capital:—

Government shipbuilding programme, construction of steamships	$30,000,000.00

The following items are chargeable to income:—

OCEAN AND RIVER SERVICES.

Maintenance and repairs to Dominion steamships and ice breakers	1,500,000.00
Examiners of masters and mates	18,000.00
Investigations into wrecks	12,[illegible]
Expenses of schools of navigation	8,000.00
Registration of shipping	6,000.00
Removal of obstructions in navigable waters	5,000.00
Inspection of live stock shipments	3,000.00
Subsidies for wrecking plants—Quebec, Maritime Provinces and British Columbia	85,000.00
Unforeseen expenses	35,000.00
Two boilers for C.G.S. Montcalm	70,000.00
One steamship, buoy and lighthouse service in Maritime Provinces	1[illegible]
	$1,8[illegible]
Agencies, rents and contingencies	$ 1[illegible]
Salaries and allowances to lightkeepers	[illegible]40,000.00
Maintenance and repairs to lighthouses	7[illegible]0,000.00
Construction of lighthouses and aids to navigation, including apparatus, submarine signals, and providing suitable boats for carrying on construction work	400,000.00
Signal service	6[illegible],000.00
Administration of pilotage	2[illegible]0,000.00
Maintenance and repairs to wharves	1[illegible]00.00
Breaking ice in Thunder Bay and Lake Superior and other points deemed advisable for the good of navigation	40,000.00
Pensions to retired pilots	9,900.00
Telephones at different points throughout the Dominion in connection with aids to navigation	500.00
Allowance to harbor master at Amherstburg, for supervision of lights and buoys in St. Clair river, Detroit river, Lake Erie, and other services during season of navigation	400.00
Compassionate allowance to widows of lighthouse keepers	1,000.00
	$2,20[illegible],800.00

MISCELLANEOUS.

Marine hospitals, including grants to institution assisting sailors	7[illegible],000.00
Shipwrecked and distressed seamen	3,000.00
Steamboat inspection	87,827.77

Wooden Steamship Building in Canada for French Government.

Canadian Railway and Marine World has published in previous issues considerable information as to the twenty 3,000 ton and fifty 1,500 ton wooden steamships which have been ordered in Canada for the French Government. We are now able to give some additional particulars, together with plans:—

The 3,000 Ton Wooden Steamships.

Following are the general dimensions, etc., of the twenty 3,000 ton d.w. wooden steamships:

Length over all	293 ft.
Length between perpendiculars	276 ft.
Beam extreme about	47½ ft.
Beam moulded about	46½ ft.
Depth moulded	23½ ft.
Draft fully loaded about	21¾ ft.
Deadweight carrying capacity	3,000 tons
Load displacement	5,655.5
Block coefficient used	.718

The vessel to be of single deck cargo type, built principally of Oregon and Washington pine, with hold beams, wood [illegible] and rails. The vessel to have a cruiser or elliptical stern, with [illegible] aft and raised forecastle forward. The vessel to have 5 hatches, 1 [illegible] bulkhead, 1 bunker bulkhead, which is to be non-watertight, and 1 [illegible] bulkhead. One watertight door [illegible] and shaft tunnel to be furnished. Accommodations for officers will be in deck houses erected in the poop deck. Accommodations for the crews will be located in the forecastle. A bridge and bridge house will be erected at the foreward end of the poop. Accommodations for gun crew of men to be arranged in the wheel house aft. Eight cargo winches, one of which is to be a warping winch, are to be installed. The windlass on forecastle head suited to handle anchors and full scope of chain, and also arranged for warping as usual practice.

Feed water tanks of full capacity to be located aft of engine room, top of tanks to be on level with all of deck forming shaft tunnels. Culinary water will be distributed from 2 separate steel tanks. The vessel is to be driven by twin screws, with engines located abaft midships.

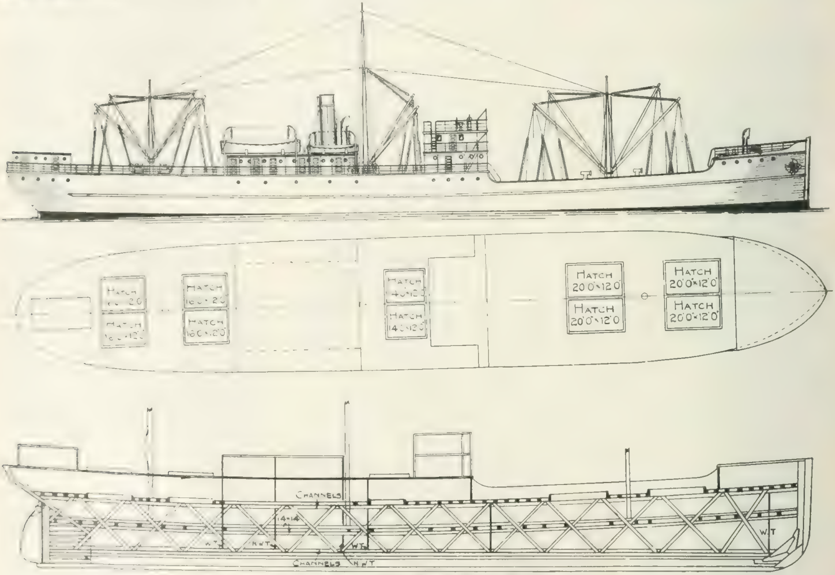
The vessel is to be built to the requirements of the Bureau Veritas for highest classification, as far as necessary for a cargo steamer. All lumber used in the construction of the vessel to be of Oregon or Washington pine and fir, unless otherwise specified. All materials to be to the satisfaction of the Bureau Veritas for highest classification. As long lengths as practically can be obtained, without delay for the completion of the vessel, are to be used in the keel keelsons, planking and ceilings, to be clear of shakes, loose knots and other defects and faults, and as far as possible free from sap. All decking to be edge grain, fastenings to be treenails, screw and drift bolts of galvanized and black iron as per best practice.

The contractors are to supply the owner with vessel constructed in a workmanlike manner, satisfactory for ocean service except for water, fuel and stores. The work to be to the satisfaction of the owner, his representative, or Bureau Veritas inspectors and surveyors. The contractors are to furnish all necessary lines, offsets, construction drawings and all detail plans for the successful construction and completion of the vessel.

When completed and ready for trial, the owner will fill the bunkers with coal and water tanks with fresh water. Then a series of progressive trials will be run on a measured mile course, at which a speed of 11 knots is to be obtained. The vessels are to be delivered by the contractors at the yard at Victoria, B.C., or if the owner decides on delivery elsewhere, the contractors are to be compensated for any such delivery as per arrangement agreed upon. The contractors are to keep the vessel, including all outfit and material entering into the construction of the vessel, fully insured, both ashore and afloat, until delivered to the owner.

All scantling to be shown in midship section and as approved by Bureau Veritas. Should any difficulty be found in obtaining the size of scantling as shown on drawings, and as specified in detail specifications to be submitted when signing contract, it is understood that the contractors are to use a different sized scantling, as long as the same is approved by Bureau Veritas for highest classification.

On top of wood keelsons, rider keelson is to be installed, to be of lattice girder



3,000-ton Wooden Steamship for French Government.

[illegible] the two tiers of steel channels, running the length of the ship, on her center line. It is claimed that this will [illegible] the boat that the ship will prove much more seaworthy than some other types.

construction of approved design, to the satisfaction of Bureau Veritas. All necessary davits, life boats, anchors and cable, steering engine, ladders, storerooms, and wireless apparatus are to be furnished and installed. Heating, plumbing to be furnished and installed to the approval of Bureau Veritas.

Electric lighting plant is to be installed, consisting of two $7\frac{1}{2}$ k.w. engine or turbine driven generator sets, complete, all wiring to be furnished and installed; one switchboard with double pole switches, ammeter, voltmeter and short circuit indicator. Entire installation to conform to the requirements of Bureau Veritas. Complete pumping arrangements to be fitted. Hand pump scuppers, fire service, etc., to be installed to the satisfaction of Bureau Veritas.

Outside planking below load waterline to be painted with 2 coats of copper paint. All above to have 3 coats of lead and finished with color as selected by owner. All interior work to have 3 coats of lead paint. Interior accommodations to be finished with color as selected by owner. All deck work, fittings, etc., to be finished in color as selected by owner. Inside of decks, clamps, etc., to be oiled and all projecting ends of fastenings and visible iron work, including iron work on rider keelson, to be painted with red oxide paint.

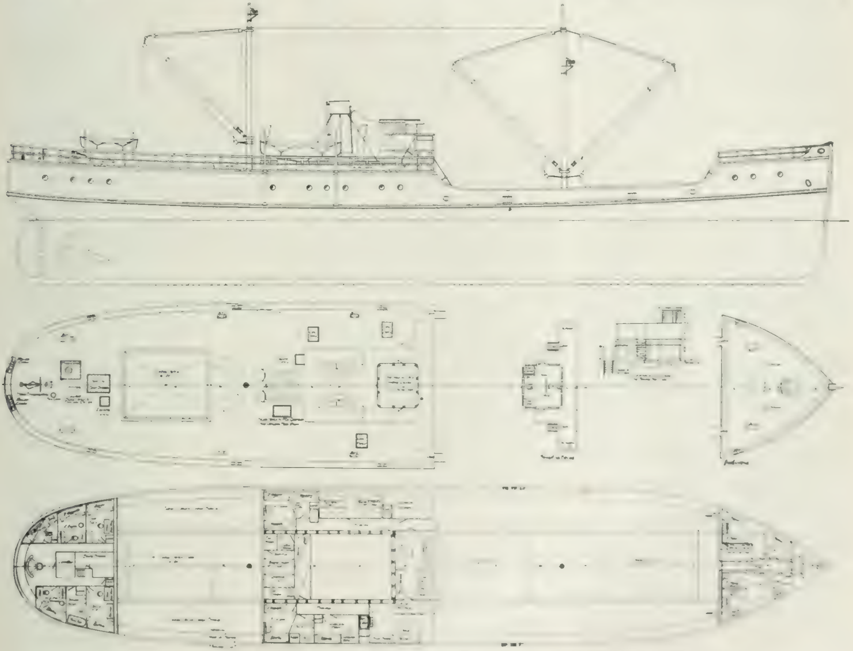
The propelling machinery is to be built to conform to and meet with requirements of Bureau Veritas for highest classification. The machinery will consist of two 550 h.p. vertical, inverted, direct-acting, three-crank, triple expansion marine engines, each to develop not less than 550 i.h.p. when working under full boiler pressure. The boilers will consist of 2 coal-burning Scotch boilers, with a heating surface of about 3,500 sq. ft., built for a steam working pressure of 225 lb. a sq. in. There will be one each main surface condenser, auxiliary condenser with combined air and circulating pump, steam driven centrifugal circulating pump, independent air pump, main feed pump, auxiliary feed pump, fire and bilge pump, sanitary pump, general service pump, bilge pump, fresh water pump, injector, feed water heater, evaporator feed pump, oil filter, induced draft fan, electric generating set and switchboard, ice machine, and evaporators, distiller, waste and soda tanks, engineer's storeroom, workshop, together with such other machinery and outfit as is necessary for the proper operation of the ship.

The Foundation Co. of British Columbia, Ltd., has the contract for these vessels and is building them at Victoria, where it has two yards, the one at which it built five 2,800 ton wooden steamship hulls ordered by the Imperial Munitions Board for the British Government, the other yard adjoining, which it has leased from the Cameron-Genoa Mills Shipbuilders, Ltd. These two yards have 8 ways. The contract calls for the delivery of the 20 completed steamships before Jan. 1, 1920. The vessels have been designed by Cox & Stevens, New York, N.Y.

The 1,500 Ton Wooden Steamships.

The 4 vessels, which are described as first class full powered barges, will have the following general dimensions:—

Length over all	[illegible] ft. 6 in.
Length between perpendiculars	195 ft. 8 in.
Beam, moulded	[illegible]
Beam, extreme	[illegible]
Depth, moulded	[illegible] ft.
Depth of hold	[illegible]
Draft, loaded	[illegible]
Block coefficient	[illegible]



1,500 ton Wooden Steamship for French Government.

Plan 1. Out board profile. Plan 2. Forecastle, [illegible] and poop deck. Plan 3. Main deck.

They are to be built of Douglas fir, and timber in keel, keelsons, stem, apron, stern post, frames, deadwoods, ceiling, deck beams, stanchions, pointers, breast hooks, etc., to be no. 1 merchantable, planking, bulwarks, rails and rail stringers, waterways, coamings and all timber above deck, to be no. 1 select, and the deck is to be clear vertical grain, no. 2 grade. The ceiling from floor to clamps to average 40 ft. lengths, also the clamps, planking above the bilge to deck, and waterways, while the rail is to be in lengths of not less than 40 ft., and the planking and bottom on bilges to average 35 ft. Keel, sided 18 in., moulded 12 in. net; shoe, sided 12 in., moulded 3 in. net;

frames, half sided 8 in., moulded 20 in. at keel, 14 in. at bilge, 8 in. at head, spaced 27 in. centers. From the break of the bridge deck aft, and the forecastle deck forward, the frames to run up to rail double, and between these points the frames to be single from deck to rail. Stem, sided 18 in., moulded about 24 in., and connected to keel with a natural crook fir knee, or in other approved manner. Apron, sided 18 in., moulded 18 in.; deadwood, sided 18 in.; stern post, sided 18 in. at keel, moulded 24 in., and connected to keel with fir knee. Rudder trunk to be bolted securely to stern post. The main and sister keelsons to be sided 16 in. and moulded 14 in.; first and second rider keelsons to be sided 16 in. and moulded 14 in.; first and second rider sister keelsons to be sided 14 in. and moulded 14 in. From sister keelsons to main deckhouse, the ceiling to be 8 by 11 in.; the 'tween deck ceiling to be 4 in. thick, butted and spike fastened; main ceiling to be scarphed from the turn of the bilge to the main deck beams, and edge bolted in each frame space. No scarphs allowed on the same frame without at least 3 strakes between. Beams at the hatches to be moulded 12 in. and sided 14 in.; sided 12 in. and crowned 6 in. Chocks to be fitted between deck beams, securely fastened to frames, leavnig proper air space, and beams to be spaced 36 in. center to center. There is to be one 12 x 14 in. beam in the lower hold, placed directly over every other main deck beam; these, however, to be omitted in the way of machinery, and compensating fore and aft members added. There are to be 3 sets of pointers at each end of vessel, to be sided 12 in. and moulded 10 in. at top and at least 14 in. at bottom, and run diagonally from the center of deadwoods, aprons, etc., well up to the upper deck beams. These pointers to be connected at the lower ends across the deadwood with fir knees 12 in. thick and at least 4 ft. arms. There are to be stanchions 12 x 12 in. under every beam and under the hatch corners, and at each side of the stanchion heads there is to be a 5 x 10 in. plate; chocks to be fitted between the stanchions on top of rider keelson, and top of stanchion to have hardwood cap; rods 1½ in. upset to 2 in. turnbuckle to be placed between the beams, with ¾ x 6 in. plate washer on the outer ends let into the frame. The rudder stock to be in one piece of iron bark, 18 in. diar., the balance of the rudder to be fir. The bulkheads, as may be required in peaks and forward and aft machinery spaces, to be of two thicknesses of 3 x 6 in. tongued and grooved stock, finished down to about 2¼ x 5¼ in. face laid diagonally in opposite directions, and canvas laid in white lead paint to be laid between the two thicknesses. Beams so arranged that one m.d. and one t.d. beams are secured to face of bulkhead.

The 2 masts and 6 cargo booms are to be of Oregon pine, of suitable diameter and strength for handling cargo equal to about a 3 ton lift. The general accommodation and quarters, include wheel house and chart room, berths, mess rooms, pantry, galley, store rooms and ice house, lavatories, etc. Each vessel is to be equipped with two lifeboats 20 x 6 x 2½ ft., with swinging davits. All anchors to be of the stockless type.

The propelling machinery to consist of 2 vertical inverted direct acting compound surface condensing engines, with cylinders 12 x 24 in. diar., by about 16 in. stroke, turning outboard when going ahead, capable of developing 275 i.h.p. with no live steam in the receivers, at not more than 175 r.p.m. Steam is to be supplied by either one return tube, 3 furnace, single ended Scotch boiler, with a total heating surface of 1,800 sq. ft., or one water tube boiler with heating surface of not less than 2,000 sq. ft. The propellers are to be solid, 3 bladed cast iron. There is to be one main condenser independent of the main engine, one main circulating pump of centrifugal pump with 6 in. suction and discharge; main air pump, vertical single acting beam type, 7½ x 14 x 10 in.; 2 main and auxiliary feed pumps of vertical simplex type, 7½ x 4 x 10 in.; general service pump, horizontal duplex type, 7½ x 4½ x 10 in; fire, bilge and general service pump, horizontal duplex type, 7½ x 4½ x 10 in.; sanitary pump, 5¼ x 4¾ x 5 in., and evaporator feed pump or centrifugal pump with 6 in. sucash ejector is to be provided, operated by water from fire, bilge and general service pump. Feed water heater of approved type to be of sufficient capacity to heat 12,000 lb. feed water an hour from 80 to 212 deg., using exhaust steam at 5 lb. a sq. in. Feed and filter tank of 325 gall. to be placed in convenient location in the engine room.

The deck machinery is to include a spur geared windlass with horizontal engine and 2 gypsy heads aft, 12 in. diar.; vertical steam winches; steam and hand steering gear of approved type with about 6 x 6 in. double cylinder engine; steam capstan with engine in the base. The electric lighting system to consist of 10 k.w. marine type generating set, driven by vertical self oiling engine of approved make for 150 lb. steam pressure; dynamo to be compound wound of the multipolar type. There are also to be provided, mechanical telegraphs, water tanks, donkey boiler, etc.

When completed, the vessels are to have endurance trials, under conditions and with results satisfactory to the owners. The propelling machinery and auxiliaries are to be designed for a speed of 9½ knots under light load.

The fifty 1,500-ton wooden steamships, which were designed by Tams, Lemoine and Crane, New York, were ordered by the Anderson Co., New York, for the French Government, as follows:—

Davie Shipbuilding & Repairing Co., Lauzon, Que.	12
Fraser, Brace & Co., Montreal	8
Wm. Lyall Shipbuilding Co., North Vancouver	8
National Shipbuilding Corporation, Three Rivers, Que.	10
New Westminster Engineering & Construction Co., New Westminster, B.C	5
Pacific Construction Co., Port Coquitlam, B.C.	2
Western Canada Shipyards, Ltd., Vancouver, B.C.	5

Landing Mails at Rimouski.—In answer to a question by Hon. R. Lemieux, in the House of Commons, recently, the President of the Privy Council stated that Halifax, N.S., had not been substituted for Rimouski, Que., as the port for the landing of the trans-Atlantic mails, and continued: "The situation is this. Owing to the interruption of trans-Atlantic traffic, due to the war, there is no regular line of ships now carrying Canadian mails. Hence the Post Office Department must make arrangements with whatever vessels are available, and as the majority of these vessels are carrying troops, and come under orders with respect to the landing of those troops, the mails are necessarily landed at the port where the disembarkation of troops takes place. There is no intention of changing the permanent policy which has been followed".

Montreal Harbor Development Plans.

Prior to the outbreak of war in 1914, the Montreal Harbor Commissioner had under consideration extensive plans for the improvement of the harbor works at an estimated cost of some $15,000,000. The work covered the electrification of the harbor system of railways, and the elevation of the tracks from McGill St. to Victoria Park.

We are advised that a commencement on the electrification work will be made during the coming summer if the commissioners present plans are carried out.

A bridge over the St. Lawrence, crossing over St. Helen's Island, is also spoken of in connection with the general development plan for the harbor.

We were informed recently that no plans have been prepared for a bridge and that although an outline plan appeared on one of the commissioner's maps in connection with the development of the harbor; the commissioners have not given any consideration to the building of such a bridge. The south shore municipalities have felt for some time that a bridge should be built as the G.T.R. overcrowded Victoria bridge. While representations to this effect have been made to the commissioners and to the Dominion Government from time to time, no decision has been reached as to when such a bridge should be built, by whom, or the type of structure. There is no charter in existence for the building of such a bridge.

Loss of the C.P.R.'s s.s. Princess Sophia.—The report of the commission appointed to enquire into the loss of the C.P.R. s.s. Princess Sophia, with all passengers and crew, in the Lynn Canal, Alaska, Oct. 24, 1918, was submitted to the House of Commons, Apr. 23, by the Minister of Marine. It deals exhaustively with the impossibility of the commission securing evidence bearing directly on the wreck, and concludes, as follows: "From the evidence adducted, the conclusion is arrived at that the ship was lost through perils of the sea. As to why passengers were not landed, is a matter of conjecture, but the commissioners beg to submit that from the evidence of all the surrounding circumstances, such as the ship being staunch, and well officered, other craft being in the vicinity, and other ships approaching the shore, the lack of shelter sufficiently near, the time of year and weather conditions, they are prepared to find than it was not unreasonable for the master of the ship not to land his passengers."

Lake Sale of Trawlers and Drifters—The Anderson Co. of Canada, 285 Beaver Hall Hill, Montreal, has entered into a contract with the British Government for the purchase of the entire lot of trawlers and drifters built in Canada for the Admiralty through the Naval Service Department, and is offering them for sale, preference being given to Canadian interests. A press dispatch states that the purchase covers 60 steel steam trawlers and 89 wooden drifters, now lying in Halifax harbor. Details of these vessels have been given in Canadian Railway and Marine World, from time to time. It is reported that six have been sold to the Phillipines Government, and that enquiries have been received from Great Britain, France and Holland.

The Minister of Marine on the Dominion Government's Shipbuilding.

Hon. C. C. Ballantyne, in speaking at the launching of the s.s. Canadian Ranger, by Canadian Vickers Ltd., in Montreal, April 19, said he had ever been a believer in shipbuilding in Canada, and especially in the harbor of Montreal, and he felt that his optimism had not been in vain. The vessels already launched and sent to sea would be followed by others, and he predicted a growing and permanent industry. Canadian Vickers Ltd., being the pioneers of the work so happily begun. A great deal had been done to bring this plant up to its present state of efficiency, and those who had visited the great shipbuilding yards on the other side of the Atlantic were convinced that ships could be constructed in Montreal as well and as quickly, and warships would, no doubt, be built there. Referring to the orders given by the government, he said that the policy of the department would be sufficiently liberal to stimulate this great branch of our national industry, giving employment to the artizans of Montreal and developing industry, as the presence of 3,500 men working in Maisonneuve means a great deal to the general welfare of the commercial metropolis of the Dominion.

The Minister stated that at present the shipbuilding industry, although in its infancy, was giving to 25,000 men in Canada, including boiler and engine makers and mechanics of all kinds, a means of earning an honorable living and at the same time the industrial activity of Canada was being given an impetus that could not be overestimated. "If," he said, "Canada is to possess a carrying trade, she must have a mercantile marine, and it will be the pride of all to see the country's flag on every sea."

British Columbia Timber Raft.—A London, Eng., cablegram says:—Vickers' office at Westminster contains a model of a novel 9,000 ton ship being built in British Columbia of 5,000,000 ft. of timber. The ship and cargo will form really a huge raft, which will have ample accommodation on the deck for the crew and will have motor engines to assist the sails. This strange ship will make the voyage to England through the Panama Canal, and on reaching its destination, will be dismantled and the timber distributed.

Marine Department Salaries.—The Dominion Government estimates for the year ending Mar. 31, 1920, provide for $241,650 for salaries in the Marine Department, against $225,800 for the previous year. The Deputy Minister, Alex. Johnston, is increased from $5,000 to $6,000 a year; the Assistant Deputy Minister, C. Stanton, from $4,000 to $4,500; and the Naval Conductor, C. S. Duguid, from $4,000 to $4,500; the Chief Engineer's salary remaining at $4,000.

The Mount Royal Steamship Co. Ltd., has been incorporated under the Dominion Companies Act, with authorized capital of $100,000 (the official notice reads "one hundred dollars divided into 1,000 shares of one hundred dollars each), and office at Montreal, to build, own and operate steam and other vessels, and to carry on a general transportation business and shipping agency.

Mainly About Marine People.

Sir Montagu Allan, formerly of the Allan Steamship Lines, and Miss Martha Allan, who have been in England for a considerable portion of the war, are expected to return to Montreal at an early date. Lady Allan who has been in charge of Sidmouth Hospital for the past year, has postponed her return to Canada until the autumn.

J. Herbert Anderson, of the Anderson Co., New York, and the Anderson Co. of Canada, Montreal, ship builders, left New York, early in April, on a business trip to England and France.

Hon. C. C. Ballantyne, Minister of Marine, and of the Naval Service, returned to his house in Montreal, Apr. 12, accompanied by Mrs. Ballantyne, after spending some weeks at Atlantic City, N.J., recuperating after his serious illness. He arrived in Ottawa, Apr. 12, to resume his departmental duties, and took his seat in the House of Commons, Apr. 22.

J. T. Boissinot, Secretary-Treasurer, Davie Shipbuilding and Repairing Co., Lauzon, Que., has been appointed a justice of the peace for Quebec District.

Capt. A. L. Campbell, who died at Toronto, Apr. 18, aged 44, was for several years in Northern Navigation Co.'s service, and last year was master of the company's s.s. Hamonic. He was recently appointed master of the company's flag vessel Noronic, succeeding Capt. Foote, retired.

John Donnelly, of the Donnelly Salvage & Wrecking Co., Kingston, Ont., has been elected a member of Queens University Council, by the graduates.

Mrs. Foy, widow of Jno. Foy, who was president, Niagara Navigation Co., died at Toronto, Apr. 12. She was the eldest daughter of the late Sir Frank Smith, also a former president of the Niagara Navigation Co. Her two sons are in the transportation service, Frank C., being Passenger Agent, New York Central Rd., Utica, N.Y., and John V., being General Passenger Agent, Canada Steamship Lines, Toronto.

F. G. Frieser, who has been appointed General Agent, Freight Department, Canadian Pacific Ocean Services, Ltd., New York, N.Y., entered C.P.R. service in Maq, 1905, as Assistant Export and Import Agent, New York, and in July, 1906, was appointed Assstant Import Freight Agent, Chicago, Ill.; leaving the service in Oct., 1906, and re-entering it in Mar., 1911, as Assistant Foreign Freight Agent, New York, was appointed Export Freight Agent, Montreal, in Sept., 1911, and Export Freight Agent, New York, in Jan., 1916.

F. Orr Lewis, President, Canadian Vickers Ltd., has arrived in Montreal, after a considerable absence in England.

J. W. Norcross, President, Canada Steamship Lines, has removed to his new residence, 97 The Boulevard, Montreal. Mrs. Norcross and daughters returned recently from a visit to Atlantic City.

W. F. Wasley, Manager and Treasurer, Muskoka Lakes Navigation and Hotel Co., Gravenhurst, Ont., has been elected President of the International Water Lines Passenger Association.

R. M. Wolvin, vice president and managing director, Halifax Shipyards Ltd., and Mrs. Wolvin, returned to Montreal in April from Europe

W. A. Wright, eldest son of A. A. Wright, Assistant Director of Shipbuilding, Naval Service, Montreal, and a prominent member of the Dominion Marine Association, died at his father's house, in Toronto, Apr. 9, aged 21.

Naval Service Department Estimates for 1919-1920.

The estimates for the year ending Mar. 31, 1920, submitted to the House of Commons recently, contain the following items among others:—

Naval Service maintenance and upkeep of ships, Naval College, dockyards at Halifax and Esquimalt, and Royal Canadian Volunteer Reserve	$ 600,000.00
Hydrographic surveys	250,000.00
Fisheries protection service repairs and maintenance of fisheries protection steamships	100,000.00
Radiotelegraph service building and maintenance of wireless stations	285,000.00
Tidal service	30,000.00
Patrol of northern waters	40,000.00
Life saving stations including rewards for saving life	100,000.00
Royal Naval College of Canada	100,000.00
	$1,505,000.00

Canadian Merchant Service Guild.—A bill to incorporate the Canadian Merchant Service Guild has been introduced into the House of Commons, for bringing together men engaged in the Canadian merchant service, and to make provision for the insurance of the members, subject to the requirements of the Insurance Act relating to fraternal benefit societies. The organization has hitherto been confined to British Columbia, and it is now desired that a Dominion charter be obtained. The head office will be at Vancouver, B.C.

The Upper Canada Tract Society has been given $200 by the Dominion Marine Association in connection with the work at the Sailors' Institute in Toronto, where in 1918, by actual count, 839 men entered their names for work, and over half of these, according to the actual knowledge of those in charge, were supplied with berths. A much greater percentage, no doubt, secured work without informing the institution.

Aids to Navigation.—The Dominion Marine Association's committee on aids to navigation, met in Toronto Apr. 12 and decided to make several recommendations to the Lighthouse Board. The committee strongly favors the re-establishment of the light at Otter Head, Lake Superior, and also asks for a horn there. It also supports the Port Arthur Board of Trade's proposal for light and horn at Angus Island.

West Coast Towing and Salvage Co. Ltd. has been incorporated under the Dominion Companies Act, with $250,000 authorized capital and office at Vancouver, B.C., to carry on a general transportation, towing, wrecking and salvage business, and in connection therewith, to own and operate steam and other vessels, wharves, piers, etc.

The Ottawa Salvage Co. Ltd., the incorporation of which was announced in a recent issue, with office at Ottawa, is being organized to salvage logs from the Ottawa River, and for other salvage work. Capt. Milford, an engineer and former sea captain, recently of New York, is chiefly interested.

Pacat Steamships Ltd. has been incorporated under the Dominion Companies Act, with $50,000 authorized capital and office at Toronto, to carry on a general navigation and steamship owning and building business.

Details of the Different Types of Steamship for Canadian Government Merchant Marine Ltd.

The following are comparative details of five of the six different types of steamship being built for the Canadian Government Merchant Marine Ltd. At the time of writing, he plans for the 10,500-ton vessels were not available:

	[illegible],400 ton	[illegible],700 ton	4,300 ton.	5,100 ton.	8,100 ton.
Length overall	260 ft.		333 ft. 7 ins.	..	413 ft. 1 in.
Length bet. perpendiculars	[illegible]½ ft	251 ft	320 ft.	331 ft.	400 ft.
Breadth moulded	[illegible] ft.	43½ ft	44 ft.	46½ ft.	52 ft.
Depth moulded	23 ft.	26 ft.	25 ft.	25½ ft.	31 ft.
Draft loaded	20 ft. 1½ in.	22 ft. 2 in.	21 ft. 2 ins.	21 ft. 8 ins.	25 ft. 1 in.
Type	S.d., p.b. & f'c's'le	Lake, s.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	2d., p.b. & f'c's'le
Engines, type	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion
Cylinders, diar.	20 x 33 x 54 ins.	18 x 30 x 50 ins.	25 x 41 x 67 ins.	25 x 41 x 68 ins.	27 x 44 x 73 ins.
Stroke	40 ins.	36 ins.	45 ins.	45 ins.	48 ins.
I.h.p.	1,300		1,800	....	3,000
Boilers, type	Single ended	Single ended	Single ended	Single ended	Single ended.
No.	2	2	2	3	3
Diam. and length	15 x 11 ft.	14 x 10¾ ft.	15½ x 11½ ft.	14 x 11½ ft.	15½ x 11½ ft.
Furnaces, No.	6		6	....	9
Grate surface	135 sq. ft.		132 sq. ft.	....	198 sq. ft.
Heating surface	4,670 sq. ft.		5,162 sq. ft.	....	7,743 sq. ft.
Working pressure	190 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.
Speed	9 knots	9 knots	11 knots	11 knots	11 knots
Classification	Lloyd's	Brit. Corp.	Lloyd's	Lloyd's	Lloyd's

Wooden Steam Drifters at Lauzon, Que.

The vessels shown above are a portion of the 56 wooden steam drifters, built in Canada during the war, for the British Government, through the Canadian Naval Service Department. A full description, and plans of them, were given in Canadian Railway and Marine World for February.

Loss of the s.s. Troja.

Held at St. John, N.B., Mar. 25., before Commander H. St. G. Lindsay, assisted by Capts. Jas. Gillies and C. W. Hodder, as nautical assessors, into total loss of the s.s. Troja, on Old Proprietor, in the Bay of Fundy, Mar. 18. The court was unanimously of the opinion that the stranding and subsequent loss of the vessel was caused by the actions of the master, Capt. J. C. Caine, as he neglected to make use of his dead sea lead, which, had he done so when taking his departure from Seal Island, would have given him a better idea as to the distance, thereby enabling him to place more confidence in his course. A proper allowance was not made for the tidal set, owing, no doubt, to the fact that the tide tables used by him, were shown to be incorrect. The court, taking into consideration the master's long and successful service, and the proper and seamanlike manner in which the vessel was handled when the broken water was reported, until the stranding, and not wishing to deal with his certificates, severely censured him and ordered that he pay the costs of the investigation.

Since the taking over of the cable companies by the U.S. Government, and the placing of them under the Postal Department, some friction has developed in regard to the corporate officials of some of the companies, and this culminated recently in the "dismissal" of C. H. Mackay, as President of the Postal Telegraph Cable Co., by the Postmaster General. Mr. Mackay is reported to have stated that the action could not have been more arbitrary, despotic and vindictive. He also expressed the opinion that the action was intended to lead to a cable monopoly in the U.S., and was especially discriminatory against his companies.

The Marine Department will receive tenders to May 12, for the building on the Barret rock, near Prince Rupert, of a concrete tower, 38 ft. high, surmounted by an Aga light, supplied with compressed gas, capable of burning for about 6 months without attention. This is similar to the tower and light erected on the Ogden Point breakwater, at Victoria.

The Dominion Public Works Department will receive tenders to May 2, for repairs to the wharf at the quarantine station, Williams Head, B.C., about nine miles southwest of Victoria.

United States Ships Going Out by the St. Lawrence.

In Canadian Railway and Marine World for April, mention was made of a large number of ships built at U.S. yards on the Great Lakes, for ocean and coast service, and of their passage to the ocean via the St. Lawrence River. We have ben officially advised that during 1918, 160 coal burning steamships, built at U.S. yards on the Great Lakes, passed through the St. Lawrence to the coast, the total deadweight tonnage being 560,000. For this year, 154 oil burning and 106 coal burning steamships, all steel, and 70 steel and wooden steam tugs, will be completed on the Great Lakes, and sent to the ocean by the same route. Folllowing is a list of these, giving the builder, the ship's names and the deadweight tonnage.

American Shipbuilding Co., Chicago Yard, Lake Grafton, Lake Grainger, Lake Grama, Lake Grampian, Lake Grampus, Lake Granby, coal burning vessels, 4,200 tons d.w.; Lake Gazette, Lake Gebhart, Lake Gera, Lake Gert, Lake Getaway, Lake Geyster, Lake Giddings, oil burning vessels, 4,050 tons d.w.

Detroit Yard,—Lake Grattan, Lake Gravella, Lake Gravity, Lake Greenbrier, Lake Gretna, Lake Grogan, Lake Flovilla, Lake Flume, Lake Flushing, Lake Flynus, Lake Folcroft, Lake Sapor, Lake Fonda, Lake Fontana, Lake Fontanet, Lake Faresman, coal burning vessels, 4,200 tons d.w.; Lake Gilboa, Lake Gilpen, Lake Gilta, Lake Giltedge, Lake Girth, Lake Gitano, Lake Glasco, Lake Fablus, Lake Fabyan, Lake Fackler, Lake Fagundus, Lake Fairfax, Lake Fairlie, Lake Inglenook, Lake Fairport, Lake Fairton, Lake Faliah, Lake Falfa, Lake Falkner, Lake Treab, Lake Falun, Lake Tippah, Lake Fandango, Lake Fandon, oil burning vessels, 4,050 tons d.w.

Cleveland Yard,—Lake Faristelle, Lake Forkville, Lake Forney, Lake Forsby, Lake Fossil, coal burning vessels, 4,200 tons d.w.; Lake Fannin, Lake Farabee, Lake Farber, Lake Faribault, Lake Fariston, Lake Farley, oil burning vessels, 4,050 tons d.w.

Superior Yard,—Lake Fouche, Lake Foxboro, Lake Foxcroft, Lake Fraichur, Lake Fraley, Lake Farlin, coal burning vessels, 4,200 tons d.w.; Lake Farmingdale, Lake Farragut, Lake Farrar, Lake Stobi, Lake Falama, oil burning vessels, 4,050 tons d.w.

Lorain Yard,—Lake Franconia, Lake Fray, Lake Frazee, Lake Frecks, Lake Freeborn, Lake Freed, Lake Freeland, Lake Freezeout, Lake Frenchton, Lake Fresco, Lake Inaha, Lake Friar, Lake Frio, Lake Fronna, Lake Frolono, Lake Frugality, Lake Frumet, coal burning vessels, 4,200 tons d.w.; Lake Fanbush, Lake Faulk, Lake Fansdale, Lake Fanquier, Lake Favonia, Lake Faxon, Lake Felden, Lake Hachita, Lake Fellowship, Lake Felton, Lake Fenn, Lake Feodora, Lake Fergus, Lake Fernalda, oil burning vessels, 4,050 tons d.w.

Buffalo Yard,—Lake Cathcoon, coal burning vessel, 3,550 tons d.w.; Lake Fugard, Lake Furley, Lake Furlough, coal burning vessels, 4,200 tons d.w.; Lake Fernando, Lake Ferrona, Lake Fessenden, oil burning vessels, 4,050 tons d.w.

Burger Boa Co., Manitowoc, Wisc. Retriever and Terrier, steam tugs..

Dachel-Carter Boat Co., Benton Harbor, Mich.—Badger and Leopard, steam tugs.

Globe Shipbuilding Co., Superior, Wisc.—Conotton, Procter, Copalgrove, Lake Glebe, Lake Glencoe, coal burning vessels, 3,500 tons d.w.; Lake Fiscus, Lake Fisher, Lake Fitch, Lake Fithian, Lake Flag, Lake Glaucus, Lake Gunni, Lake Harminia, Lake Hector, Lake Justice, oil burning vessels, 4,050 tons d.w.

Great Lakes Engineering Works, Ecorse Yard.—Cottonplant, Cottonwoood, Coulee, Council Bluffs, Couparle, Courtois, Coushatta, Couolene, Covalt, Covedale, Covena, Coverun, Cowan, coal burning vessels, 4,200 tons d.w.; Lake Elkwood, Lake Elkwater, Lake Ellendale, Lake Singara, Lake Ellerslie, Lake Ellicott, Lake Ellijay, Lake Ellithorpe, Lake Ellsworth, Lake Ellsbury, Lake Elmdale, Lake Elmhurst, Lake Elmont, Lake Slavi, Lake Elmsford, Lake Elmwood, oil burning vessels, 4,050 tons d.w.

Ashtabula Yard. — Cowanshannock, Cowboy, Cowee, Cowishe, Crabtreet, Craigrownie, Craigsmere, coal burning vessels, 4,200 tons d.w.; Lake Elnora, Lake Elon, Lake Elpueblo, Lake Elrio, Lake Elsah, Lake Elsmere, Lake Elva, Lake Elwin, oil burning vessels, 4,050 tons d.w.

Leatham and Smith Towing and Wrecking Co., Sturgeon Bay, Wisc.—Energy, Diligent, Active, Bison, Bullock, Ox, Bear, Burro, and four not yet named, steam tugs.

McDougall-Duluth Co., Duluth, Minn.—Cedar Spring, Ceralvo, Cerosco, Cerro Gardo, Chamberlino, Chamblee, Chaparel, Chantier, Chappell, Chautauqua, coal burning vessels, 3,500 tons d.w.; Lake Flagon, Lake Flagstaff, Lake Flambeau, Lake Flanders, Lake Flatonia, Lake Flattery, Lake Strymon, Lake Flaxman, Lake Flippen, Lake Floise, Lake Flomatch, Lake Floravista, Lake Florian, Lake Floris, Lake Flournoy, oil burning vessels, 4,050 tons d.w.

S. C. McLouth, Marine City, Mich.—Seafarer, Adventurer, Protector, Marine City, and four not yet named, steam tugs.

Manitowoc Shipbuilding Co., Manitowoc, Wisc.—Coperas, Coquina, Corapeak, Corcoran, Python, Cornucopia, coal burning vessels, 3,400 tons d.w.; Lake Gadsden, Lake Onawa, Lake Savus, Lake Gaither, Lake Galata, Lake Galewood, Lake Galien, Lake Galisteo, Lake Ikatan, Lake Galva, Lake Idria, Lake Gama, Lake Haresti, Lake Horus, Lake Hyas, Lake Hybla, Lake Hygeia, Lake Hypanis, oil burning vessels, 4,050 tons d.w.

Northwest Engineering Works, Green Bay, Wisc.—Cockamong, Cockeco, Toiler, Vanguard, Sampson, Mastiff, Guardian, Vallonia, Moositauke, Toopi, Menominee, Outagamie, Pylos, Salem, Ashwaubemie, Suamico, Tomah, Green Bay, Fort Howard, Allouez, Ousaki, Seymour, Kaukauna, Kellogg, and nine not yet named, steam tugs.

Saginaw Shipbuilding Co., Saginaw, Mich.—Lake Lilicusun, Lake Licoco, Lake Saba, Lake Canaveral, Lake Candelaria, Lake Cannonsburg, Lake Fear, Lake Girardeau, coal burning vessels, 3,500 tons d.w.; Lake Gando, Lake Furnas, Lake Gannett, Lake Gano, Lake Gara, Lake Gardeau, Lake Gardi, Lake Garlock, Lake Eaglerock, Lake Kaleta, Lake Gasconade, Lake Hebron, oil burning vessels, 4,050 tons d.w.

Toledo Shipbuilding Co., Toledo, Ohio—Lake Strabo, Lake Charlottesville, coal burning vessels, 3,500 tons d.w.; Lake Festina, Lake Festus, Lake Fibre, Lake Fielding, Lake Fife, Lake Figart, Lake Fighting, Lake Filbert, Lake Fillion, Lake Fillmore, Lake Filson, Lake Fincastle, Lake Fine, Lake Finkton, Lake Finney, Lake Firth, oil burning vessels, 4,050 tons, d.w.

Universal Shipbuilding Co., Sturgeon Bay, Wisc.—Commander, Commodore, Lieutenant, steam tugs.

Whitney Bros. Co. ,Wisc.—Hukey, Hulver, Humaconna, Humrick, Keshena, Kiokee, Kiron, Kitchi, Kolda, Kaleen, steam tugs.

Vancouver Harbor Improvements Suggested.

A. D. Swan, consulting engineer, Montreal, who was employed by the Dominion Public Works to report on Vancouver Harbor is said to have suggested the following improvements:—

A booming ground for timber in English Bay.

A timber export wharf.

A harbor terminal railway.

Provision for 6 new deep water berths or wharves at once.

Mechanical equipment at the new government wharf and other wharves when constructed.

Equipment for non-inflammable oil storage in some suitable site.

Provision of a fire tug, fitted with powerful crane, which tug shall be used as an auxiliary car ferry to serve immediate needs to North Vancouver.

Dockage facilities for passengers and other traffic in connection with the Canadian National Rys.

Removal of C.P.R. bridge across entrance of False Creek at Kitsilano reserve, and if necessary, construction of new bridge in a suitable location.

Suitable landing facilities at North Vancouver, for auxiliary car ferry, with railway connections.

Second Narrows bridge to be constructed as part of the complete scheme, if not immediately, at an early date.

Drydock to be built by government, if not arranged for by private interests, at early date.

Conference Between Shipbuilders and Employes.

Ottawa press dispatch states:— A conference of shipbuilders from Port Arthur to Halifax with representatives of their employes, has been in progress for the past two days at the Labor Department. The object was to arrive at a working agreement which would be satisfactory to both parties. The shipbuilding trades represented are amalgamated into a single organization called the Marine Trades Federation. The question of a working agreement was thoroughly discussed, but it was found impossible to formulate the terms of an actual agreement during the conference. It was arranged, however, that a further conference would be held shortly, after the points brought up at this one had been considered.

Aliens at Shipbuilding Yards.—The order in council, passed as a war measure, Sept. 17, 1917, prohibiting the entrance into any shipbuilding yard, of persons not natural born British subjects, has been rescinded.

The C.G.S. Montcalm's Winter Trips Between Quebec and North Sydney.

Canadian Railway and Marine World for March contained a copy of the Canadian Government Merchant Marine Ltd. s.s. Canadian Voyageur's log from her leaving Quebec, Jan. 20, to her arrival at Halifax, N.S., Feb. 4. She was convoyed from Quebec to Sydney, N.S., by the C.G.S. Montcalm, and we have been favored with the folllowing extracts from the Montcalm's log, on both the down and up trips, which will doubtless prove of interest, on account of the fact that the trips were unprecedented on the St. Lawrence at the season at which they were made:—

Jan. 20.—Ship at Pt. a Carcy wharf, Quebec, ready to leave in company of s.s. Canadian Voyageur. Weather cloudy, light n.e. wind. 9.50 a.m., cast off proceeded down. 10.50 a.m. returned to Quebec, snowing, Canadian Voyageur in tow. 12.45 p.m. Moored at Pt. a Carcy wharf. Capt. A. Fournier on board to assist Capt. P. A. Lachance; boiler maker on board, in case of trouble with boilers. Ship took 29 tons of coal and remained at Pt. a Carcy.

Jan. 21.—Cloudy, calm. Cast off from Pt. a Carcy wharf at 9 a.m., and proceeded, Canadian Voyageùr in company. 10.20 a.m., St. Laurent light abeam; 11.28 a.m. St. John light abeam; 1.20 p.m. Crane Island light abeam; 2.05 p.m. Stone Pillar abeam. Cloudy, light n.e. wind, 5.40 p.m. St. Irenee light abeam; stopped in the ice. 10 p.m. weather clearing, proceeded down; 10.45 p.m. Cape Salmon light abeam. 11.30 p.m. Cape Dog light abeam. Distance 98 miles.

Jan. 22.—Midnight, abeam White Island; course according to ice; 5.50 a.m., stopped waiting for daylight; ice thick; 6 a.m. light snow, full speed ahead; 8.30 a.m. Bicquette abeam; 10 a.m., came along side Canadian Voyageur took pilots Koenig and Pouliot, and Mr. Smith, on board as passengers; proceeded down, course n. 15 e.; light snow; 2 p.m. about Manikiagan buoy position; course s. 85 e. Light snow; 6 p.m. stopped in solid ice, cloudy, light wind, distance 87 miles.

Jan. 23.—4 a.m. About four miles south of Minikiagan gas buoy; proceeded in heavy ice; 8 a.m. ship laboring in heavy ice, making no progress; north wind, clear weather; 9 a.m. light s.e. wind; ship making no headway; noon Pt. Des Monts, bore n. 80 e.; Cape St. Nicolas bore n. 53 e.; 2 p.m. south east wind, headed ship south, to keep clear of Manicona; sign of storm coming; 4 p.m., cloudy; ship in thick ice; about ten miles south of Manikiagan gas buoy for the night. 10 p.m. strong s.e. wind, snow storm, n.e. gale.

Jan. 24.—Midnight, ship south of Maniconagan; 85 fathoms water; in solid [illegible] storm, n.e. gale; ship drifting with wind; 9 a.m., cast lead 65 fathoms; 11 a.m. cast lead; noon 67 fathoms; 1.30 p.m. Weather same, 75 fathoms; 2.30 [illegible], ship drifting with n.e. [illegible] nearly 2 miles an hour. 4 p.m. 70 fathoms; 5 p.m. 50 fathoms; [illegible] 7 p.m. 40 fathoms; [illegible] ship near North Shore, headed to south to try and keep [illegible] fathoms; wind north, light snow; ship remained stopped in ice for night.

Jan. 25.—Midnight, [illegible] solid ice, 80 fathoms; 6 a.m. weather clear; 100 fathoms; Pt. Neuf bore w.n.w., strong north wind; proceeded to s.s. Canadian Voyageur; east end of Bic Island bore s. 12 e. Weather clear; ship drifted in yesterday's gale about 46 miles in solid ice; working ship hard in heavy ice, to go to assist Canadian Voyageur one mile away; noon, moored alongside Canadian Voyageur; took 86 tons of coal.

Jan. 26.—Ship two miles n.w. off Bicquette Island; finished coaling; light north wind; proceeded course n. 87 e.; 6 a.m. Bersimis abeam; 8.30 a.m. 5 miles off Maniconagan; 9 a.m., slow engine, waiting for Canadian Voyageur; 12.55 p.m. Pt. Des Monts abeam; light west wind; course n. 60 e.; 2.25 p.m. Egg Island abeam; course n. 80 e.; light scattered ice; 5.40 p.m. Carousel abeam; 9 miles off; course s. 62 e.; 10 p.m., stopped engine for night; waiting for daylight to make West Point, Anticosti.

Jan. 27.—Long. 65, 16; west lat. 49.58 n.; 4.40 a.m. proceeded s. 62 e.; west wind, light ice; 7.15 a.m. West Point, Anticosti abeam, 7 miles off; 9 a.m. close packed ice everywhere; 9.15 a.m., slob ice from North Point, Cape Observation; 1.30 p.m. abeam, Carleton Pt.; 4.30 p.m. abeam about Cape Bear; 6.15 p.m. starboard rudder chain broke in heavy ice rudder came in port propeller engine; going slow astern; lost one propeller blade and broke hand steering gear; 8.30 p.m., rudder chain repaired, ship remained in heavy ice all night; crew removed 38 tons of coal from aft hold to bunker today; chief officer gave orders to steward and cook to be careful with water and provisions.

Jan. 28.—Ships position about long. 62.16; w. lat. 49.37 n.; ship drifting with ice; light west wind; 12.45 a.m. cast lead 95 fathoms; 2.45 a.m. 86 fathoms; 5.30 a.m. 80 fathoms; 6 a.m., trying to work ship, impossible to move; 7 a.m. stopped engine, no headway possible; weather clear; light west wind; noon 70 fathoms water; 2 p.m. 55 fathoms; lost deep sea lead in ice; tried to work ship. 3 p.m. stopped, impossible to move; 6 p.m. ship stopped in heavy ice; 9.30 p.m. 83 fathoms; ice moving to east slowly; crew removed 38 tons of coal from aft hold to bunker.

Jan. 29.— Ships position long. 62.14; w. lat. 49.39 n.; in heavy close packed ice, 49 fathoms; 4 a.m. 42 fathoms; 6 a.m. 52 fathoms; commenced working ship in opening, proceeded north to find condition of ice; 6 p.m. stopped; cast lead, 75 fathoms; heavy scattered ice; 8 p.m. proceeded s. 63 e.; heavy ice, scattered. Distance 60 miles.

Jan. 30.—Ships position about 30 miles north of Table Head; course s. 63 e.; weather clear, moderate n.w. wind; 2.50 a.m. stopped in thick ice, waiting for daylight; 6 a.m. proceeded s. by e.; light n.w. wind; 9 a.m. ship in heavy ice, making slow progress; 10.30 a.m., cast lead, 75 fathoms; Heath Pt. bore s. 20 w.; Canadian Voyageur in thick ice; impossible to go to her; stopped in the ice; ship about 10 miles off Anticosti; crew moved 18 tons of coal from fore hold to bunker; ship remained in ice; distance 24 miles.

Jan. 31.—Ship's position about 5 miles east of east end of Anticosti Island, weather clear; light west wind; 6 a.m., proceeded, trying to go to assist Canadian Voyageur in heavy ice; worked ship back and forth; 10 a.m. impossible to do anything; 10.15 a.m. proceeded e. to s.w.; 12.45 p.m. stopped, 75 fathoms water; 2.55 p.m. proceeded to west; 8 p.m. 46 fathoms water; stopped in ice; midnight 48 fathoms water; ship remained in ice for night.

Feb. 1.—Ship's position about 6 miles east of Anticosti in 48 fathoms water. 6 a.m. ship working, trying to go to assist Canadian Voyageur; 8 a.m. ship working in heavy ice, making good progress; 8.45 a.m. ship with Canadian Voyageur; 9.05 a.m. proceeding with Canadian Voyageur; noon, ship in loose ice; proceeeding, Canadian Voyageur following, steering according to ice, e. to s.w.; 1 p.m. light ice, course s. 20 w.; 6 p.m., cast lead 265 fathoms; 9.40 p.m. 260 fathoms; 11 p.m. 215 fathoms; sounding machine lead carried away by ice.

Feb. 2.—Ship about 10 miles north of St. Paul Island, in some heavy loose ice; 1.30 a.m. St. Paul light bore s. 45 w.; cast lead 285 fathoms; 3.35 a.m. St. Paul Island abeam about 4 miles off; in heavy loose ice, course s. 25 w.; 8 a.m., ship in light ice, wind s.w., light snow; 10 a.m. Flat Point abeam; 11.25 a.m. Moored at coal pier, North Sydney.

Feb. 4.—Diver on board, for examination of rudder and port propeller; reports ruddder shaft twisted, some bolts loose in rudder connections, one blade of port propeller lost, diver working at loose bolts.

The Return Trip From North Sydney to Quebec.

Mar. 11.—North Sydney, weather clear with strong n.w. wind. 5 a.m. left for St. Paul Island; 9.55 a.m., in heavy, close packed ice; 10.15 a.m. Cape North abeam; 12.30 p.m. anchored at St. Paul Island and landed provisions; 1.50 p.m., weighed anchor and proceded in heavy, close packed ice; 4 p.m., open ice. Altered course n. 4 e. Hours at sea 18, run 160 miles.

Mar. 12.—About 20 miles east of Heath Point; weather clear with light n.n.w. wind; 6 a.m., East Point Anticosti bearing s. 50 w.; heavy loose ice; 9 a.m., Cape Henry abeam, 6 miles off; noon Carleton Point abeam 9.30 p.m. anchored Thunder river; latter part snow with fresh s. wind, hours steaming 21½, distance 220 miles.

Mar. 13.—Thunder river, fair and snowing, with strong gale n.w.; 12.45 a.m. weighed anchor and proceeded westward; 3.30 p.m. Carousel Island abeam; 4 p.m., ship in solid ice for the night; Seven Islands Bay; latter part clear with strong n.w. gales, steaming 15 hours, 15 minutes.

Mar. 14.—Seven Islands Bay, in ice; distance 80 miles; weather clear with moderate n.w. wind; landed freight; 10.30 a.m., left for Thunder river; 11 a.m. Carousel abeam; course s. 70 e. 4.20 p.m. anchored off Thunder Bay, and loaded fish; latter part clear, with light n.w. wind, hours steaming 5½, distance 80 miles.

Mar. 15.—Thunder river; weather clear with light n.w. wind; 9 a.m., finished loading and weighed anchor for Ellis Bay; 12.25 p.m. anchored Ællis Bay; landed and received mail; 8.20 p.m., weighed anchor and left for Quebec 9.18 p.m. West Point abeam; course n.50w. Latter part clear with n.w. wind; time steaming 7 hours, 5 minutes, distance 65 miles.

Mar. 16.—35 miles west of West Point; 3.50 a.m. Carousel light abeam, 2 miles off; 7 a.m., anchored Shelter Bay, landed passengers; 12.10 p.m., weighed anchor and proceeded; 2 p.m., picked up fog alarm keeper at Pointe des Monts; 3.10 p.m. arrived Godbout and took passenger; 3.25 p.m. proceeded up; 4.15 p.m. arrived English Bay, landed passengers and freight; 10 p.m. proceeded on way up; midnight, course s. 72 w., time steaming 13½ hours, distance 142 miles.

Mar. 17.—Off Metis. Weather rainy and fog; 2.25 a.m. Father Point abeam; heavy scattered ice; 8 a.m., anchored off Baud Mills, on account of thick weather; 12.30 p.m. weighed anchor and left for Tadousac, but unable to stop there owing to thick weather; 2.50 p.m. Cape Salmon abeam; 4.40 p.m. anchored off St. Irenee; time steaming 16 hours, 40 minutes, distance 106 miles.

Mar. 18.—St. Irenee; first part cloudy, with light s.e. wind; 7.30 a.m.; left for Quebec; 9.44 a.m. Upper Traverse pier abeam; 12.15 p.m. Crane Island abeam; 4 p.m. arrived at Quebec and moored at Point a Carcy wharf; latter part cloudy with light s.w. wind; time steaming 8½ hours, distance 66 miles.

Government Operation of Steamships.

The Montreal Gazette says.—"State operation of steamships offers a new field in Canada, but not one which has been left untried elsewhere. In Great Britain, during the latter period of the war, the government controlled the shipping, and an instructive comparison of the results achieved under commercial control on the one hand, and state control on the other, is available. The question is dealt with clearly and exhaustively in the annual report of the Liverpool Steamship Owners' Association. Taking the year ended July 31, 1916, as the last complete period of commercial control, and comparing it with the year ended July 31, 1918, the first complete period of state control, it is found that in the latter period the costs increased while the service declined. The decrease in tonnage amounted to 13%, but the drop in the weight of imports carried amounted to 22%. Under commercial control the increase in cost over peace time figures was 46%, and under state control 163%. In the commercial period the weight of imported raw materials decreased 16%, and the cost increased 7%, while in the state period the volume decreased 31%, and the cost increased 56%. All imports decreased 15%, in the first period and 37% in the second. The proportion of exports to imports dropped from 61% to 44%. It is pointed out that under government control the use of 8,500,000 tons of foreign shipping was lost, and the concentration of British tonnage on the shorter routes, intended to offset this loss, meant the forfeiture of some of the best import and export markets, with a resultant rise in prices. The conclusions of this illuminating report are summed up as follows:

"'For the first two years of the war, commercial enterprise working in and with the markets of the world equipped the armies and provided for the needs of the nation and its allies. It is true that supplies decreased and prices advanced, but never to the point of imposing privation and suffering on the nation. In the last two years of the war, whilst the state was in control, the quantity and quality of our supplies were reduced, prices were forced up, our power to pay by means of our exports was crippled, and foreign debt was greatly increased. It has been demonstrated that even with the unlimited credit of the nation behind it the state cannot supply the needs of the nation as they were supplied through commercial enterprise, and that the first step towards the re-establishment of the industries and commerce of the nation must be the elimination of state control over both our oversea trade and shipping.'"

Telegraph Lines Statistics.

The following table is taken from the Public Works Department reports for the year ended Mar. 31, 1918, and gives the latest figures available:

Canada.	Length of Lines in Miles.				No. of
	Aerial	Underground	Submarine	Total	Offices
Great North Western Telegraph Co.	10,064	7	[illegible]	[illegible]	[illegible]
Canadian Pacific Ry. Co.'s Telegraphs	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Dominion Government Telegraph Service	[illegible]		[illegible]	[illegible]	[illegible]
Grand Trunk Pacific Telegraph Co.	[illegible]	1	1	[illegible]	[illegible]

Welland Ship Canal Construction.

In connection with the vote of $3,500,000 for construction on the Welland Ship Canal, the Minister of Railways and Canals, said in the House of Commons, April 22:

"The new Welland Ship Canal was under construction at the time war was declared. Work was carried on for a time afterwards, then was closed down. There were four sections under construction: No. 1, for dredging the harbor, completing the concrete work, and regulating the weir; that contract was with the Dominion Dredging Co., when work was closed down. Then there were sections 2, 3 and 5 also under construction. These were the four largest sections of this canal. When the war ended and demobilization took place, we felt it was necessary to go on with some of the work to provide employment. A great many of the men who had been working on the canal had enlisted, and there were also in that district a great many men who were thrown out of work owing to the closing of munitions plants. We therefore decided to go on with the work that we had under construction. We had, of course, settled with the contractors; the contracts had been cancelled. When we decided to start work again, we thought that the cost of materials and labor was so high that it would be almost impossible for the contractors to tender at a fair and reasonable price. We therefore put the old contractors at work on these four sections, which would employ a large number of men, and we decided to let them proceed with the work on a cost plus basis. We agreed to pay them 5%. These contractors understood the work, had their organizations, and we thought they would be able to do the work in the most economical way. The work goes on only from month to month, because we stipulated in the contract that we can stop work on the cost plus basis at any time and call for tenders, so that we could take advantage of conditions when they become normal again. We also stipulated in the order in council that the contract would not extend beyond Dec. 31, 1919, so that there could be no misunderstanding with the contractors or with the public. In section 1 we estimate that the total amount that could be expended would be $500,000; sec. 2, $600,000; sec. 3, $700,000, and sec. 5, $500,000. Then for the purchase of plant, cement, bridges, steel rails, engineering, etc., $1,200,000. They do not get any percentage on the $1,200,000, but only on the other. So that, although we have $3,500,000 in the estimates, we will pay a percentage only on $2,300,000 at the very most, if they do that amount of work."

The Schooner Francis J. Elkin Co. Ltd., has been incorporated under the New Brunswick Companies Act, with authorized capital of $99,000, and office at St. John, N.B., to acquire and operate the schooner Francis J. Elkin, and to carry on the business of managing steamships and other vessels of all kinds. The incorporators are, F. P. Elkin, W. E. Golding, G. R. McKean, St. John, N.B.

Telegraph and Telephone Line Estimates for 1919-1920.

The Public Works Department's estimates, for the year ending Mar. 31, 1920, submitted to the House of Commons recently, contain the following items:—

NOVA SCOTIA.	
Pictou Island telephone cable	$ [illegible]
PRINCE EDWARD ISLAND.	
Half cost of reconstruction of telegraph lines jointly owned by the Anglo-American Telegraph Co. and Dominion Government	[illegible]
QUEBEC.	
Improvements to repair service	[illegible]
SASKATCHEWAN AND ALBERTA.	
Peace River line office and dwelling at Grande Prairie	[illegible]
Peace River line woods clearance Edmonton to Peace River	5,000.00
Repairs and improvements to office buildings	1,000.00
BRITISH COLUMBIA.	
Mainland telegraph and telephone lines, general repairs and improvement	10,000.00
Vancouver Island lines repairs and renewals	[illegible]
	$ [illegible]

The following items are chargeable to collection of revenue:

Prince Edward Island and mainland [illegible]	[illegible]
Land and cable telegraph, Lower St. Lawrence and Maritime Provinces, including working expenses of vessels required for cable [illegible]	[illegible]
Saskatchewan	[illegible]
Alberta	[illegible]
British Columbia mainland	[illegible]
British Columbia Vancouver Island [illegible]	[illegible]
Yukon System (Ashcroft-Dawson)	[illegible]
Telegraph and telephone [illegible]	[illegible]
	$ [illegible]

Among the Express Companies.

G. J. Veigel has been appointed agent, Canadian Ex. Co., Saskatoon, Sask., vice E. S. Mitchell.

A. C. Hoare, heretofore agent, Dominion Ex. Co., Quebec, Que., has been appointed agent at Montreal.

The Canadian Northern Ex. Co. has opened offices at Camden East, Ont., and Madison and Glidden, Sask.

F. Fennell, heretofore agent, Dominion Ex. Co., Truro, N.S., has been appointed agent at Halifax, N.S., vice K. Copeman, transferred.

K. Copeman, heretofore agent, Dominion Ex. Co., Halifax, N.S., has been appointed agent at Quebec, Que., vice A. C. Thorn, transferred.

The Board of Railway Commissioners passed order 28168, Mar. 18, extending the area within which the tolls of express companies shall include the collection and delivery of express freight in Montreal, defined by order 18281, Dec. 2, 1912, at the Tail Race, or Butler Ave. so as to include the British Munitions Co.'s plant for the period of the war only.

Canadian Ex. Co.'s freight handlers, checkers, drivers, messengers, etc., struck work Apr. 10. The matters in dispute between the company and its employes had been referred to a board of conciliation, and the company not seeing its way to accept the award, had referred the matter to the Railway Board of Adjustment No. 1, but the men decided to strike without waiting for the board's decision on the points submitted. They returned to work Apr. 21, having accepted the board's decision, which provided for an eight-hour basic day, effective May 1, with a wage increase of $25 a month retroactive to Feb. 1, and based on the rates paid on Jan. 1, 1918. It is also provided that overtime pro rata be paid for the first two hours above eight hours, and at the rate of time and a half above 10 hours. A mileage rate of 1¼c is provided for messengers travelling upwards of 6,000 miles a month, and payment will be made for Christmas and New Year holidays. John Pullen, president of the company, is reported to have stated that the decision is practically along the lines established by the U.S. Railroad Administration.

Trade and Supply Notes.

The matter which appears under this heading is compiled in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to and in publishing the same we accept no responsibility. At the same time we wish our readers distinctly to understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will compel us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

Safety Car Heating and Lighting Co.—Col. Robt. Andrews, a former president of this company, died at East Orange, N J., April 7, aged 84. After being on the Pennsylvania State and union canals as an assistant engineer he commenced railway engineering in 1857 as principal engineer of surveys and construction on the Sunbury and Erie Ry. In 1959 he went with the South Pennsylvania Rd. as principal engineer of surveys until the outbreak of the Civil War, when he was made a major of the 2nd Regiment, Delaware Volunteers, and became colonel in [illegible]. At the close of the war he was made principal engineer of Saratoga & Hudson River Rd. 1863-1865, was subsequently superintendent of Toledo, Wabash & Western Rd. 1865-1875, chief engineer of same road 1873-1875, and general superintendent and consulting engineer of Wabash system 1875-1884. From 1884 to 1885 he was consulting engineer of Wabash, St. Louis and Pacific, and in 1885 was made general superintendent and engineer of Virginia Midland Ry. In 1889 he left railway service to take the position of vice president of the Safety Car Heating and Lighting Co. In Dec., 1901, he was elected president, and from May, 1907 to 1915, he was chairman of the board of directors.

Transportation Conventions in 1919

May 6-8. Air Brake Association, Chicago, Ill.

May 19.—International Railway Fuel Association, Chicago, Ill.

May 26-29.—Master Boiler Makers' Association, Chicago, Ill.

June 11.—Railway Accounting Officers' Association, New York.

June 17-20.—American Train Despatchers' Association, Chicago, Ill.

June 18-21.—Master Car Builders' Association, Atlantic City, N.J.

June 23-25. American Railway Master Mechanics' Association, Atlantic City, N.J.

September. Master Car and Locomotive Painters' Association of the United States and Canada, Chicago, Ill.

September. Traveling Engineers' Association, Chicago, Ill.

Sept. 16-18.—Roadmasters' and Maintenance of Way Association, Chicago, Ill.

October.—American Railway Electric Engineers' Association, Chicago, Ill.

Oct. 21-23. American Railway Bridge and Building Association, Cleveland, Ohio.

Oct. 21-23. Maintenance of Way and Master Painters' Association, St. Louis, Me.

Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries unless otherwise stated:

Belleville Railway Men's Educational Club. Meets each Tuesday, 7.30 p.m. F. A. Pingston, Belleville, Ont.

Canadian Car Service Bureau—W. J. Collins, Manager, 401 St. Nicholas Building, Montreal.

Canadian Electric Railway Association—Acton Burrows, 70 Bond Street, Toronto.

Canadian Freight Association (Eastern lines) G. C. Ransom, Canadian Express Building, Montreal.

Canadian Freight Association (Western lines)—W. E. Campbell, 305 Boyd Block, Winnipeg.

Canadian Railway Club—J. Powell, St. Lambert, Que. Meetings at Montreal 2nd Tuesday, each month, 8.30 p.m., except June, July and August.

Canadian Railway War Board W. M. Neal, Montreal.

Dominion Marine Association—F. King, Counsel, Kingston, Ont.

Canadian Ticket Agents' Association—E. de la Hooke, London, Ont.

Eastern Canadian Passenger Association G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Montreal—R. W. H. Smith, 9 Beaver Hall Square, Montreal.

Engineers' Club of Toronto—R. B. Wolsey, 94 King Street West, Toronto.

Engineering Institute of Canada F. S. Keith, 176 Mansfield St., Montreal.

Express Traffic Association of Canada—C. N. Ham, Montreal.

Great Lakes and St. Lawrence River Rate Committee—James Morrison, Montreal.

Hydro-Electric Railway Association of Ontario—T. J. Hannigan, Guelph, Ont.

International Water Lines Passenger Association—M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee—James Morrison, Montreal.

Quebec Transportation Club—A. F. Dion, Quebec.

Shipping Federation of Canada—Thos. Robb, Manager, 42 St. Sacrament Street, Montreal.

Toronto Transportation Club—W. A. Gray, 143 Yonge Street, Toronto.

Transportation Club of Vancouver—H. W. Schofield, 556 Church Street, Vancouver, B.C.

OTTAWA, NORTHERN & WESTERN RAILWAY COMPANY.

The Ottawa, Northern & Western Railway Company hereby gives notice that it will apply to the Parliament of Canada, now in session, for an Act empowering the company to construct a line of railway extending from the present terminus of its so-called Waltham Branch at Waltham, in the Province of Quebec, thence through the Townships of Waltham, Chichester and Sheen, thence across the Ottawa River to a junction with the Canadian Pacific Railway at or near Chalk River, in the Province of Ontario, and to increase its bonding powers.

Dated at Montreal, this 7th day of April, 1919.

H. C. OSWALD,
Secretary.
Pringle, Thompson, Burgess & Cote,
Ottawa agents.

CANADIAN PACIFIC RAILWAY COMPANY.

NOTICE is hereby given that the Canadian Pacific Railway Company will apply to the Parliament of Canada, now in Session, for an Act authorizing it to establish, maintain and operate services by air-craft between such points and places within or without the Dominion of Canada as may be found desirable, and to exercise and enjoy such powers as may be necessary for such purposes.

Dated at Montreal, the 16th day of April, A.D. 1919.

E. ALEXANDER,
Secretary.
Pringle, Thompson, Burgess & Cote,
Parliamentary agents.

NORTHERN CRANES
MADE IN CANADA
Electric Traveling Cranes, Electric Gantry Cranes, Hand Cranes, Electric Hoists.
Write for Estimates.
NORTHERN CRANE WORKS, Ltd.
Walkerville, Ont.

Geo. P. Nichols & Bro.
Electric Turntable Tractors
Electric Transfer Tables
More than 100 American railroads have adopted the Nichols Tractor as standard.
Office and Factory, 2139 Fulton St., Chicago, Ill.

Canadian Railway and Marine World

June, 1919

Shops, Yard, Etc., Canadian National Railways, at Leaside, near Toronto.

Rapid progress is being made towards the completion of the Leaside shops, yard, etc., which the Canadian National Rys. are building for the handling of their Toronto traffic. In 1911, Canadian Northern Ry. interests acquired a large tract of land adjoining the C.P.R. Leaside Jct. station, the intention being to build large terminals there. The intention then was to make Leaside not only a railway terminal, but also to build there a railway town, and for that reason, the property acquired was considerably in excess of that needed for terminal purposes. The Town of Leaside was incorporated by the Ontario Legislature in May, 1913, and about the same time, much of the land was subdivided for building purposes, and a considerable number of dwellings were put up, but no railway development took place.

The terminal site is immediately to the east and north of Leaside Jct. station, where the C.P.R. Montreal-Toronto line divides, one line running to Toronto union station, and the other to the North Toronto joint station in which the C.P.R. and the Canadian National Rys. have equal rights. On the latter line, the Canadian Northern Ontario Ry. acquired running rights, and also the use of the joint North Toronto station. The Canadian Northern had no immediate connections to this line, but in 1913, authority was granted for to build a short connecting line from Duncan, on the Toronto-Sudbury line, to the C.P.R. line, some 1,200 yards east of the new terminal, and this line was built shortly afterwards. Authority was also granted for a connecting line from the Toronto-Ottawa line, to connect with the C.P.R. near the same point as the Duncan cut-off, but this line has not been built. The Canadian National Rys. have not commenced using the North Toronto station, but are still using the Toronto union station. Should it be decided to use North Toronto station for Ottawa and Montreal trains, it will be necessary to build the second cut-off line mentioned above.

The present Canadian National Rys. terminals adjoining their Rosedale station, in the Don Valley, 3.8 miles from Toronto union station, and some 3 miles south of where the Toronto-Sudbury and Toronto-Ottawa lines diverge. This site is very lowlying, being only slightly above river level, and each spring considerable trouble has been experienced by floods tying up traffic. In addition, the site, being practically surrounded by the high slopes of the Don Valley, is incapable of any considerable expansion, and the economical handling of motive power and car equipment has been impossible due to the congestion. The handling of traffic has been further made more difficult by the Don River, which runs through the center of this terminal. In consequence, it became necessary to look out for a site with better natural advantages, and which would also be capable of expansion as traffic required. For these reasons Leaside was selected, a big determining factor being the new joint station at North Toronto, into which it is expected all Canadian National passenger trains will run ultimately and the proximity of Leaside to it, 2.3 miles.

The Leaside site required very little grading, only 150,000 yds. in all. A start was made in the autumn of 1917, but it was not until May, 1918, that rapid progress was made, and the grading was completed the same year by Franceschini & Co. A general plan of the terminal layout is given herewith. Adjoining the C.P.R. double track line on the south, there is a C.P.R. freight yard. The whole area to the north required a certain amount of grading, a slight rise at the west end being despoiled to fill in the other end. This, and a side cutting for the west end approach track, were all the grading required. The soil is of a sandy nature, easily worked, but has a clay sub-base, which holds the water, and necessitated considerable draining to keep the site dry.

To the immediate north of the C.P.R. freight yard, provision is made for a 15-track freight classification yard, with capacity for 617 cars. With the exception of the west ladder and part of the second track, none of these tracks are being laid for the present, but the site is completely graded.

At the west end of the main part of the yard, is the locomotive house, the first unit of which, for 10 locomotives, is complete. It is solid brick construction, on concrete foundations, with stalls 14 ft. wide in front, 30 ft. wide at the rear, and 100 ft. long, and with tracks arranged for dropping locomotive and tender wheels. It will be steam heated, from a steam plant of 4 stationary Babcock and Wilcox boilers in an adjoining building. This boiler room is of the same type of construction as the locomotive house. A small adjoining building accommodates the locomotive foreman's office, and petty stores. There is also a small 12-bunk rest house adjoining, which is being used as the local office during construction. This is a one-story frame structure, 24 x 32 ft. on post foundations, and will be equipped with washroom, showerbaths, lavatories, and sitting and bedrooms.

All the leads to the turntable are not installed, but it is the present intention to put in five, two ingoing, two outgoing, and a coaling track between. Along these five tracks are the coal, water and ash handling facilities. The coal and water plants are complete, and the ash plant soon will be. The turntable, which is installed, is of steel, with an 80-ft. span, operated by an air motor. The coal handling plant is Fairbanks-Morse type, with a capacity for 200 tons, and is located adjoining the south outgoing track. The water tank is of wood on concrete foundations of a 60,000 gal. capacity, supplying a standpipe between the two outgoing tracks. The ash plant will be mechanically operated, and is located on the north incoming track.

The locomotive house is capable of extension to a 15-stall capacity, but pending this extension, it is the intention to put in 8 spurs from the east ladder track, for car repair work, and for storing snow ploughs, ditchers, etc.

To the north of the locomotive house are the locomotive shop, blacksmith shop, passenger car shop, and auxiliary buildings. The locomotive shop is completed, and is now having the machinery installed. It is a brick building, 151 x 300 ft., on concrete foundations, with a gallery for the lighter machinery along one side, and contains 12 pits, one of which will be equipped with a 200 ton electric pit jack for lifting a locomotive free from the drivers. The machinery will be laid out in groups, for the efficient handling of the repair work. The shop tracks are long enough to take a complete locomotive and tender.

In front of the locomotive shop, and running its full length, is a transfer table, 372 ft. long, with an 80-ft. span, electrically driven. The leads to this transfer table are at either end of the table pit, two to the south, and one to the north, both of which are being completed.

The passenger car shop also adjoins the transfer table, and is also served by it. It is also a brick structure on concrete foundations, and is 140 x 283 ft. with 12 tracks. It is complete, except for the machinery installation.

Back of the locomotive shop is the blacksmith shop, also a brick structure on concrete foundations, and is 70 x 100 ft. It is nearing completion, but none of the machinery is installed.

To the east of the passenger car shop, is the passenger car yard, of 15 tracks, with a capacity for 140 eighty-ft. cars. Only 4 of these tracks are being completed at present. There is a small store in connection with these yards, at the rear of the passenger car shop, and to the south of the yard, a small wheel shop and drop pit for passenger car work. These buildings are completed. The yard also contains a 2000-ton ice house, of frame construction, 176 x 30 ft., with ice doors along the side.

The stores and office building, between the locomotive house and locomotive shop, is nearing completion. It is of brick on concrete foundations, and is 60 x 180 ft. with a large storage platform at the east end. The stores part is two stories high, and the office section, three stories high. This office will accommodate the shop and stores officials.

At the east end of the yard are the operating offices, a two-story frame structure, 36 x 60 ft., on concrete foundations. The basement will contain a boiler room, coal room, vault, locker room and lavatories for train crews. On the first floor will be the yardmaster's office, agent's office, local office, supervisor's office, lunch room, officers' and men's lavatories, and on the upper floor will be offices for the superintendent, assistant superintendent, chief and other train despatchers, general office, rest room, and women's lavatories.

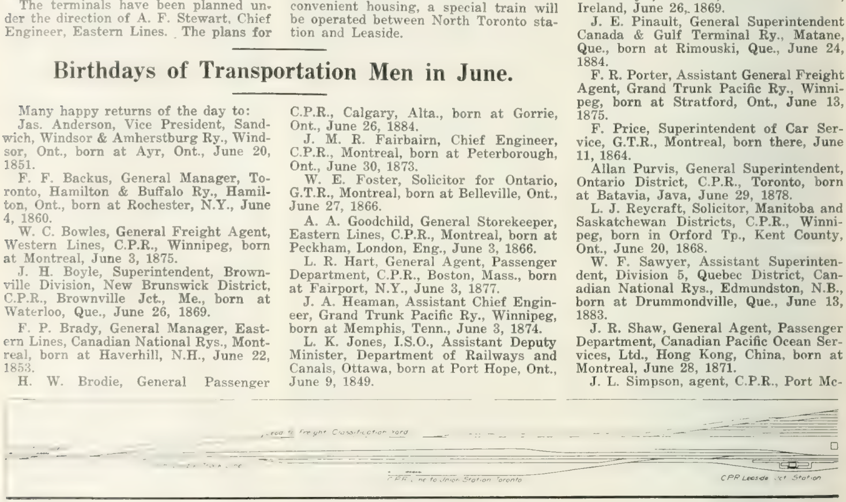
To the north of the present projected

buildings, provision is made for a freight car repair shop, 100 x 200 ft., and a planing mill, 100 x 100 ft., both with the necessary trackage as shown on the plan.

As mentioned above, only a small portion of the projected tracks have been laid. The accompanying plan shows in varying lines the tracks laid, those which it is the intention to lay as soon as possible and those which it is proposed to lay to complete the yard. A further development is also under consideration, but what additional tracks will be laid will doubtless depend upon whether the G.T.R. is taken over by the Dominion Government and made part of the Canadian National Rys. system, in which case the G.T.R. yards at York and Mimico would become available for the consolidated lines.

The terminals have been planned under the direction of A. F. Stewart, Chief Engineer, Eastern Lines. The plans for the buildings were prepared by G. C. Briggs, Supervisor of Buildings, and were built by the C.N.R., directly under his supervision. The yard construction is under the supervision of R. A. Baldwin, Assistant Engineer, Eastern Lines; W. Huffman, being the Resident Engineer on the work.

It is expected that the whole operating staff of the Toronto Division, including the Superintendent, Assistant Superintendent, Chief Dispatcher, Supervisors of Track, Bridge and Building Supervisors, Trainmaster, Yardmaster and Storekeeper, will move into the Leaside offices, sometime after July 1. The mechanical staff that will be located at Leaside has not yet been decided on. To meet the requirements of the staff and workmen who will have to live in Toronto for want of convenient housing, a special train will be operated between North Toronto station and Leaside.


Lead to Freight Classification Yard
C.P.R. Line to Union Station Toronto
CPR Leaside Jct Station

Leaside Terminals, Canadian National Railways, West End.

Birthdays of Transportation Men in June.

Many happy returns of the day to:

Jas. Anderson, Vice President, Sandwich, Windsor & Amherstburg Ry., Windsor, Ont., born at Ayr, Ont., June 20, 1851.

F. F. Backus, General Manager, Toronto, Hamilton & Buffalo Ry., Hamilton, Ont., born at Rochester, N.Y., June 4, 1860.

W. C. Bowles, General Freight Agent, Western Lines, C.P.R., Winnipeg, born at Montreal, June 3, 1875.

J. H. Boyle, Superintendent, Brownville Division, New Brunswick District, C.P.R., Brownville Jct., Me., born at Waterloo, Que., June 26, 1869.

F. P. Brady, General Manager, Eastern Lines, Canadian National Rys., Montreal, born at Haverhill, N.H., June 22, 1853.

H. W. Brodie, General Passenger Agent, lines west of Revelstoke, C.P.R., Vancouver, B.C., born at Fredericton, N.B., June 8, 1874.

J. A. Clancey, Trainmaster, Districts 27 and 28, Detroit Division, Grand Trunk Western Lines Rd., Durand, Mich., born at Walkerton, Ont., June 8, 1884.

G. W. Coburn, Resident Engineer, C.P.R., Brandon, Man., born at Upper Melbourne, Que., June 24, 1877.

E. P. Coleman, General Manager, Dominion Power & Transmission Co., Ltd., Hamilton, Ont., born at Taunton, Mass., June 14, 1867.

W. S. Cookson, General Passenger Agent, G.T.R., Montreal, born at Port Jervis, N.Y., June 12, 1871.

E. L. Cousins, Manager and Chief Engineer, Toronto Harbor Commission, Toronto, born there, June 11, 1883.

A. Craig, City Passenger Agent, C.P.R. Hamilton, Ont., born there, June 5, 1884.

A. E. Doucet, Quebec, ex-District Engineer, National Transcontinental Ry., born at Montreal, June 9, 1860.

Knowlson Elliott, City Freight Agent, C.P.R., Calgary, Alta., born at Gorrie, Ont., June 26, 1884.

J. M. R. Fairbairn, Chief Engineer, C.P.R., Montreal, born at Peterborough, Ont., June 30, 1873.

W. E. Foster, Solicitor for Ontario, G.T.R., Montreal, born at Belleville, Ont., June 27, 1866.

A. A. Goodchild, General Storekeeper, Eastern Lines, C.P.R., Montreal, born at Peckham, London, Eng., June 3, 1866.

L. R. Hart, General Agent, Passenger Department, C.P.R., Boston, Mass., born at Fairport, N.Y., June 3, 1877.

J. A. Heaman, Assistant Chief Engineer, Grand Trunk Pacific Ry., Winnipeg, born at Memphis, Tenn., June 3, 1874.

L. K. Jones, I.S.O., Assistant Deputy Minister, Department of Railways and Canals, Ottawa, born at Port Hope, Ont., June 9, 1849.

M. W. Kirkwood, General Manager, Grand River Ry., and Lake Erie & Northern Ry., Galt, Ont., born at Cheltenham, Ont., June 8, 1877.

L. Lavoie, Assistant General Purchasing Agent, Canadian National Rys., Toronto, born at Rimouski, Que., June 22, 1879.

A. C. Lytle, Assistant Superintendent of Construction, Montreal Tramways Co., Montreal, born at Hemmingford, Que., June 6, 1854.

J. D. McAuley, Commercial Agent, Grand Trunk Pacific Ry., and Grand Trunk Pacific Coast Steamship Co., Ltd., Prince Rupert, B.C., born at Plantagenet, Ont., June 11, 1884.

R. S. McCormick, Chief Engineer and General Superintendent, Algoma Central & Hudson Bay Ry., Sault Ste. Marie, Ont., born at Quaker City, Ohio, June 22, 1873.

S. J. McLean, Dominion Railway Commissioner, Ottawa, born at Quebec, June 14, 1871.

C. E. McPherson, Assistant Passenger Traffic Manager, Western Lines, C.P.R., Winnipeg, born at Chatham, Ont., June 7, 1861.

W. R. MacInnes, Vice President, Traffic, C.P.R., Montreal, born at Hamilton, Ont., June 7, 1867.

J. R. C. Macredie, Engineer, Saskatchewan District, C.P.R., Moose Jaw, born at St. John, N.B., June 13, 1880.

James Manson, Assistant to Vice President, C.P.R., Montreal, born at Thurso, Scotland, June 8, 1863.

J. D. Morton, General Auditor, Canadian National Rys., Toronto, born at London, Ont., June 15, 1857.

L. Mulkern, Division Freight Agent, C.P.R., St. John, N.B., born at London, Ont., June 18, 1871.

R. P. Ormsby, Secretary, Canadian National Rys., Toronto, born at Arklow, Ireland, June 26, 1869.

J. E. Pinault, General Superintendent Canada & Gulf Terminal Ry., Matane, Que., born at Rimouski, Que., June 24, 1884.

F. R. Porter, Assistant General Freight Agent, Grand Trunk Pacific Ry., Winnipeg, born at Stratford, Ont., June 13, 1875.

F. Price, Superintendent of Car Service, G.T.R., Montreal, born there, June 11, 1864.

Allan Purvis, General Superintendent, Ontario District, C.P.R., Toronto, born at Batavia, Java, June 29, 1878.

L. J. Reycraft, Solicitor, Manitoba and Saskatchewan Districts, C.P.R., Winnipeg, born in Orford Tp., Kent County, Ont., June 20, 1868.

W. F. Sawyer, Assistant Superintendent, Division 5, Quebec District, Canadian National Rys., Edmundston, N.B., born at Drummondville, Que., June 13, 1883.

J. R. Shaw, General Agent, Passenger Department, Canadian Pacific Ocean Services, Ltd., Hong Kong, China, born at Montreal, June 28, 1871.

J. L. Simpson, agent, C.P.R., Port McNicoll, Ont., born at Mount Forest, Ont., June 9, 1866.

H. H. Smith, Car Accountant, Canadian National Rys., Toronto, born at Quebec, Que., June 14, 1872.

N.Van Wyck, Purchasing Agent, Canada Steamship Lines, Ltd., Montreal, born at Hamilton, Ont., June 29, 1883.

V. G. R. Vickers, ex-Manager, Foreign Department, and Superintendent, Atlantic Division, Dominion Express Co., now Vice President, The Holden Co., Ltd., Montreal, born at Toronto, June 1, 1866.

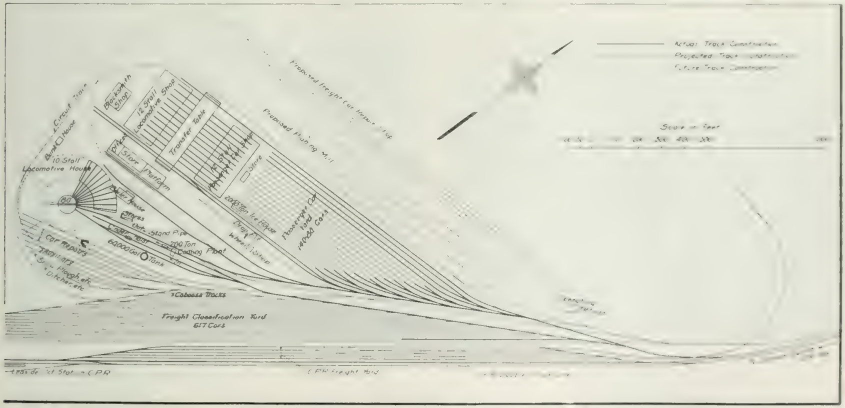
A. E. Warren, General Manager, Western Lines, Canadian National Rys., Winnipeg, born at Taunton, Eng., June 9, 1874.

Walter White, Trainmaster, G.T.R., Palmerston, Ont., born at Toronto, June 4, 1866.

The Victoria and Island Development Association is raising a special fund of $7,000 for publicity purposes to direct tourist travel to Vancouver Island.

Amended Regulations for Payment of Transportation Charges.

The Canadian Railway War Board's circular 97, issued Feb. 3, also supplement 1 thereto, both of which were published in Canadian Railway and Marine World for March, have been cancelled by circular 107, issued by the board May 7. We are advised that the change has been made in deference to numerous requests from representative sections of the shipping public in various parts of the country. While the original instructions were formulated after lengthy investigation and consideration, and obviously would have had the effect of removing certain objectionable features of railway transportation credit arrangements, which have existed in the past, by placing of railways and shippers on the same level, many shippers objected strongly to giving bonds as a matter of principle, their contention being that in many instance they are stronger financially than the surety company from which they would require to get a bond.



Leaside Terminals, Canadian National Railways, East End.

The new rules were worked out after several conferences between representatives of the board and the shippers, and it is believed they will prove satisfactory to all concerned. The new regulations are as follows:

Effective June 1, the collection of transportation charges (including demurrage, storage, and all charges incidental to transportation) by railways operating in Canada, for services rendered, shall be on a cash basis, and, effective as of that date, credit accommodations then in existence which may be in conflict with the following regulations shall be cancelled:

1. Tickets shall be sold only for cash in advance of service. Baggage charges are subject to the same rule as tickets, except c.o.d. baggage and storage charges, which must be paid in cash before delivery.

2. In cases where the enforcement of this rule with respect to freight will retard prompt movement or delivery of the freight or the prompt release of equipment or station facilities, carriers, upon receipt of the attached form of application from financially responsible firms for credit, may extend credit to such firms under the arrangement described hereunder:

(a) All bills or accounts rendered by the carrier to consignor or consignee, as the case may be, from the 1st to the 7th of each month (both dates inclusive), shall be paid on or before the 14th of that month.

(b) All bills or accounts rendered by the carrier to consignor or consignee, as the case may be, from the 8th to the 14th, of each month (both dates inclusive), shall be paid on or before the 21st of that month.

(c) All bills or accounts rendered by the carrier to consignor or consignee, as the case may be, from the 15th to the 21st of each month (both dates inclusive), shall be paid on or before the last day of that month.

(d) All bills or accounts rendered by the carrier to consignor or consignee, as the case may be, from the 22nd to the last day of each month (both dates inclusive), shall be paid on or before the 7th of the month following.

In all cases bills are payable within the prescribed period at the designated office of the carrier. Unless otherwise arranged between the interested parties the designated office shall be that of the carrier's agent from whom notice of charges due is received.

3. Credit arrangements shall be made with the treasurer or other duly authorized officer of the carrier, which officer shall state the amount of credit to be allowed and shall designate the nature of surety required, if any.

Upon completion of arrangement for credit as above, a carrier may accept and forward prepaid shipments or may deliver collect consignments in advance of payment of all charges thereon to the amount covered by the credit arrangement.

Failure to pay such charges within the time prescribed shall be considered sufficient cause for cancellation of credit.

4. When application for weekly credit has not been filed and the literal application of the terms of this order would involve undue delay to traffic or the congestion of facilities on account of holding shipments, either collect or prepaid, until cash is actually in the hands of railways, the carrier's agent may be authorized to grant 48 hours credit to responsible parties.

5. Cheques within the instructions issued by the individual railways to their agents will be considered as payment in cash. At points where there are no banking facilities or where firms have no accounting office, arrangements may be made, subject to the carrier's treasurer or other duly authorized officer, whereby representative of shipper or consignee may settle by giving the carrier's agent a sight draft on shipper or consignee. Where acceptance of draft as cash as herein provided is arranged, shipper or consignee, as the case may be, shall absorb the amount of exchange on such draft.

6. Transportation charges on freight placed in storage, either on property of carrier or in private warehouses, on order of shipper or consignee, after arrival at ultimate destination are due and payable when such freight is placed in storage. If charges are not collected from warehouse company, they should be collected from the consignee under the terms of this circular or immediately succeeding the time of the placement in storage, and not after final delivery to consignee.

7. In case of any question as to accuracy of charges, bills must be paid as rendered and claims presented for alleged errors. This will not prevent adjustments by agents of obvious error. An obvious error is one on which both railway agent and shipper or consignee are agreed, and which may be corrected without further investigation. In circumstances where the carrier's representa-

[illegible] to recognize the inaccuracy [illegible] by shipper or consignee prior [illegible] the ruling embodied in the [illegible] of this paragraph shall [illegible]. There is no objection to the [illegible] or consignee checking the bills and paying charges on the corrected basis, providing the practice is not abused and they proceed in good faith with a revision of the bill both for under-charges and over-charges. Consignor or consignee should make the change in red ink, and the tariff authority for the change should be indicated upon the bill.

8. Freight consigned "to order" or "to order notify," shall be delivered only upon surrender to the agent of the carrier of the original bills of lading for such freight and the payment of the freight charges thereon, as hereunder provided. Provided, however, if such bill of lading be lost or delayed, the freight may be delivered in advance of surrender of the bill of lading upon receipt by the agent of a certified cheque for an amount equal to 110% of the invoice, or upon receipt of surety bond, either individual or corporate, acceptable to the treasurer or other properly designated officer of the carrier.

9. In the event of cancellation of credit by one carrier for failure to pay transportation charges within the prescribed credit period, the carrier cancelling credit shall immediately notify other railways concerned, who shall make similar cancellation. Similar notice shall be given as between carriers in the event of the cancelled credit being re-established.

10. The foregoing regulations shall apply to shipments delivered to and received from consignors and consignees by cartage companies, as well as to shipments handled direct between consignor and consignee and carrier.

11. Until otherwise ordered, these regulations shall not apply to transportation service rendered: Departments of the Dominion Government; nations allied with Canada in war; the various provincial governments of Canada; counties and municipal governments; transportation and authorized cartage companies.

12. Advice of the foregoing regulations shall be given promptly to all to whom credit accommodations are now given, to the end that the regulations may be put into effect at the time specified with as little inconvenience as possible.

Application for Credit.

Railway

To [illegible] of Railway ....

Application is hereby made for credit accommodation in settlement of freight charges at......

Full name of applicant

Location of principal office

Reference: Bank with which business is transacted

Amount desired

It is understood and agreed that all bills will be paid in accordance with the following regulations:

(1) All bills or accounts rendered by the carrier to consignor or consignee as the case may be, from the 1st to the 7th of each month (both dates inclusive) shall be paid on or before the [illegible] of that month.

(2) All bills or accounts rendered by the carrier to consignor or consignee, as the case may be, from the 8th to the 14th of each month (both dates inclusive) shall be paid on or before the [illegible] of that month.

(3) All bills or accounts rendered by the carrier to consignor or consignee as the case may be, from the 15th to the 21st of each month (both dates inclusive) shall be paid on or before the last day of that month.

(4) All bills or accounts rendered by the carrier to consignor or consignee as the case may be, from the 22nd to the last day of each month (both dates inclusive) shall be paid on or before the [illegible] of the following month.

In all cases bills are payable within the prescribed period at the designated office of the carrier. Unless otherwise arranged between the interested parties the designated office shall be that of the carrier's agent from whom notice of charges due is received.

Failure to pay bills as prescribed by the foregoing shall be considered sufficient cause for cancellation of credit.

Applicant

To the .... (vice president, treasurer or other designated officer).

To the best of my knowledge and belief credit as applied for by .... as above may be extended without risk or loss, and I recommend that it be granted.

The average amount of freight bills for credit period is ....

.... Agent.

Canadian Government Railways Operating Results.

The report of the Railways Department, issued recently, contains information as to the operation of Dominion owned railways for the year ended Mar. 31, 1918. The lines then operated as the Canadian Government Railways were as follows:

	Miles.
Prince Edward Island Ry.	276.23
Intercolonial Ry.	1,521.44
Vale Ry (leased from Acadia Coal Co.)	5.95
New Brunswick and P.E.I. Ry.	36.05
International Ry. of New Brunswick	111.30
St. John and Quebec Ry.	119.87
National Transcontinental Ry.	1,811.28
Lake Superior branch, leased from Grand Trunk Pacific Ry	191.75
Total mileage operated	4,073.87

The following tables show the earnings and expenses and the principal traffic statistics of the several lines:

EARNINGS

Prince Edward Island Ry.	$ 656,227.22
Intercolonial Ry. (including N.B. and P.E.I. Ry.)	18,758,186.41
International Ry. of N.B.	140,900.44
St. John and Quebec Ry.	64,438.29
National Transcontinental Ry.	7,621,204.51
Total for year ended Mar. 31, 1918	$27,240,956.87
Earnings for year ended Mar. 31, 1917	$23,539,758.61

WORKING EXPENSES

Prince Edward Island Ry.	$ 1,123,291.12
Intercolonial Ry. (including N.B. and P.E.I. Ry.)	21,090,298.09
International Ry. of N.B.	385,508.92
St. John and Quebec Ry.	140,972.43
National Transcontinental Ry.	10,660,389.89
Total	$33,400,460.45
Working expenses for year ended Mar. 31, 1917	$21,029,898.48
Deficit for year ended Mar. 31, 1918	$6,159,503.58
Deficit for year ended Mar. 31, 1917	$ 490,139.87

TRAFFIC STATISTICS.

	P.E.I.	Intercolonial	International	St. John and Quebec	Nat. Transcontinental
Loco mileage	482,133.	11,299,693.	167,848	86,018	4,203,467
Train mileage	334,165	8,477,349	154,218	75,491	3,505,576
Car mileage	2,212,178	132,310,931	1,152,061	468,691	88,041,501
Ratio of expenses to gross earnings %	171.17	112.43	273.60	218.77	139.88
Earnings per mile of lines	$0.99	$1.64	$0.84	$0.75	$1.81
Earnings per train mile	$1.43	$2.18	$0.91	$0.85	$2.17
Expenses per train mile	c.269.95	c.246.69	c.249.98	c.186.74	c.304.10
Expenses per mile of line	$3,265.69	$13,376.04	$3,463.69	$1,176.04	$5,322.42
Passengers carried	417,570	4,578,783	35,034	48,785	943,663
Total mileage	10,698,269	287,984,379	1,483,746	1,249,885	52,220,476
Total freight, tons	244,521	7,837,310	156,013	66,930	3,900,920
Freight mileage	10,292,005	2,070,196,937	11,036,566	2,508,458	1,381,246,552

The following interest charges or rentals were charged in the operating accounts of the railways mentioned:—

Intercolonial Ry.:—	
Interest on purchase price New Brunswick and P.E.I. Ry.	$ 2,692.60
Rental Vale Ry.	1,200.00
International Ry. of N.B. interest	90,000.00
National Transcontinental Ry.:—	
Rental Lake Superior branch	600,000.00
	$693,662.60

In addition to the deficiency on operating account there was charged to income account $16,769.13 paid to the St. John and Quebec Ry. under the operating agreement with the New Brunswick Government for the April-Sept. half year, and there is $18,497.81 due the company for the Sept.-March half year, thus making a total deficiency of $111,801.08 on this line for the fiscal year.

Rails Lifted From Canadian Northern and Grand Trunk Pacific Railways for War Work.

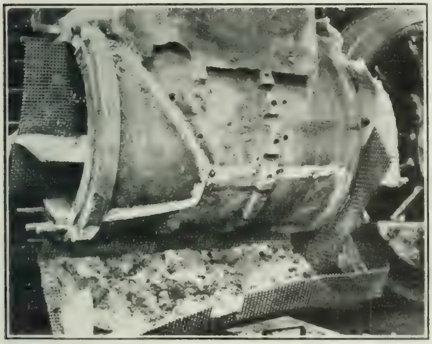
The Dominion Railways Department's report for the year ended Mar. 31, 1918, contains a report from A. Ferguson, engineer in charge of the work of lifting rails on the Grand Trunk Pacific Ry. and the Canadian Northern Ry. for use in France and Belgium. It states that the rails on the G.T.P.R. between Imrie and Leaman Jct., 13.6 miles; between Obed and Pochahontas, 42.25 miles, and between Geikie and Resplendent, 34.8 miles, a total of 90.65 miles, were lifted, and the rails and angle bars sent to Three Rivers, Que., for shipment overseas. The rails on the C.N.R. between Leaman Jct. and Obed, 79.9 miles, and between Snaring Jct. and Geikie, 22.05 miles, a total of 101.5 miles, were lifted and laid on the G.T.P.R. between Leaman Jct. and Obed, and between Snaring Jct. and Geikie, thus making one continuous line, used jointly by the two railways. The G.T.P.R. track between Pocahontas and Snaring Jct. was lifted and relaid partly with 60-lb. and partly with 80-lb. C.N.R. rails, in order to preserve rail connection with the coal miners at Pocahontas. This piece of line is being operated as a spur, and is as yet considered merely temporary. A rearrangement of the main lines may be found necessary in the interests of economy. The first shipment of the released rails left Edmonton for Three Rivers, June 17, 1917, and the last Oct. 26, 1917. The total shipment amounted to 23,408 gross tons of rails, and 1,110 gross tons of angle bars.

Interswitching, Etc., at Owen Sound.—A press report states that W. F. Tye, consulting engineer, Montreal, has been making an investigation into the most feasible means of securing interswitching between the C.P.R. and the G.T.R. at Owen Sound, Ont., and the building of a union station there.

Railway Mechanical Methods and Devices.

Welding Broken Cylinder at Canadian National Railways Winnipeg Shops.

An interesting instance of the usefulness of the oxy-acetylene process in the locomotive shop, has been supplied by L. Wedge, General Foreman, Locomotive Shop, Canadian National Rys., Winnipeg. One of the locomotives had developed a crack, extending from about the center of the cylinder, in a nearly straight line, towards the rear, and bifurcating towards the front, as shown along the patched lines in the accompanying illustration. This crack had been welded several times, but apparently, from the double nature of the crack, the weld did not prove a success. In consequence, the V-shaped piece shown was entirely removed, and a pattern made of the same shape, from which a casting was made and fitted into the cylinder, the whole being welded by oxy-acetylene.



Cylinder Patched by Oxy-Acetylene Process.

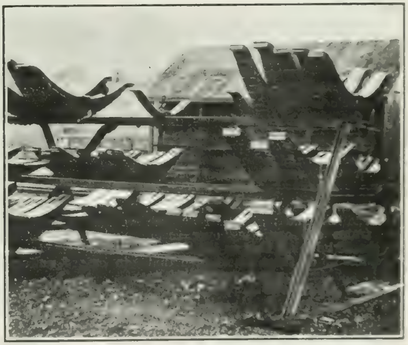
The mating edges of the new piece, and the single crack in the other end of the cylinder, were grooved in the approved manner. A charcoal fire was built under the cylinder, and the welding commenced on the rear end inside, continuing along towards the front, the welding edges meanwhile being maintained at a cherry red heat by the charcoal fire. On the completion of the inside welding, a charcoal fire was built inside on the wire netting framework shown, and the outside edges welded. The fire on the outside was rebuilt, and both fires maintained for about 12 hours, when the whole mass was allowed to cool off slowly by allowing the fire to extinguish, and the cylinder to cool down in the remaining ashes. After cooling for about 24 hours, the boring bar was applied, and the inside trued out.

National Tie and Timber Co. Ltd. has been incorporated under the Ontario Companies Act, with $20,000 authorized capital, and office at Sudbury, Ont., to carry on the business of lumbermen. G. J. Valin, F. Woods and A. J. Manley, Sudbury, Ont., are provisional directors.

Spring Storage Rack at C.P.R. Shops, Nelson, B.C.

A simple steel rack of novel design is used at the C.P.R. shops, Nelson, B.C., for storing locomotive and car springs, a wide assortment of which it is necessary to always have on hand at such divisional points. The construction and use are exemplified in the accompanying illustration.

The end frames are A-shaped, 4½ ft. high, of 2 in. angles, resting on ties buried in the ground. At intermediate points, there are 2 cross bars of the same section. Between these end frames, are 5 shelves, 12 ft. long, made up of 2 in. angles, the legs of which are inwards and upwards, supporting between them a wooden plank, 6 in. wide. These shelves are braced at the ends and midway in the manner shown. The lower and middle tiers have each two shelves, while the top, has one only.



Steel Rack for Storing Springs.

The springs, being summetrical, balance at their bands on these narrow 6 in. platforms. This is one of the special features of the rack, as it is possible to place a truck in front of the rack, and by a slight effort, upset a spring into it, for conveyance to the locomotive house or car rip tracks.

This rack was built by F. D. Warner, Locomotive Foreman, to whom we are indebted for the foregoing particulars.

A Railway Coal Freight Case—Judgment was given in the Ontario Court of Appeal May. 13, in Niblock vs. G.T.R. The original action was for $24,053.51 for coal sold, but the New York Central Rd. intervened with a claim for freight. On Mar. 20, Justice Falconbridge directed the payment into court of $19,283.17 with interest, less $60 cost of an interpleader action, the plaintiff to notify the New York Central Rd. before applying for payment out. After hearing arguments, the court on May 13, allowed the appeal and gave judgment for the plaintiff, but gave leave to the G.T.R. to apply for a new trial in respect of the claim for freight.

Reclaiming High Speed Steel.

All the tool steel over the entire Atchison, Topeka and Sante Fe Railroad is reclaimed, all such steel being returned to the Topeka shop for general inspection, the portion considered serviceable being held in reserve to be made up into small tools.

The practice with regard to short lengths of high speed steel is to make tips for lathe and planer tools, although a certain part can be used with patented tool holders. The tools on which the high speed steel tips are applied, are of ordinary tire steel. The tips are faced with Norway iron, and welded to the recessed tool ends by the oxy-acetylene process. These tools are said to have proved very satisfactory in service, and made possible the continuous operation of many of the tools which would have had to close down for want of the tool steel which was difficult to secure under war conditions.

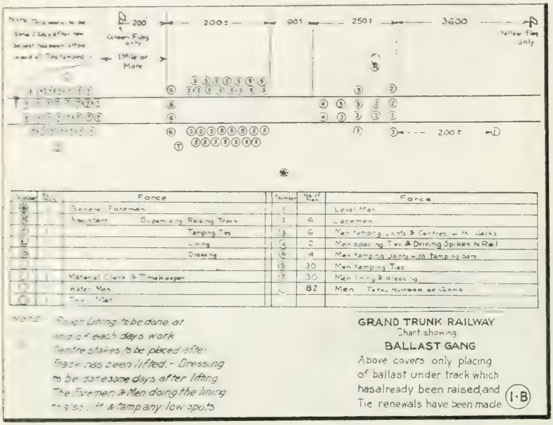
These tipped tools are made not only in the plain forms, but also for form cutters, such as those used in wheel lathes, formed to give the finished contour of the wheel.

G.T.R. Bridge Assessment—The G.T.R. international bridge across the Niagara River at Bridgeburg, Ont., had heretofore been assessed in that municipality at $300,000. The assessor is reported to have increased the assessment for this year to $1,250,000, and it is reported that notice of appeal has been served upon the town clerk, by the G.T.R. on behalf of the International Bridge Co.

Steel Rails for Russia.—A press report of May 7, stated that [illegible] tons of steel rails, which had been stored at Vancouver, B.C., for the past two years, were being loaded on a steamship for Vladivostock, Siberia, their original destination. This is part of the large amount of railway material placed in America by the Imperial Russian Government and held up in transit at the time of the revolution pending an understanding

The Best Methods of Raising Railway Track.

At the Roadmasters and Maintenance of Way Association's last annual convention, Geo. Beckingham, Superintendent of Track, G.T.R., Montreal, presented the committee's report on the best method of raising track, which, after considerable discussion and some amendments was adopted was follows:


200
200±
90±
250±
3600
Green Flag only
Yellow flag only
1 Mile or More
Force
Number
No. of Men
General Foreman
Assistant Supervising Raising Track
Tamping Ties
Lining
Dressing
Material Clerk & Timekeeper
Water Man
Tool Man
1 Level Man
2 6 Jackmen
3 6 Men tamping Joints & Centres with Jacks
4 2 Men spacing Ties & Driving Spikes to Rail
6 4 Men tamping Joints with tamping bars
5 30 Men tamping Ties
7 30 Men lining & dressing
82 Men Total Number of Gang
1-B

NOTE - Rough Lining to be done at end of each days work. Centre stakes to be placed after Track has been lifted. - Dressing to be done same days after lifting. The Foremen & Men doing the lining to also tamp any low spots

GRAND TRUNK RAILWAY
Chart showing
BALLAST GANG
Above covers only placing of ballast under track which has already been raised, and Tie renewals have been made

Tracks in ballast pit should be put in good condition and maintained in such while trains are operating over them. Care should be taken that as little curve as possible be on these tracks, and that there be sufficient track to operate pit to the best advantage and its full capacity.

All equipment such as steam shovel, lidgerwood, ploughs, ballast levellers, cars, locomotives, etc., should be in first class condition.

Before commencing to haul ballast, supervisors, trainmasters and all concerned should get together, with a view to making plans and having them thoroughly understood in order to get the best results as to the manner in which the ballast should be hauled and unloaded. At the end of each day's work a telegraphic report should be forwarded to all concerned, stating the number of cars loaded, delays, etc.

Supervisor should have it thoroughly understood as to the manner in which ballast is to be unloaded, that is, so many yards per mile, taking into consideration the height track is to be lifted.

Care should be taken in securing competent foremen to do the lifting and furnishing sufficient men for the work. The number of men is largely governed by existing conditions; that is, amount of track to be lifted, location, traffic, etc. Supervisor should see to it that good and sufficient tools (more particularly track jacks, as there should be at least two spare jacks), and good boarding cars well equipped, be furnished the men.

Before distributing ballast, all drains, both surface and tile, should be properly made or laid.

Slow orders properly designated by day and night signals should be put on as soon as work actually commences, and at night where necessary.

All tie renewing should be done before ballast is unloaded. Track should be lifted against current of traffic 3 in. or 4 in., or sufficient to facilitate the removing of ties. Track should receive a general good surface and remaining old ballast should be levelled evenly between the ties and used to build shoulder.

Shoulder stakes should be set in order to ensure uniformity in subgrade and shoulder. Track should be put in good line in order that it be moved as little as possible after being lifted with new ballast. After ballast has been unloaded, stake levels should be set to lift track "to."

In lifting track over new ballast 4 to 6 jacks should be used depending on the number of men to the gang, but no less than 4 jacks should be used. Both rails should be lifted simultaneously and jacks should be placed two ties ahead of the ones that are to be tamped. The rear jack should not be lowered until track where the two forward jacks are, has been raised level.

The raising of track should be done by sighting one rail and raising the opposite rail to a level. The same applied to elevation on curves. The elevation should be put in by placing the required size of block on the low side underneath.

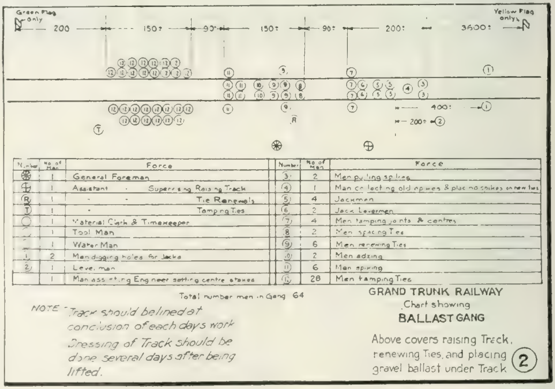
Men should be assigned specially to the handling of jacks, also jack handles or levers. This, of course, applies to where there is a large gang of men, but the same can be followed with a small gang of, say, 30 men. Assigned men should tamp joints and centers, and a track jack should be used ahead of tamping to lift any low spots before dressing.

Before tamping the ties it is very necessary that all ties fit close to the rail, are spaced, and spikes properly driven.

Gravel and cinder ballast where track is being lifted 3 in. or more should be tamped with shovels and all joints tamped with a tamping bar, one foot inside and out. In stone ballast, the ties should be tamped with a tamping bar, tamping pick, or some approved mechanical device. The center of the tie for a space of 18 or 20 in. should be tamped lightly.

Gravel and cinder ballast should be dressed to slightly below top of tie as shown on appended print. Stone ballast should be dressed to 3 in. below top of tie and your committee is of the opinion when first placing stone ballast in track, there should not be less than 10 in. underneath the tie. The track should receive two lifts, one of 6 and one of 4 in. Track should be lined to center stakes and levelled before dressing.

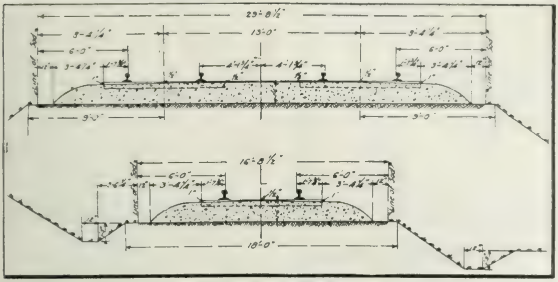
Where there is a surplus of ballast after dressing, it can be moved by loading it on to push or flat cars, depending on the distance it is to be hauled.


Green Flag only
Yellow Flag only
200
150±
90±
150±
90±
200±
3600±
400±
200±
Number
No. of Men
Force
1 General Foreman
1 Assistant Supervising Raising Track
1 Tie Renewals
1 Tamping Ties
1 Material Clerk & Timekeeper
1 Tool Man
1 Water Man
1 2 Men digging holes for Jacks
2 1 Level man
1 Man assisting Engineer setting centre stakes
3 2 Men pulling spikes
4 1 Man collecting old spikes & placing spikes on new ties
5 4 Jackmen
6 2 Jack Levermen
7 4 Men tamping joints & centres
8 2 Men spacing Ties
9 6 Men renewing Ties
10 2 Men adzing
11 6 Men spiking
12 28 Men tamping Ties
Total number men in Gang 64
2

NOTE - Track should be lined at conclusion of each days work. Dressing of Track should be done several days after being lifted.

GRAND TRUNK RAILWAY
Chart showing
BALLAST GANG
Above covers raising Track, renewing Ties, and placing gravel ballast under Track.

Recommended Organization of Gangs. After the committee's report had been adopted, as above, Mr. Beckingham submitted the following recommendations for the organization of track raising gangs:—



Proposed Standard Ballast Sections.

Gang of 65 men raising track on high gravel ballast where ties are being renewed: 1 general foreman; 1 assistant foreman, raising track; 1 assistant foreman, supervising renewal of ties; 1 assistant foreman, tamping ties; 1 material clerk and timekeeper; 1 water man; 1 tool man; 2 men pulling spikes; 1 man collecting old spikes and placing spikes on new ties; 1 leverman; 2 men making jack holes; 1 or 2 flagmen; 4 jack men; 2 jack levermen; 1 man assisting engineer setting center stakes; 4 men tamping joints and centers; 2 men spacing ties; 6 men renewing ties; 6 men spiking; 2 men adzing; 28 men tamping ties.

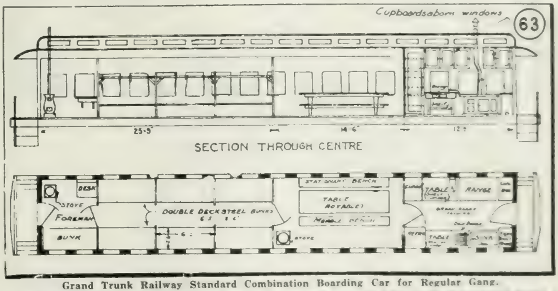
Flagmen are not always required. Track should be lined at conclusion of each day's work. Dressing of track should be done several days after being lifted.

Gang of 65 men raising track on old gravel ballast, where ties are being renewed, building shoulder, etc: 1 general foreman; 1 assistant foreman, raising track; 1 assistant foreman, supervising tie renewals; 1 assistant foreman, tamping ties; 1 material clerk and timekeeper; 1 tool man; 1 flag man; 1 water man; 1 level man; 4 men pulling spikes; 1 man collecting old spikes and placing on new ties; 6 men renewing ties; 6 men spiking; 6 jack men; 2 men spacing ties; 2 men adzing; 4 men tamping joints and centers with jacks; 29 men tamping and levelling old ballast between ties and shoulder.

Old ties to be put in piles each day. Track to be lined at conclusion of each day's work.

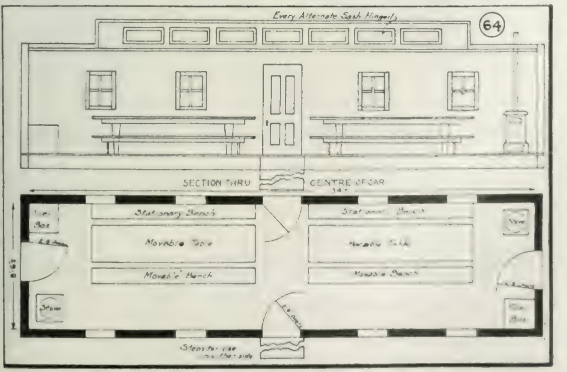
Gang of 80 men raising track on high gravel ballast after track has been lifted on old ballast and tie renewals made: 1 general foreman; 1 assistant foreman, raising track, 1 assistant foreman supervising, tamping of ties; 1 assistant foreman, lining; 1 assistant foreman, dressing; 1 material clerk and timekeeper; 1 water man; 1 tool man; 1 level man; 6 jack men; 2 men spacing ties and driving spikes to rail; 4 men tamping joints and centers with jacks; 4 men tamping joints with tamping bars; 30 men tamping ties; 10 men lining and lifting low spots; 20 men dressing.

Rough lining to be done at the end of each day's work, center stakes to be placed after track has been lifted. Dressing only to be done several days after lifting. The foreman and men doing the lining also to lift and tamp any low spots. See additional plans on pg. 296.



Grand Trunk Railway Standard Combination Boarding Car for Regular Gang.

Equipment for combination boarding car for 12 men—2 galvanized iron pails, 1 large tea kettle, 1 small tea kettle, 2 2-gal. graniteware saucepans, 2 1-gal. graniteware saucepans, 2 2-gal. iron saucepans, 2 roasting pans, 1 1-qt. graniteware sauce pan, 1 large dishpan, 1 large pastry mixing pan, 2 steel frying pans, 1 tea pot, 1 coffee pot, 1 doz. pie plates, 1¼ doz. graniteware plates, 1¼ doz. graniteware cups, 1¼ doz. graniteware soup bowls, 2 doz. graniteware saucers, 2 sets salt and pepper shakers, 2 sugar bowls, 4 pudding dishes, 2 meat dishes, 1¼ doz. knives, 1¼ doz. forks, 1 dipper, 1 2-qt. pitcher, 1 1-qt. pitcher, 1¼ doz. teaspoons, 1¼ doz. dessert spoons, 1 large butcher knife, 1 bread knife, 1 pastry board, 2 scrub brushes, 1 rolling pin, 2 large iron spoons, 1 can opener, 1 large fork, 2 doz. hand towels, 2 doz. dish towels, 3 wash basins, 1 6-hole range, 2 van stoves, 2 brooms, 28 pairs blankets, 14 mattresses to fit bunk 2 ft. 6 in. x 6 ft. 5 in., 14 pillows, 7 Tiger boltless double deck steel bunks.


Every Alternate Sash Hinged
64
SECTION THRU CENTRE OF CAR
34'
Stationary Bench
Movable Table
Movable Bench
Stove
8'-6½"
Steps for use on other side
Grand Trunk Railway Standard Dining Car for Track Laborers.

Equipment for dining car (25 men)—2½ doz. graniteware plates, 2½ doz. graniteware cups, 2½ doz. graniteware soup bowls, 4 doz. graniteware saucers, 2½ doz. knives, 2½ doz. forks, 2½ doz. teaspoons, 2½ doz. dessertspoons, ¾ doz. tablespoons, 2 sets salt and pepper shakers, 2 sugar bowls, 2 van stoves. When fitted up for winter use, cars to be lined with felt paper and ¾ in. sheeting.

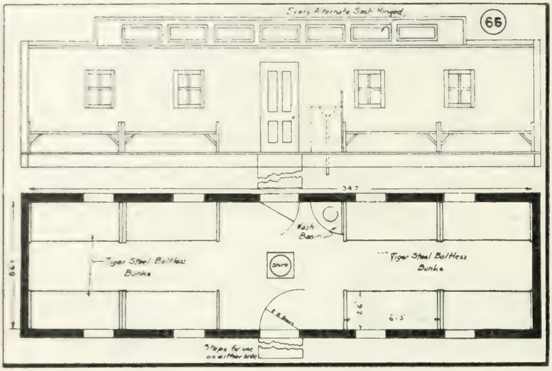
Ties for United States Railways.—The U.S. Railroad Administration's purchasing department is ordering from Pacific coast tie lumbermen, 2,000,000 railway ties, aggregating 75,000,000 ft. b.m. Of these 500,000 ft. will be ordered from Oregon mills, while the remainder will be bought in the State of Washington. The ties will be no. 1 common lumber, running about 40 ft. to the tie. The purchase price is reported to be $20 to $21 per 1000 ft. b.m. The specifications require heartwood. The ties are to be used o nthe New York Central, Baltimore & Ohio, Pennsylvania and other eastern railways.

The Coquitlam Terminal Co. called a meeting of its bond holders to be held in London, Eng., May 28, to appoint the Colonial Trust Co. of Victoria, B.C., as trustee of its bonds, in the place of the British American Trust Co.

Alberta Provincially Aided Railways.

The annual debate in the Alberta Legislature on the provincial railway policy, was brought to a conclusion Apr. 17, when a motion reciting alarming conditions of the systems under provincial guarantee and expressing regret at the government's inactivity regarding the situation was defeated by 29 to 17, and an amendment moved by the Premier commending the government for taking over the Lacombe and Blindman Valley Electric Ry., expressing satisfaction at the government's railway policy which extended to excellent, but remote, portions of the province transportation facilities so urgently needed and recommending to the Dominion Government that further financial assistance to the railways guaranteed by the province, was adopted on a similar vote.

The Premier referred to negotiations being carried on with the Dominion Government for the taking over of the Edmonton, Dunvegan and British Columbia Ry., and its allied lines, stating there was a proposal that the system be leased on certain terms. The Canadian railway systems are desirous of having connection with the northland, but no proposals would be considered by the government, but such as would protect the province in regard to its guarantee. The province has a splendid asset in the system, which is worth every cent of the guarantee. He would not guarantee that the operation of the line would merit the cost of operation and all fixed [illegible] within the next year, but he did claim that it would prove to be a paying investment. He was not responsible for the initiation of the policy, but as a member of the legislature, he had [illegible] outlying districts were clamoring for railways and the government had taken the steps considered most advisable for giving this service. Without government aid the Blindman Valley area would still be without the measure of railway accommodation it had. The government, he was prepared to admit, could not successfully operate railways and negotiations were in progress for the sale of this Lacombe and Blindman Valley Electric Ry. to the C.P.R. As regards branch line construction generally, if the government policy of guarantee had not been adopted, many parts of the province now on railways would still be without these transportation facilities. He contended that the building of railways into the northland by the Edmonton, Dunvegan and British Columbia Ry., and its two allied companies, was justified in every essential. The cost of construction had been largely increased on account of the war, and for a portion of the distance built the route was none of the best. As to the Grand Trunk Pacific Ry., in the event of the province having to pay charges on the branch lines, under the guarantee, the government would insist on assuming control and having them operated by the province. He had an assurance that the Tofield-Calgary line, guaranteed by the province, was one of the best paying pieces of line of the G.T.P. R. system, and could take care of itself.


Every Alternate Sash Hinged
66
34'
Wash Basin
Tiger Steel Boltless Bunks
Stove
Tiger Steel Boltless Bunks
6'5"
Steps for use on either side

Grand Trunk Railway Standard Bunk Car for Foreign Labor.

Equipment for bunk car (8 men)—8 single-decked Tiger boltless steel bunks 2 ft. 6 in. x 6 ft. 5 in., 8 mattresses to fit bunks, 16 double blankets for winter use, 8 double blankets for summer use, 1 van stove. When fitted up for winter use, cars to be lined with felt paper and $^7/_8$ in. sheeting.

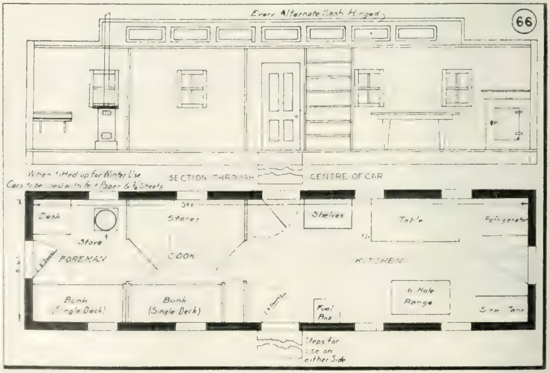
Railways and Canals Department Expenditures for 1917-1918.

The report of the Railways and Canals Department for the year ended Mar. 31, 1918, issued recently, shows that the total expenditure by the Dominion Government on railways for the year was $70,113,667.61, distributed as follows:—

Capital account:	
Rolling stock for C.G. Rys.	$24,392,985.80
Intercolonial Ry.	5,860,132.59
Prince Edward Island Ry.	378,433.29
New Brunswick and P.E.I. Ry.	120,663.61
International Ry. of N.B.	5,369.51
Quebec and Saguenay Ry.	1,371,334.97
National Transcontinental Ry.	690,543.19
Hudson Bay Ry.	1,879,699.00
Miscellaneous	345.00
	$34,699,416.96
Quebec Bridge account	931,278.01
Revenue account:—	
Working expenses	33,400,460.15
Miscellaneous	15,100.00
Income account	347,007.44
Subsidies	720,404.75
Total	$70,113,664.61

The expenditure on canals and their earnings is referred to in our Marine Department, elsewhere in this issue.

The miscellaneous expenditure made by the department amounted to $1,198,062.28, of which $846,305.53 was spent on restoration of railway property destroyed in the Halifax explosion; $350,545.35 for war appropriation, and $1,211.40 for sundries.


Every Alternate Sash Hinged
66
When fitted up for Winter Use Cars to be lined with Felt Paper & 7/8 Sheeting
SECTION THROUGH CENTRE OF CAR
34'
Desk
Stores
Shelves
Table
Refrigerator
Stove
FOREMAN
COOK
KITCHEN
6 Hole Range
Bunk (Single Deck)
Bunk (Single Deck)
Fuel Box
Steps for Use on either Side

Grand Trunk Railway Standard Kitchen Car for Track Laborers.

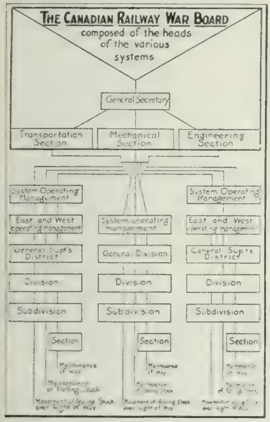
Equipment for kitchen car (25 men)—4 galvanized iron pails, 1 large tea kettle, 1 medium tea kettle, 2 2-gal. graniteware saucepans, 2 1-gal. graniteware saucepans, 2 2-gal. iron saucepans, 2 roasting pans, 4 large pudding dishes, 2 large meat dishes, 1 2-qt. graniteware saucepan, 1 large dishpan, 1 large pastry mixing pan, 2 large steel frying pans, 1 large tea pot, 1 large coffee pot, 1½ doz. pie plates, 1 dipper, 2 large butcher knives, 2 bread knives, 2 large iron spoons, 1 pastry board, 2 scrub brushes, 1 rolling pin, 1 can opener, 2 large forks, 2 doz. dish towels, 2 doz. hand towels, 1 6-hole range, 1 van stove, 2 brooms 4 pairs blankets, 2 mattresses to fit bunks 2 ft. 6 in. x 6 ft. 5 in., 2 pillows, 2 single deck Tiger boltless steel bunks.

The Canadian Railway War Board on the Canadian Railway Situation.

The Canadian Railway War Board has issued a booklet "The Canadian Railway Situation," containing the following information:—

The first railway problem was finance; the second was construction; the third was salesmanship—the getting of traffic; the fourth, forced by the exigencies of war, was railroading.

In the organization of any Canadian railway, there are three main divisions: One department stirs up, builds up, and persuades traffic to use the lines of that company. It advertises, sends solicitors, and by various means, fosters new industries on its lines. It is called the traffic department. Next stands the department that keeps books, counts cash and arranges loans or investments. It is called the finance department. The third is the operating department.


THE CANADIAN RAILWAY WAR BOARD
composed of the heads of the various systems
General Secretary
Transportation Section
Mechanical Section
Engineering Section
System Operating Management
System Operating Management
East and West operating management
System operating management
East and West operating management
General Supt's District
General Division
General Supt's District
Division
Division
Division
Subdivision
Subdivision
Subdivision
Section
Section
Section
Maintenance of way
Maintenance of way
Maintenance of way
Maintenance of Rolling Stock
Maintenance of Rolling Stock
Maintenance of Rolling Stock
Movement of Rolling Stock over Right of Way
Movement of Rolling Stock over Right of Way
Movement of Rolling Stock over Right of Way

The actual movement of traffic on any railway requires three main kinds of work: The upkeep of the roadbed; the supply and maintenance of locomotives and cars; the moving of the latter over the former with speed, safety, and economy.

Here, then, is the first unit of railway operation—the section. It varies in length from 4 miles to 6 miles. It is commanded by a section foreman. In winter he has one or two helpers. They watch the track for major defects, weak or broken rails, obstructions on the right of way. In summer he has from 4 to 7 men, replacing worn ties and rails, "shouldering up" the ballast, keeping grass and weeds from encroaching on the ballast, maintaining culverts and ditches to carry off rain or overflowing streams. As soon as the frost leaves the ground, the section gang begins replacing ties—a tie lasts from 6 to 10 years only. Low spots are forced up, by driving thin, flat pieces of wood (shims) between rail and tie. New rails replace worn rails. The precise spread between the rails is checked and corrected. The outer rail on a curve is kept properly lifted (aligned) so as to offset the side-thrust of engines and cars.

This is the first unit of the first part of railroad operation: maintenance of way.

The railway station symbolizes the first unit of the third part of railway operation—the movement of trains over the line. It is less significant as a building that as a sign that here two trains on a single track line may pass one another, and that here the trainmen receive their orders.

The sub-division, or district, as it is called on some lines, marks the beginning of officialdom, and the first unit of command in the second department of railway operation—locomotive and car repair shop. Maintenance of way is represented by the road master and the master of bridges and buildings; maintenance of rolling stock by the locomotive and car foremen; movements of rolling stock over right of way by a dispatcher. Cars may move from end to end of the continent. Locomotives are limited to the length of the sub-division or district, on which they are stationed. This sub-division may contain 15 or 20 stations and sections, and extend 90 to 120 miles or more. At each end are facilities for repair and replenishing of locomotive and car supplies.

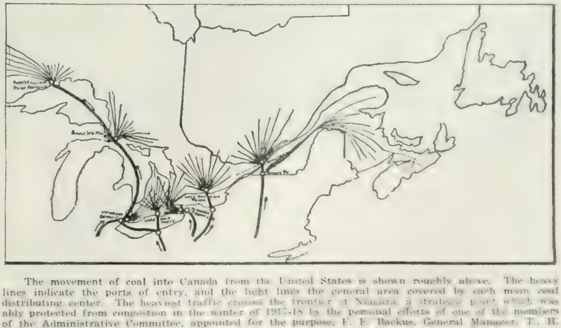
A division may contain few or many sub-divisions. Its three departments are controlled by resident engineer, master mechanic and chief dispatcher. Over, or in some cases beside them, is a general officer co-ordinating their work: a divisional superintendent. Here is the first senior official in the department of train control—the chief dispatcher. The resident engineer has his road masters and masters of bridges and buildings in the sub-divisions. The master mechanic has his locomotive and car foremen representing him in the sub-divisions. But real authority in the movement of trains is not found below the chief dispatcher.

A chief dispatcher finds and distributes, collects and disposes, passes out to the next divisions, or receives from them in turn—cars. The resident engineer having provided the right of way, the master mechanic having contributed the engines, the chief dispatcher moves, by means of the latter over the former, his constantly changing family of cars—freight and passenger. In his office he has deputies, the dispatchers and telegraphers. Along the line, on subdivisions, are his outer deputies, the station agents and their telegraphers. On his train sheets are recorded the respective positions of the locomotives as he and his staff move them and their cars one after another, and one past another, between the ends of the division. These sheets show passenger trains dropping and taking up travellers, mail, luggage, and express. They show, also, the way freights setting out full cars to be unloaded or empties to be filled, or leaving l.c.l. shipments on the station platform, or picking up full cars to be forwarded to the next division. There the chief dispatcher will pass them to the next, who will pass them to the next, and so on as far as that car must go. So emptied cars also, to be disposed of as the call for them may dictate. To this chief dispatcher come telegraphic reports once a day from his outside deputies, recording the orders placed by shippers for empty cars, or the empties on hand, or both. If the empties at a certain point are sufficient to supply the orders, local switching movement is sufficient. If the empties must be brought from another point on that division, the chief dispatcher's orders are issued to the necessary way freights to pick up and move said empties to the designated point.

When there are more empties than orders for them within any division, or vice versa, the chief dispatcher is supplied or relieved, as the case may be, by the authorities outside his district.

The superintendent is meantime patrolling his division, co-ordinating and directing the work of resident engineer, master mechanic, and his chief dispatcher.

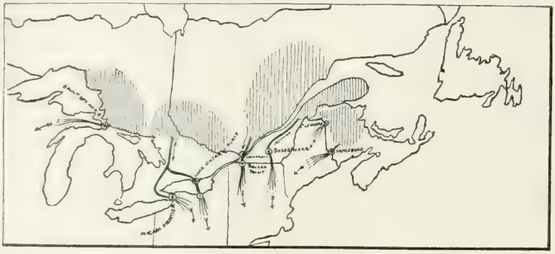
Next above the division comes a general division, or general superintendent's district. Here the master mechanic has become district master mechanic, the engineer is district engineer, and the chief dispatcher is now car service agent or superintendent of transportation. The latter is a magnified chief dispatcher. The actual movements of trains do not concern him now, but the juggling of



The movement of coal into Canada from the United States is shown roughly above. The heavy lines indicate the ports of entry, and the light lines the general area covered by each main coal distributing center. The heaviest traffic crosses the frontier at Niagara, a strategic point which was ably protected from congestion in the winter of 1917-18 by the personal efforts of one of the members of the Administrative Committee, appointed for the purpose, F. F. Backus, General Manager, T., H. & B. The heavy movement of coal comes in the hardest operating season—winter. The co-operation of importers in taking delivery of their stock in the summer of 1918, was of great assistance to the board in keeping a safe margin of track room.

cars has here become a very serious matter. Just as the chief dispatcher receives reports of cars wanted and cars available from the stations on his division, so the car service agent or superintendent of transportation receives reports from his chief dispatchers. If he can balance his empty cars with his cars wanted, so much the better. Otherwise he obtains extras or disposes of his surplus at the direction of the next highest order of car control official.

Two or more general divisions or general superintendents' districts may constitute a system. If it is called a system, the three main departments are controlled now by a general superintendent of motive power and car building, a chief engineer, and a general superintendent of transportation. A vice president, or two vice presidents, co-ordinate the three. In the case of transcontinental lines, two or more general superintendents' districts constitute only an eastern or western lines. The district master mechanic is here superintendent of motive power and car building; the district engineer is now assistant chief engineer; the car service agent is now superintendent of car service. A secondary vice president controls these three. The final operating unit of a transcontinental system lies under a senior operating vice president, whose three chief aides are: the chief engineer, the chief mechanical engineer, and the general superintendent of car service.

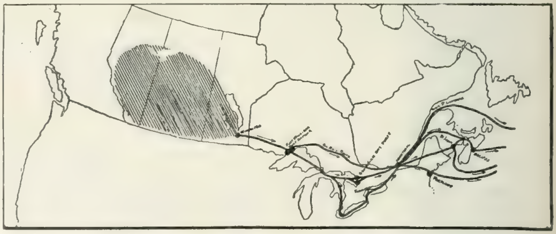


The above sketch is intended to indicate in a general way the areas from which the heavy movement of Canadian forest products is drawn; and the frontier points at which they cross into the United States.

Just as the chief dispatchers report their car supply to the car service agent, and the car service agent or superintendents of transportation, report these reports to the superintendent of car service, or general superintendent of transportation, so these in turn pass on the car situation every day to the general superintendent of car service. This is a complex and difficult office. Knowledge of trade conditions, of weather, of probable developments of traffic, influences this high officer in the strategic disposition of his empty cars. Loaded cars have definite moves to make. The empties must be shifted to let the loaded cars pass to the points where they are most likely to be wanted. He must decide whether to allow more cars to leave his lines for foreign lines. He must observe where they are bunching, and where they are thinly scattered. He must work his empties westward in the summer to be ready for the grain in the fall. So with the overseas export freight movement, and the movement of mine and forest products. He must have in his mind's eye a clear picture of the economic machinery of the Dominion.

The final unit of railway operation in Canada is the Canadian Railway War Board. Consider Canada as a railway division. The Canadian Railway War Board is the superintendent of the division. A special committee takes the place of the resident engineer and deals with questions of maintenance of way. For example, take the matter of a supply of rails for renewal purposes. The board was finally able to obtain an order from the Dominion Government for sufficient steel to renew the sections of line in greatest need.

Another committee represents the master mechanic, whose concern is chiefly with locomotives and other rolling stock. The board has provided locomotives to lines or parts of lines lacking power to carry special loads. It has supervised the locomotive power situation, arranged loans, exchanges, and even the sale of locomotives between Canadian roads.



The movement of wheat across Canada begins in the late summer and proceeds throughout the winter. It will be seen from the above map that indirect routing is practically impossible in this as in all other Canadian traffic.

The chief dispatcher of a division, or general superintendent of car service on a system, has his counterpart on the board in its transportation section. Like the dispatcher supplying cars to the stations in his division, the board's transportation section protects the car supply of the Dominion. The first measure taken in 1917, when car shortage was felt severely for the first time in recent years, was to stop the drain on the Canadian supply by refusing to allow Canadian goods for the United States to be loaded into Canadian cars. The shipper was supplied instead with returning U.S. empties. These, while sound enough for pulpwood or other materials, could not replace Canadian cars as grain carriers —the Canadian standard of repair being higher and better observed. Vigorous measures were taken to effect the return of Canada's 22,000 "lost" cars from the congested U.S. lines. In a few months the number "lost" had dwindled and it is normal today. The board undertook to persuade shippers to pack cars more skilfully, and thereby make better use of car space. As a result, the average load per car rose from 21.74 tons in Jan. 1917, to 26.71 tons in Nov., 1918. This represented a saving in cars, in track room, in tractive effort, in locomotive, and in fuel. The centralized control of cars enabled the board to supply empties from the nearest point in Canada rather than the nearest point on the system in question.

So much for the board's work in these three main departments of the railway operation. But in its general capacity as general superintendent of the transportation problems of Canada, it has undertaken other special problems. To help save fuel, it ordered the cutting down of passenger train service to bare necessity lines. By cutting off 12,000,000 passenger train miles, it saved 600,000 tons of coal. This end was further served by the heavier loading of freight cars above referred to. Fewer cars being used, the percentage of tare weight and the consumption of coal by engines were reduced. When the deliveries of coal to Canadian lines by U.S. lines at Niagara frontier became congested, the board opened an extra road to Toronto by arranging with the T., H. & B. R., C.P.R., and Michigan Central Rd. to co-operate in assisting the G.T.R. The general manager of the T., H. & B. volunteered as the direct representative of the board at the Niagara frontier, and by his efforts forced the traffic through in the face of great difficulties. When heavy shipments threatened to overwhelm one line between Toronto and Montreal, or on any other route, the board instructed the sister lines to share the load. In the west, a breakdown in the service from the Drumheller coal fields was minimized by sending prompt assistance from the other railways; and the chance of this embarrassment recurring was removed by adding special trade facilities in the summer of 1918.

In the labor field, trouble was prevented by the prompt application of the so-called McAdoo scale of wages (the U.S. scale), practically as soon as it was applied in the U.S.

To ensure the amicable adjustment of

the details of this scale, and of all other railway labor disputes, the board formed, with the consent of the labor unions concerned, the Canadian Railway Board of Adjustment No. 1, in which six officials from various railways meet six railway labor leaders and settle all questions.

To protect the country's transportation interests, the board obtained from Toronto University a free supply of anti-flu vaccine, for 45,000 western railway employes, and the same was administered through railway physicians.

The board's chief business is dealt with by the administrative committee, consisting of Grant Hall, Vice President, C.P.R. (chairman); M. H. MacLeod, Vice President, operation, etc., Canadian National Rys.; W. D. Robb, Vice President, transportation and maintenance, G.T.R.; S. R. Payne, Manager, Ottawa Division, New York Central Ry.; F. F. Backus, General Manager, Toronto, Hamilton & Buffalo Ry.; J. H. Walsh, General Manager, Quebec Central Ry.

One of the major problems of the board in recent months had to do with the return of the army from France. To meet this situation a special committee of experts in the handling of passenger traffic was appointed by the board, one from the Canadian National Rys., one from the C.P.R. and one from the G.T.R. The first problem of this committee has been to assemble colonist cars, tourist cars, and standard sleeping cars, to say nothing of commissary, dining, and baggage cars, at St. John, N.B., and Halifax, N.S., ready for the unloading of the ships. The second part of their work has been to ticket the home-comers to their respective demobilization areas—a long and complex clerical task which was made difficult by the scarcity of skilled ticketing clerks. Trains had then to be dispatched westward over whatever line could best handle them, the C.P.R. from St. John, or the Canadian National from Halifax. These trains had not only to be provisioned, "watered" at various divisional points, and provided with engines, but the empty equipment had then to be "worked back" ready for the next soldiers to arrive. Some cars could make the return trip in 3 or 4 days. Others must be absent 12 or even 20 days. Each train has to be slipped in, as it were, between the regular passenger and freight trains, whose schedules have to be maintained if the other vital business of the country is to be handled.

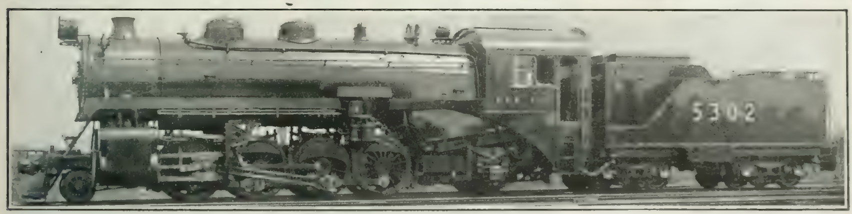
The chairman of the committee on demobilization is Walter Maughan, Assistant General Passenger Agent C.P.R. H. H. Melanson, Passenger Traffic Manager, and C. W. Johnston, Assistant General Passenger Agent, represent the interests of the Canadian National Railways and the Grand Trunk Railway respectively. This committee has handled about 30,000 returning soldiers every month since the winter commenced. The rate in summer time will probably be as high as 45,000 per month. The seriousness of this task may be judged, perhaps, by the fact that 14 shiploads, including some of the world's greatest ships such as the Aquitania and the Olympic, were handled between Nov. 27 and Jan. 4, involving 1123 locomotive trips and scores of special trains.

Railway Rolling Stock Orders and Deliveries.

The G.T.R. has received 7 six-wheel switching locomotives from its Montreal shops, leaving 7 of an order of 20 still under construction there.

Canadian National Rys. has received the following additions to rolling stock, 13 colonist cars, 9 Hart ballast cars, and 44 overhauled heater cars, and 25 repaired wooden box cars, from Canadian Car and Foundry Co.; 278 general service cars from Eastern Car Co.; 102 steel frame box cars from National Steel Car Co.; 18 cabooses from Preston Car and Coach Co.; 23 colonist cars from Pullman Co., and 6 six-wheeled switching locomotives from Canadian Locomotive Co.

The C.P.R., as stated in Canadian Railway and Marine World for April, ordered 10 mikado locomotives for heavy freight service, to be built at Angus shops, Montreal, one of which, no. 5302, completed recently, is illustrated herewith. The following are the principal dimensions:—



Mikado Locomotive, Canadian Pacific Railway.

Boiler pressure	200 lbs.
Cylinders	25½ x 32 in.
Driving wheels, diar	63 in.
Tractive effort	54,000 lb.
Firebox, inside	120 x 84 in.
Boiler, diam., front end, 80 in., back end	90 in
Flues, no. and diar	40-5½ in.
Tubes, no. and diar	211-2¼ in.
Length over tube sheets	18 ft. 6 in.
Firebox heating surface	274 sq. ft.
Arch tube heating surface	37.5 sq. ft.
Tube and flue heating surface	3,347.78 sq. ft.
Superheating surface approx	845 sq. ft.
Total equivalent heating surface	4,926.78 sq. ft.
Grate area	70.3 sq. ft.
Factor of adhesion	4.18
Weight on drivers	226,000 lb.
Weight on engine truck	25,000 lb.
Weight on trailing truck	49,000 lb.
Total weight, locomotive	323,000 lb.
Total weight, locomotive and tender	500,000 lb.
Total weight, tender loaded	180,000 lb.
Coal capacity, tons	12
Water capacity, imp. gal	8,000

The grates are moved by steam grate shakers. The cab is of the C.P.R. standard vestibule type, fitted with a 14 x 20 in. locker for enginemen's clothes, meal pails, etc. The locomotives are being built under the direct supervision of W. H. Winterrowd, Chief Mechanical Engineer.

The Inverness Railway and Coal Co.'s Position.

The Nova Scotia House of Assembly passed the following resolution unanimously recently, and directed that copies be sent to the Dominion Minister of Railways and to A. W. Chisholm, M.P., for Inverness: "That in the opinion of this house it would be in the public interest, and would help to solve the transportation problems in the Province of Nova Scotia if the Dominion Government were to purchase or lease the Inverness Ry. and Coal Co.'s railway and extend it to Cheticamp and make other necessary extensions in the County of Inverness, and that these lines be part of the Canadian National Rys."

The Inverness Ry. and Coal Co. was the title under which the Inverness and Richmond Ry. and the Inverness-Richmond Collieries and Ry. Co. of Canada Ltd., were consolidated and amalgamated in 1902. The Inverness and Richmond Ry. was incorporated by the Nova Scotia Legislature in 1887, and the railway was completed and opened for traffic, June 15, 1901. The line extends from Point Tupper to Inverness, 61 miles, with a total of 65.5 miles of track laid with 56 lb. steel. The company owns and operates collieries at Inverness, the output of which is shipped over its line to several points for water shipment.

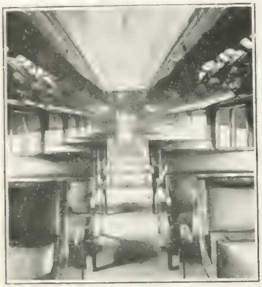
A meeting of the 5% first mortgage holders was held in Toronto, June 30, 1915, when a resolution was passed providing for the suspension of payment of interest on bonds and that payments of sinking fund be postponed until such time after the war as might be determined, and providing for the future operation of the property by the company. The company's general officers at that time were: President, Sir William Mackenzie; Vice President, Sir Donald Mann; Secretary and Treasurer, L. W. Mitchell, Toronto; General Manager, J. McGillivray, Inverness, N.S. Mr. McGillivray was in July, 1915, appointed Receiver and Manager of the property under an order of a Nova Scotia Court, granted on the application of the bondholders' trustee.

The funded debt consists of 1st mortgage 5%, 20 year, $500 gold coupon bonds, due May 1, 1922. The total issue was $3,000,000, of which at June 30, 1913, $869,000 was held in the treasury as security for outstanding loans.

F. L. Hutchinson, General Manager Hotels, etc., C.P.R., is reported to have stated in Victoria, B.C., recently, that the company believed in the future of Victoria as a tourist resort and is spending a large sum in a press campaign in the United States, specially directed to divert travel to Vancouver Island.

Colonist Cars, Canadian National Railways.

Deliveries are now being made of the 150 colonist cars under order by the Canadian National Rys., and which were briefly described in Canadian Railway and Marine World for Jan., 1919. Of these 100 were ordered from Canadian Car and Foundry Co., Montreal, and 50 from Pullman Co., Chicago, the order being divided in this way in order that an early delivery of the whole 150 might be made, as the cars are required primarily for handling troops from seaboard to inland demobilization points. The first of the cars were delivered early in May and were placed in service immediately they arrived, so urgent is the need for troop equipment. It is expected that the balance will be delivered before July. They are of steel construction throughout, with the exception of the interior fittings, and have the following general dimensions:


Seating Arrangements, Colonist Car, Canadian National Railways.

Length over end sills	73 ft. 6 in.
Length between truck centers	57 ft. 6 in.
Length over buffers, approx.	82 ft. 4½ in.
Width over side sills	9 ft. 9⅝ in.
Width over roof at eaves	10 ft. 1⅞ in.
Width of clerestory	5 ft. 11¼ in.
Height, rail to roof	14 ft. 2 in.
Height, rail to eaves moulding	11 ft. 2½ in.
Height, rail to sill at end	3 ft. 7⅝ in.

The steel construction embodies the Canadian National Rys. standard, 73½ ft. steel fish-belly underframe, which is to be a part of all steel passenger equipment for C.N.R. service. Along the top of the sides, is a very deep letter board, arranged for by dispensing with the usual oval windows above the main panes of glass. Part of this space is used to give a larger window depth than is normal, increasing the interior lighting arrangement. The roof is of the clerestory type, but without the usual narrow windows. In their places, are large ventilators, with air ducts along the sides, the ventilators being controlled from the interior. The windows have double sash, with provision on the outside for applying a third sash for winter service in the west.

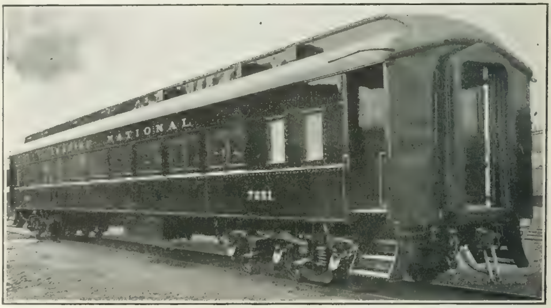
The vestibules are also of all steel construction, embodying the U-shaped I beam section, which minimizes the tendency to telescoping in wrecks. They are equipped with the latest type of friction draft gear.

The cars are mounted on commonwealth all-steel 6-wheel trucks, equipped with clasp brakes. The trucks have the safety center pin attachment, for preventing the bodies from parting from the trucks in case of derailment.

The seating arrangement is worthy of special note, the seats being arranged farther apart than usual, in order to give greater knee room, and incidentally a greater berth length. They have 18 sections, giving a berth accommodation of 72, with 2 persons in both the upper and lower berths. The berths are very similar to those in first class sleeping cars, but are not equipped with mattresses for this special service, the bedding being supplied by the Militia Department. The seats are upholstered with fabrikoid and pantasote, and filled with curled hair, which is an improvement on the usual colonist car wooden seats. The flooring is of flexolith composition. The interior finish of the cars is of birch-mahogany, with none of the steel work exposed on the inside. The clerestory is painted a light green shade.

At one end of the car is the men's water closet and lavatory, the latter equipped with three washbasins, of a superior type. The other end of the car has a women's lavatory and water closet on one side of the aisle, and on the other, a small cookstove room, for the preparation of meals en route. At both ends, there are also drinking water containers, arranged with separate compartments for ice and water, and attachments for new and used sanitary drinking cups.

The cars are equipped with the latest type of Vapor Car Heating Co.'s heating. In addition, the men's lavatory end is equipped with an auxiliary heating stove for use in case of emergency.



Colonist Car, Canadian National Railways.

The 100 cars being built by Canadian Car & Foundry Co. are being lit by Safety Car Heating & Lighting Co.'s system with body hung generators. The 50 being built by Pullman Co. are being lit by the U.S.L. system, with a truck suspended generator under the car, and controlled by a panel at the end of the car. All the cars have storage batteries with a 300 ampere-hour capacity, which is sufficient for 8 hours service without operating the generator. Lights are so arranged that at night half the light may be cut off, or each individual light may be extinguished. Individual berth lights are not applied, as they are not usual on this type of equipment.

The cars were designed under the direction of G. E. Smart, General Master Car Builder, Canadian National Rys., to whom we are indebted for the foregoing information.

London, Ont., Union Station Proposals—N. Cauchon, C.E., of Ottawa, addressed the Chamber of Commerce, London, Ont., May 12, on the railway situation in regard to town planning. The plan suggested so far as the railways are concerned is for the construction of a cross town line to link up the C.P.R. and the G.T.R., with a union station on Dundas St., the elevation of tracks and the erection of a purely industrial area wherein all the factories could be concentrated. An alternative plan is reported to have been suggested by Sir Adam Beck under which a union station would be provided in connection with hydro radial proposals, and in the event of the Dominion Government taking over the G.T.R., the electrification of the Huron and Bruce branch.

James Daniel Altimas, who was appointed Assistant General Superintendent of Car Service, C.P.R., Montreal, recently, was born there, Aug. 6, 1871, and entered C.P.R. service Sept. 13, 1887, since when he has been, to Nov. 1, 1889, record clerk; Nov. 1, 1889 to Nov. 1, 1890, statistical clerk; Nov. 1, 1890 to Dec. 1, 1891, chief statistical clerk; Dec. 1, 1891 to May 1, 1896, car tracer; May 18, 1896 to Feb. 1, 1903, chief clerk to Car Accountant; Feb. 14, 1903 to Mar. 23, 1909, chief clerk to Superintendent of Car Service; Mar. 22, 1909 to Nov. 1, 1918, Car Accountant, all at Montreal.

Herbert Gatje, who has been appointed Travelling Passenger Agent, C.P.R., San Francisco, Cal., was born at Willows, Cal., May 4, 1891, and entered transportation service in Sept. 1908, since when he has been, to Feb. 1909, report clerk; Feb. 1909 to May 1910, local ticket clerk; May 1910 to July 1912, Pullman ticket clerk, Southern Pacific Co., San Francisco, Cal.; July 1912 to Apr. 1913, agent, Pullman Co., San Francisco, Cal.; Apr. 1913 to Feb. 1919, interline ticket clerk, Southern Pacific Co., San Francisco, Cal.

Canadian Pacific Railway Co's Annual Meeting.

The C.P.R. Co.'s 38th annual meeting was held in Montreal, May 7. The company's chairman, Lord Shaughnessy, presiding, having on his right, E. W. Beatty, President, Grant Hall and I. G. Ogden, Vice Presidents, and on his left, E. Alexander, Secretary, Jno. Leslie, Comptroller, and H. C. Oswald, Assistant Secretary.

President Beatty, in moving the adoption of the directors' report, as published in Canadian Railway and Marine World for May, said:—

The results of the year's operations were, on the whole, and under the conditions which existed, satisfactory, notwithstanding the shrinkage in the net earnings of $12,043,630, due to the extraordinary increase in wage scales and cost of materials of all descriptions. Over 77% of the total increase in operating expenses was due to increases in wages alone. The volume, both of freight and passenger traffic, decreased in comparison with 1917, the increase in gross earnings of $5,148,363 being due to increases in rates granted in March and July, 1918. The fact that notwithstanding the heavy increases in the cost of operation there was a surplus after payment of all charges and dividends, is another satisfactory evidence of the foresight and wisdom of the shareholders in having approved substantial expenditures in previous years, which undoubtedly permitted the company's operations to be carried on with a cheapness which would not have been possible had such adequate facilities not been provided. A conspicuous example of the results of such foresight is found in the difference in the cost of rolling stock acquired during the years 1911 to 1914, and the approximate market value of an equivalent amount if required to be purchased in 1918. The rolling stock purchased during the former years, if required to be furnished at the 1918 prices, would have represented an increased cost of approximately $96,000,000. After four years of war, and the existence of times of the most severe climatic conditions, I am happy to say that the physical condition of your property is excellent, and it will not require more than usual maintenance expenditure to ensure its usual efficiency. The results of the operations of the three months subsequent to the conclusion of the fiscal year have been disappointing, but not unexpectedly so in view of the falling off of general traffic during February and March and the inevitable heavy costs of maintenance and operation due to high prices of materials.

In view of the uncertain conditions which succeeded the conclusion of hostilities and the need of providing as much employment as possible, your directors did not think it wise to make drastic reductions in the number of men employed and the company's shops have been maintained at full pressure, always on necessary work, but in some cases on work which might have been postponed if the general conditions had warranted it.

The company's financial position at the end of the fiscal year, as indicated in the annual report, was, on the whole, extremely gratifying.

Your directors are of the opinion that a reasonable amount of additional branch line construction should be gone on with as soon as conditions warrant, and the necessary statutory authority is obtained. Resolutions will be submitted for your approval for the construction of the lines which are most urgently required. In this connection, I should point out that in the matter of railway construction the country is faced with a condition quite unprecedented in the recent history of Canada, in that the Canadian National Rys. and your company are the only large companies with resources sufficient to enable them to provide additional railway facilities to any substantial extent. Serious and continuing blunders in railway policy have resulted in the government being required to assume the ownership at present of 11,400 miles of railway, with prospect of the acquisition of an additional 6,400 miles. When this acquisition has been accomplished, the principal competing systems in Canada will be your company and the Canadian National Rys. I have no apprehension as to your company's ability with its splendid facilities and equipment and loyal and efficient officers and men, to obtain a fair share of the traffic and to handle it expeditiously and well. I have no fear of government ownership, but government ownership apparently has some fear of private competition under equal conditions. It has recently been found necessary to give the Canadian National Rys, privileges in the matter of construction of railways not enjoyed by private companies and to exempt them from complying in other respects with the existing laws respecting railways. I sincerely trust that this policy of making one law for the Canadian National Rys. and one for the C.P.R. and other private enterprises will neither be continued nor extended, because nothing would, in my opinion, be calculated to destroy confidence in Canadian railway enterprise more than a policy which would confer exclusive and peculiar rights on the Canadian National Rys. designed to make the competitive conditions unequal.

The subject of government ownership has received much attention recently, but not nearly as much as the importance of the subject justifies. Notwithstanding our previous experience and that of the United States and Great Britain, government ownership and operation of railways is to be attempted on a large scale. The situation is full of danger, which cannot be avoided or even minimized except by rigorously independent and non-political administration, which is at least difficult of establishment under our system of government. This fact must, however, be obvious, that in no other way can the people of Canada obtain a correct appreciation of the results of government operation of the systems which are or which may hereafter come into its possession, than by their being administered in strict accordance with the laws of the country under which other companies have to operate, by their financial and accounting methods being made as precise and as accurate as the law now requires of private corporations, and by the exact financial results being submitted to parliament each year.

Different views may conceivably be held as to the wisdom of public ownership and operation of railways. My own views are sufficiently well known not to require repetition, but the fact is public ownership is already here, and experience only will show whether the difficulties I have mentioned in securing efficient and non-political administration can be overcome, and the country receive an adequate service at a minimum of loss. I am satisfied the government recognizes these difficulties and that a sincere and determined effort will be made to meet the situation. It would seem, however, to be obviously wise that the assumption of further obligations should at least be deferred until the practicability of government administration, or administration under the aegis of the government (which is quite inseparable from government ownership) has been demonstrated. In the end, the burden of the enterprises must be borne by the people, and the people are entitled to know whether the method of administration provided and the results of that administration are such as warrant their approval of the continuance or extension of them in the interests of Canada.

The returns from sales of land during the year just closed have been the largest in your company's history, and it is a matter of great gratification to your directors, as no doubt it is to the shareholders, that the company's incessant activities in the matter of sale and colonization of lands and the promotion of immigration to Canada has had such far-reaching and beneficial results. As a direct consequence of the company's efforts, more than 21,000,000 acres of land have been sold to settlers, and more than half a million settlers induced to come to Canada and settle in the Canadian West. The contribution to the country's exchequer has been thereby increased by many millions. With return to peace conditions I should expect a considerable increase in immigration, and with the vigorous development of the country's natural resources and the necessary extension of the markets of Canada we have every reason for confidence in the future prosperity of the country, even though the present year may be one during which the commercial expansion may be only moderate.

Your directors look forward with confidence to the development of your company's trans-Atlantic and trans-Pacific steamship business, particularly the latter, and adequate provision for the needs of the immediate future has been made, as indicated in the annual report.

It would not be proper that I should conclude my remarks without a personal reference to your former President, Lord Shaughnessy, who retired from the presidency during the last fiscal year. It is perhaps not necessary that I should reiterate the inestimable value of his services to the company from the beginning of his connection with it, but more particularly during the last 20 years, during which time he occupied the position of chief executive officer. It will, however, be gratifying to the shareholders to know that, great as had been the success of Lord Shaughnessy's administration of the company's affairs, viewed from a purely commercial standpoint, greater still has been the influence and force of his personal character and ideals and his high sense of duty on the company's officers and men, with the result that the C.P.R. enjoys an esprit and an ambition for efficiency among all ranks which I venture to think is unequalled and certainly not excelled, in any corporation in the world. It must be a source of great gratification to Lord Shaughnessy to know, on his retirement from the active work of the presidency to the more advisory work of chairman of the company, that not only was his administration extraordinarily successful, and that he leaves the property in excellent physical condition, but that he created during his tenure of office an organization the ambition of which, and every member of it, is to utilize that property in the closest co-operation and to the full extent of their powers for the benefit of the country and the shareholders.

The report was adopted unanimously.

Kaslo and Slocan Ry.—The shareholders approved a lease to the C.P.R. Co. for 99 years of branches which the K. & S.R. Co. has been authorized to construct, whether constructed or to be constructed, including the railway in operation from the junction with the N. & S.R. Whitewater Creek Branch at Retallack to Kaslo, 17.7 miles, and all such extensions, branches and additions to the railway as the K. & S.R. Co. is, or may be, hereafter authorized to construct, together with their appurtenances, at an annual rental of $1 and in addition thereto an annual rental equal to the interest payable on the outstanding bonds or other securities issued or which may be issued hereafter by the K. & S.R. Co. with the C.P.R.'s consent, the total of all such bonds or other securities unpaid or unredeemed not exceeding at any time $30,000 a mile, and to bear interest at not exceeding 5% payable half-yearly, the payment of such interest being guaranteed by the C.P.R.

Grand Trunk Pacific Ry.—The shareholders approved the agreement of Sept. 2, 1918, between the G.T.P.R. Co. and the C.P.R. Co. providing for the use by the G.T.P.R. Co. for 21 years, of the C.P.R.'s line from a point east of Sutherland to a point west of Saskatoon, together with the use of the C.P.R.'s passenger, express and freight facilities at Saskatoon station, which agreement amongst other things provides for the payment by the G.T.P.R. by way of rental of a sum equal to one-half the interest at the rate of 5% a year on the amount of the agreed value of the lands comprised in the joint section and of the improvements thereon and the payment of the maintenance and operaion expenses on a wheelage basis as defined in the agreement, be and the same is hereby approved and the execution thereof by the President and Assistan Secretary ratified and confirmed.

Branch Lines Construction.—The following resolution was adopted:—

Whereas an extention of the Moose Jaw Southwesterly Branch has been constructed from mileage 35 to mileage 66, and it is in the directors' view expedient that the following other branch lines and extensions of branch lines be constructed in the near future, viz.:

1. An extension of the Bassano Easterly Branch from Empress Northeasterly to Milden, 132 miles;

2. An extension of the Langdon North Branch from Acme, to the projected extension of the Swift Current Northwesterly Branch near Empress, 132 miles;

3. A part of the Moose Jaw Southwesterly branch from Vidora easterly, 35 miles;

4. A branch of the Manitoba and North Western Railway from Russell northerly known as the Russell North Branch, 15 miles;

5. A branch from Lanigan northeasterly and known as the Lanigan Northeasterly Branch, 150 miles;

It is therefore resolved that the construction of the said extension of the Moose Jaw Southwesterly Branch from mileage 35 to mileage 66 is approved, and that the directors are authorized to proceed with the construction of the said other branch lines and extensions of branch lines when in their opinion conditions warrant and after statutory authority, where any be necessary, shall have been obtained therefor, and that to aid in the construction and equipment of all such railways the directors are authorized to issue and dispose of consolidated debenture stock to such an amount as they may deem expedient, but not exceeding in respect of any of said lines the amount which the company is or may be empowered by statute to issue.

Bylaws—A bylaw passed by the directors amending the general train and interlocking rules, as required by the Board of Railway Commissioners, and amendments to several bylaws embodying verbal amendments made necessary by the separation of the positions of chairman of the company and president were approved.

Directors Elected.—R. B. Angus, Sir Herbert Holt, Brig.-Gen. F. S. Meighen, and Sir Edmund Osler, whose term of office as directors had expired, were reelected for 4 years.

Tribute to Lord Shaughnessy.—H. R. Drummond, speaking on behalf of the shareholders, paid a tribute to the services rendered by Lord Shaughnessy during the term of his presidency, and proposed the following resolution, which was carried unanimously:—"That there is inscribed in the record of this meeting an expression of the shareholders' appreciation of the great service rendered to the company and to the Dominion of Canada by the Rt. Hon. Lord Shaughnessy, who has recently retired from the presidency and assumed the chairmanship of the company.

"The outstanding position held by the C.P.R., not only in the markets of the world, but also in the respect and affection of the Canadian people, provides the greatest of all tributes to the genius with which Lord Shaughnessy has directed the company's affairs; but the shareholders cannot let this occasion pass without the further tribute of their thanks for the services he has rendered during the 36 years with which he has been associated with this enterprise.

"Through Lord Shaughnessy's financial skill and executive ability, an immense transportation system has been built up and consolidated with such efficiency and economy that the Canadian people have enjoyed efficient service at moderate rates, have seen their resources developed beyond all expectation, and have been encouraged during normal years by a steady flow of immigration, while the financial returns of the company itself have amply justified the confidence placed by investors in Canadian industry and management.

"It is particularly gratifying to the shareholders that under Lord Shaughnessy's presidency the C.P.R. Co. should not only have rendered such signal services to the cause of the allies during the recent great war, but should also have maintained its efficiency and financial standing in the face of the difficult conditions created by that war. The shareholders consider it due largely to his far-sighted policy that under such circumstances the C.P.R. Co. should not only have required no assistance from the Canadian Government, but should actually from its reserves have been able to provide substantial aid to that government in maintaining the high standard of Canadian credit.

"The shareholders deeply appreciate and honor the spirit of self-sacrifice with which Lord Shaughnessy maintained the arduous duties of the Presidency during the anxious years of the war, in spite of physical disabilities. They rejoice that these disabilities have been ameliorated, and that with renewed vision he can once more enjoy the beauties of that Canadian landscape which the C.P.R. has made accessible to the world.

"When the prospect of peace enabled him to hand over the more active duties of the presidency, with clear conscience to a younger man, it was with genuine pleasure that the shareholders heard of Lord Shaughnessy's decision to remain as Chairman of the Company, not only because they realized that the company would thereby continue to have the benefit of his counsel and advice, but also because they are proud to retain as their titular head one who is held in such universal honor.

"The shareholders trust that the indomitable spirit which has been so characteristic of Lord Shaughnessy's whole splendid career will be rewarded with many years yet to come of health, prosperity and happiness. That a copy of the foregoing resolution, suitably engrossed, and signed by the Secretary under the company's corporate seal, be forwarded to Lord Shaughnessy."

Lord Shaughnessy said:—I appreciate most heartily and thank you, Mr. President and fellow shareholders, for the complimentary remarks referring to myself in the President's address, and in the resolution adopted by the meeting. I would be lacking in candor if I failed to admit great pride in the company's progress during my presidency and in its present splendid position, physically and financially, and equal pride in the faith and confidence of the shareholders, who, with marvellous unanimity, responded to calls for new capital by subscribing for additional issues of stock, even on occasion when in deference to popular clamor the issue price was less favorable to the subscribers than it might properly have been. My predecessors, Lord Mount Stephen and Sir William Van Horne, who carried the responsibilities of the chief executive through the periods of construction and the first few years of operation, had a most difficult task, as is well known to our senior colleagues on the board of directors, Mr. Angus, Sir Edmund Osler, and Mr. Matthews, but it was my good fortune to become President just when the tide was turning and when Canada was coming into her own. The expansion in the country's business and the consequent increase of traffic compelled capital expenditure on a large scale, to furnish improved transportation facilities presently required and to anticipate the future, and the money for these purposes was provided year by year from 1900 to the outbreak of war. The policy of your directors was bold and forward. There was never any hesitation, and looking back over that period they are justified in the conviction that few, if any, mistakes were made; and that conviction is, I am sure, shared by the great body of the Canadian people and of the company's shareholders.

It was fortunate, indeed, that when the time arrived to transfer the responsibilities of chief executive to younger and more vigorous shoulders, your directors had available for the post a man so capable, so energetic, so conscientious and so well versed in matters relating to the company's policy as the new President, Mr. Beatty. I shall not hurl back at him such compliments as he paid me in great profusion, but I may be permitted to say that he enjoys the complete confidence and respect of the directors and of the Canadian people. The shareholders' interests could not be in safer hands. After so many years of business and personal association, it was somewhat of a wrench to my fellow directors, as it was to me, to alter our relations by permitting me to retire from the presidency, but they felt as I did, and as I hope you feel, that it was best for the company's future.

Executive Committee:—At a meeting of directors held immediately after the shareholders' meeting, Lord Shaughnessy, was elected chairman of the company; E. W. Beatty, President, and Grant Hall, Vice President, and the following were appointed the executive committee: R. B. Angus, E. W. Beatty, Grant Hall, Sir Herbert Holt, Sir Edmund Osler, Lord Shaughnessy.

Switching Locomotives, Grand Trunk Railway.

The 25 switching locomotives which the G.T.R. ordered about a year ago, to be built at its Montreal shops, were first referred to, and their general dimensions given, in Canadian Railway and Marine World for May, 1918. An illustration of one was published in our Apr., 1919 issue, but by an unfortunate mistake, the wrong dimensions were given, those used relating to locomotives built for the Canadian Government Rys. A few days after the May issue was published, G. Cavin, Chief Mechanical Engineer, Canadian Locomotive Co., very courteously called our attention to the error, and the correct dimensions, as originally published in our May, 1918 issue, were republished in our May, 1919 issue. Since then the following additional information has been supplied:—

These locomotives, which are of the A9 class, were designed under instructions from W. H. Sample, General Superintendent of Motive Power and Car Department, and a number of existing G.T. R. standards were embodied in the new design. Following is a comparison of the leading dimensions of these locomotives with previous designs, by which it will be seen that there is a considerable increase in the weight and power of these locomotives.

	Designs.	
	Present	Previous
Cylinders, inches	22 x 26	21 x 26
Driving wheels, inches	51	56
Steam pressure, lb	175	165
Grate area, sq. ft	50.62	27.44
Water heating surface, sq. ft.	1945	1428
Superheating surface, sq. ft	408	268
Weight on drivers, lb	166,000	139,500
Tractive effort, lb	36,708	31,460

The boiler is of the extended wagon top type, designed for 175 lb. steam, with a front end diameter of 68 9-16 in., and 76 in., at the dome course. The courses are fitted together with sextuple rivetted joints. The boiler contains a 28-element Schmidt superheater, and the firebox is equipped with a brick arch, supported on four 3 in. tubes. The boiler accessories include a power operated firedoor and double turret valves for the convenience of the locomotive men and fireman. The inspirators are of the Hancock type, and two Okadee blowoff valves are fitted to the throat sheet of the firebox. The boiler also has 2 sand boxes with Hanlon air sanders.

The frames are of the most substantial design, with jaws fitted with adjustable driving box wedges. The frames are braced with cast steel crossties and the front end has heavy cast steel deck castings and cast steel bumpers, making it very substantial. The driving wheel centers are also of cast steel, with 3½ in. tires shrunk on.

The smoke box has the M.M. Assoc. front end, with the exhaust pipe fitted with multiple nozzle. The cylinders have ample exhaust passages with easy bends. Hunt-Spiller iron is used for the cylinder and steam chest bushings, and for the packing rings in the piston heads and piston valves, and King metallic packing is used around the piston rods.

The cab is spacious and placed well back, providing ample deck space for the fireman, and special attention has been paid to the location of the cab fittings, in order to place brake valves, throttle handle, reverse lever, valves, etc., within easy reach of the crew, and the position of the steam, air, and water gauges is such that they can easily be read.

The tender is carried on two 4-wheel trucks of the equalizer design, with cast steel bolsters of ample proportion and is fitted with 5½ x 10 in. journals and cast iron chilled wheels. The tender frame is made up of 10 in. outside channels and 13 in. inside, and well supported on ends and top with steel plates rivetted to these channels. The back end is provided with cast steel bumper.

The tender tank is of the water bottom type, of 6,000 gal. capacity, fitted with coal space of 9 tons capacity and placed well forward. This coal space is designed so as not to obstruct the view of the locomotive man and fireman when backing up. The top of the tank is provided with hand railing for the convenience of fireman when taking water. The buffer between the locomotive and tender is of the radial type.

The leading dimensions of these locomotives are as follows:—

Fuel	bituminous
Tractive effort	36,703 lb.
Weight in working order and on drivers	166,000 lbs.
Weight of locomotive and tender in work order	296,000 lbs.
Wheel base, driving and total	11 ft 6 in.
Wheel base, locomotive and tender	45 ft 9½ in.
Weight on drivers tractive effort	4.5
Total weight tractive effort	4.5
Heating surface—grate area	38.42
Cylinders	22 x 26 in. simple
Valves	12 in. piston
Driving wheels, diam	51 in.
Driving wheels, tire thickness	3½ in.
Driving journals, all	9½ x 12 in.
Working pressure	175 lbs.
Outside diameter of first ring	68 9-16 in.
Firebox	96⅞ x 75¼ in.
Firebox plates ½ in. tube, ⅜ in. crown, side and back	
Firebox water space—	
Front	5½ in.
Back	4½ in.
Sides	4½ in.
Tubes	178, 2 in.
Flues	28, 5⅜ in.
Tubes and flues, length over sheets	12 ft. 4 in.
Heating surface, tubes and flues	1,751 sq. ft.
Heating surface, firebox, including arch tubes	194 sq. ft.
Heating surface, total	1,945 sq. ft.
Heating surface, superheater	408 sq. ft.
Grate area	50.62 sq. ft.
Tender weight	130,000 lbs.
Tender wheels	33 in.
Tender journals	5½ x 10 in.
Tender water capacity	6,000 gal.
Tender coal capacity	9 tons

We were officially advised May 19 that 18 of 25 locomotives had been completed.

Steel Rails for Canadian Railways.

We are officially advised that, up to May 2, the Algoma Steel Corporation had rolled 90,070 gross tons, and the Dominion Iron and Steel Co., 71,837 gross tons, of steel rails, on orders placed by the Dominion Government in Nov., 1918, the Algoma Steel Corporation's order being completed. The rails were shipped to the following railways:

Algoma Steel Corporation.

	Tons
Canadian National Rys	15,000
Canadian Pacific Ry	69,500
Kettle Valley Ry	2,670
Timiskaming and Northern Ontario Ry	2,000
Toronto, Hamilton and Buffalo Ry	400
Total	90,070

Dominon Iron and Steel Co.

	Tons
Canadian Government Rys.	25,357
Canadian Northern Ry	1,519
Canadian Pacific Ry	30,878
Grand Trunk Ry	13,922
Timiskaming and Northern Ontario Ry	161
Total	71,837
Grand total	161,907

Collection of Freight Charges Over Several Lines—Victor Nadeau bought two carloads of apples in Nova Scotia to be delivered in Quebec Province. The cars went over four lines of railway, the Canadian Northern Quebec Ry. being the final carrier. In making delivery, that company charged $144 as freight, but subsequently discovered that there had been an error of $120 in the freight bill. The company brought an action to recover this amount, but a court, sitting at Joliette, held that the error was due to the company's fault, and it must therefore bear the consequences. The Court of Review at Montreal, Apr. 28, reversed this decision, holding that the company had not lost its right of action by the delivery of the goods, and the acceptance of the amount of freight, which was subsequently found not to have included all the charges. Judgment was given for the company for $120.

Railway Lands Patented—Letters patent were issued during April, in respect of Dominion railway lands in Manitoba, Saskatchewan, Alberta and British Columbia, as follows:—

	Acres
Alberta and Great Waterways Ry	3.25
Canadian Northern Ry	790.22
Canadian Pacific Ry	.152
Canadian Pacific Ry. roadbed and station grounds	1.13
Edmonton, Dunvegan and British Columbia Ry	39.28
Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co	320.00
Total	1,154.032

The National Steel Car Co. is making delivery of an order of 750 box cars to Canadian National Rys. It is also delivering rolling stock material to the Federated Malay States Government, and forgings for the Paris, Lyons and Mediterranean Ry. and the Midi Ry. of France.

Mainly About Railway People Throughout Canada.

John F. Aitchison, who has been appointed Auditor of Disbursements, G.T.R. and Grand Trunk Pacific Ry., Montreal, was born at Edinburgh, Scotland, May 28, 1880 and entered railway service in 1897, since when he has been, to 1898 junior clerk G.T.R., London, Ont.; 1898 to 1906, clerk G.T.R., St. Thomas, Ont.; 1906 to 1914, travelling accountant, Wabash Rd., Detroit, Mich.; 1914 to Oct. 16, 1918, special auditor, G.T.R., Montreal; Oct. 16, 1918 to May 1, 1919, acting Auditor of Disbursements, G.T.R., and G.T.P.R., Montreal.

Albert Geo. Albertsen, who has been appointed General Agent, Passenger Department, C.P.R., Minneapolis, Minn., was born at Copenhagen, Denmark, Dec. 31, 1887, and entered transportation service Apr. 1, 1908, since when he has been, to Nov. 1, 1909, junior clerk, Thos. Cook & Son; Nov. 1, 1909 to July 1910, Passenger Agent, White Star Line; July 1, 1910 to Mar. 1, 1911, in Passenger Department, Pacific Mail Steamship Co.; Mar. 1, 1911 to Feb. 15, 1919, City Passenger Agent, Travelling Passenger Agent, and City Ticket Agent, C.P.R., all at San Francisco, Cal.

John D. Barnett, who presented the Western University, London, Ont., with a valuable collection of books and who has been given the honorary degree of LL.D., was at one time Master Mechanic, G.T.R., Stratford, Ont.

E. W. Beatty, K.C., President, C.P.R., has been elected a director of the Bank of Montreal.

Sir George McLaren Brown was invested by the King at Buckingham Palace, May 12, as Knight Commander of the Order of the British Empire.

Sir George Bury, formerly Vice President, C.P.R., who has been elected President, Whalen Pulp & Paper Mills, Ltd., Vancouver, B.C., was born at Montreal, Mar. 6, 1866, and entered C.P.R. service in 1883, since when he was, to 1877, clerk in Purchasing Department, and in General Manager's office; 1887 to 1889, Secretary to Vice President, and afterwards to President; 1889 to Mar., 1890, acting Superintendent, sleeping, dining and parlor car service; Mar., 1890 to Sept., 1899, successively, Assistant Superintendent, Chalk River, Ont., and Superintendent, North Bay, Ont.; Sept., 1899 to Feb., 1901, Superintendent, Fort William, Ont.; Feb., 1901 to Feb., 1902, Superintendent Crowsnest Pass Line, Cranbrook, B.C.; Feb. to May, 1902, Assistant General Superintendent, Lake Superior Division, North Bay, Ont.; May, 1902 to 1905, General Superintendent same division, North Bay, Ont.; 1905 to Feb., 1907, General Superintendent Central Division, Winnipeg; Feb., 1907 to Mar. 1, 1908, Assistant General Manager, Western Lines, Winnipeg; Mar. 1, 1908 to Oct., 1911, General Manager, Western Lines, Winnipeg; Oct., 1911 to Dec., 1912, Vice President and General Manager, Western Lines, Winnipeg; Dec., 1912 to Dec., 1914, Vice President in charge of Western Lines, Winnipeg; Dec., 1914 he was appointed Vice President of the company at Montreal and also elected a director and member of the executive committee, which positions he resigned Oct. 10, 1918. He was created a knight bachelor, on the recommendation of the British Prime Minister, June 3, 1917, subsequent to a visit to Russia in connection with the proposed improvement of railway lines there. This work was nullified later by the revolution which commenced while he was in Petrograd. Sir George left Montreal for Vancouver at the end of May to take up his duties.

E. J. Chamberlin, formerly President, G.T.R., and Mrs. Chamberlin, returned to Ottawa towards the end of May, after spending most of the winter in California.

Frederick H. Clendenning, who has been appointed Assistant Foreign Freight Agent, C.P.R., Vancouver, B.C., was born at Montreal, Nov. 9, 1881, and entered transportation service Aug. 1, 1898, since when he has been, to June 30, 1902, junior clerk, Fourth Vice President's office, register clerk, and stenographer, successively, C.P.R., Montreal; July 1, 1902, to Mar. 31, 1903, stenographer and freight clerk, Commercial Agent's office, New York Central and Hudson River Rd., Montreal; Apr. 1, 1903, to Jan. 31, 1904, stenographer, rate and tracing clerk, General Freight Department, C.P.R., Vancouver, B.C.; Feb. 1, 1904, to June 30, 1905, chief clerk, City Freight Office, C.P.R., Victoria, B.C.; July 1, 1905, to Aug. 31, 1908, chief clerk, District Freight Office, C.P.R. and Esquimalt & Nanaimo Ry., Victoria, B.C.; Sept. 1, 1908, to Aug. 16, 1909, City Freight Agent, C.P.R., and District Agent, Esquimalt & Nanaimo Ry., Victoria, B.C.; Aug. 17, 1909, to Mar. 31, 1911, Assistant General Freight Agent, C.P.R., Vancouver, B.C.; Apr. 1, 1911, to Jan. 31, 1914, District Freight Agent, C.P.R., Vancouver, B.C.; Feb. 1, 1914, to May 1, 1919, Division Freight Agent, Steamship Lines, C.P.R., Vancouver, B.C. From Nov. 1, 1918, he was loaned to the British Ministry of Shipping (Canada).

J. F. Aitchison,
Auditor of Disbursements, Grand Trunk Railway.

Percy Acton Clews, appointed recently as General Agent, Freight Department, G.T.R. and Canadian Express Co., London, Eng., was born at Rock Ferry, Cheshire, Eng., Jan. 19, 1882, and entered transportation service in March, 1898, since when he has been, to Jan., 1907, with G. H. Fletcher Co., ship owners and forwarding agents, Liverpool, Eng.; Jan., 1907 to Jan., 1909, freight clerk, G.T.R., Liverpool, Eng.; Jan. to July, 1909, freight clerk, G.T.R., London, Eng.; July, 1909 to Apr., 1910, City Agent, G.T.R., London, Eng.; Apr., 1910 to Aug., 1914, acting Agent G.T.R., Antwerp, Belgium; Aug., 1914 to Dec., 1918, City Agent, G.T.R., London, Eng.

C. S. Cunningham, who died at Lansing, Mich., recently, aged 65, was in G.T.R. service from 1896 to 1913 and held the positions of Assistant Superintendent, London; Superintendent, St. Thomas, Ont., and Superintendent at Detroit, Mich. Latterly he occupied a position under the Michigan Board of Railway Commissioners.

Charles E. Dewey, Freight Traffic Manager, G.T.R., Montreal, died at Atlantic City, May 15, of Bright's disease, after a short illness. He was born at Cheshunt, Kent, Eng., Oct, 2, 1973, and entered railway service in Nov., 1888, since when he had been, to Apr., 1896, in G.T.R. service, Toronto; Apr., 1896 to Aug., 1897, chief clerk, Division Freight Agent's office, G.T.R., Stratford, Ont.; Aug., 1897 to Aug., 1899, chief clerk, Division Freight Agent's office, G.T.R., Hamilton, Ont.; Aug., 1899 to July, 1902, Division Freight Agent, G.T.R., Stratford, Ont.; July, 1902 to July, 1907, Division Freight Agent, G.T.R., Toronto; July, 1907 to Apr., 1908, Assistant General Freight Agent, G.T.R., Montreal; Apr., 1908 to May 1, 1911, General Freight Agent, Central Vermont Ry., St. Albans, Vt.; May 1, 1911 to 1913, General Freight Agent, Grand Trunk Pacific Ry., Winnipeg, and from 1913, Freight Traffic Manager, G.T.R. system, Montreal. A funeral service was held at Westmount, Que., May 18, and burial took place at Toronto, May 19, a large number of representatives of various departments of the G.T.R., Canadian Express Co., and other transportation companies, being present. The pallbearers were J. E. Dalrymple, Vice President, Traffic, G.T.R.; John Pullen, President, Canadian Express Co.; P. Paton, H. C. Martin, F. J. Watson, L. Macdonald. S. E. Dewey, General Eastern Freight Agent, G.T.R., New York, and F. E. Dewey of Robt. Reford Co., Toronto, are brothers.

Howard Alexander Dixon, who was appointed Chief Engineer, Western Lines, Canadian National Rys., Winnipeg, recently, was born at Sand Hill, Ont., Oct. 7, 1878. He was educated at Jarvis St. Collegiate School, Toronto, and School of Practical Science, Toronto University, graduating with the degree of B.A.Sc., with honors, in 1901. He qualified as Ontario land surveyor in 1903 and Manitoba land surveyor in 1906, and is a member of the American Railway Engineering Association. He entered Canadian Northern Ry. service in 1903, since when he has been, to 1904, draftsman, Winnipeg; 1904 to 1905, Resident Engineer, Winnipeg; 1905 to 1906, Resident Engineer, Fenton, Sask.; 1906 to 1910, Locating Engineer, Western Lines; 1910 to 1912, Division Engineer, Maryfield, Sask.; 1912 to 1915, District Engineer, Resplendent, B.C., 1915 to Apr., 1919, District Engineer, Vancouver, B.C.

Charles Flaherty, station master, G.T.R., Guelph, Ont., who completed 51 years of service with the G.T.R., May 7., is said to be the oldest employe of the company in point of continuous service. He will be 65 in August when he will be entitled to a pension. He and his wife have, for several years, had an annual pass over the entire G.T.R. system.

William H. Gordon, appointed recently as Trainmaster, C.P.R., Field, B.C., was born at Montreal, Sept. 21, 1875, and entered C.P.R. service Apr. 2, 1896, since when he has been, to 1901, carpenter and bridgeman, Field, B.C.; 1901 to 1905, Bridge Foreman and Shop Foreman, Calgary, Alta.; 1905 to 1907, Assistant Bridge and Building Master, Calgary, Alta.; June, 1907 to 1912, Bridge and Building Master, Medicine Hat, Alta.; June, 1912 to Oct., 1913, Trainmaster, Edmonton, Alta.; Oct., 1913, to Jan. 10, 1919, Trainmaster, Lethbridge, Alta.

C. R. Hosmer, of the C.P.R. directorate, who has been in the Royal Victoria Hospital, Montreal, for some three months, having had to undergo two operations, was reported May 26 to be improving satisfactorily and to have been able to go out for a couple of motor rides.

T. C. Hudson, who was recently appointed General Master Mechanic, Quebec District, Canadian National Rys., Joliette, Que., was born at Brockville, Ont., Feb. 20, 1873, and entered railway service May 1, 1886, since when he has been to Jan., 1887, messenger C.P.R., Carleton Jct., Ont.; Jan., 1887 to Jan., 1892, machinist apprentice, C.P.R., Carleton Jct., Ont.; Jan., 1892 to June, 1901, general machinist, C.P.R., Chapleau, Ont. and other points; June, 1901 to May, 1903, chargeman, C.P.R., Smiths Falls, Ont.; May, 1903 to Jan., 1906, Foreman General Repairs, C.P.R., Carleton Jct., Ont.; Jan. to Dec., 1906, Locomotive Foreman, C.P.R., Ottawa; Jan. to July, 1907, Shop Foreman, Canadian Northern Ry., Parry Sound, Ont.; July, 1907 to May, 1908, Master Mechanic, Canadian Northern Quebec Ry., Shawinigan Jct., Que.; May, 1908 to Aug., 1915, Master Mechanic, C.N.Q.R., and Quebec and Lake St. John Ry., Quebec Que.; Aug., 1915 to Dec., 1918, Master Mechanic, lines east of Ottawa, Canadian Northern Ry., Joliette, Que.

B. S. Jenkins, formerly General Superintendent, C.P.R. Telegraphs, at Winnipeg, returned there early in May, with Mrs. Jenkins, after spending the winter in California and British Columbia. He has resumed his farming operations in the Lake Manitoba district. His son, Major Roy Jenkins, Assistant Adjutant, 27th Battalion, is expected to return shortly from overseas.

George Frederick Knight, who has been appointed Superintendent St. Malo shops, Canadian National Rys., Quebec, Que., was born at Charlottetown, P.E.I., Apr. 3, 1879, and entered railway service Nov., 1896, since when he has been, to Nov., 1901, apprentice and machinist, Intercolonial Ry., Moncton, N.B.; Dec., 1901 to Sept., 1904, machinist, Albion Iron Works, Vancouver, B.C.; Apr., 1905 to 1908, draftsman, Intercolonial Ry., Moncton, N.B.; 1908 to 1909, engineer in charge of office staff equipping new I.R.C. shops, at Moncton, N.B., Riviere du Loup, Que., Halifax, N.S., and Charlottetown, P.E.I.; 1910 to 1911, draftsman, Mechanical Department, I.R.C., Moncton, N.B.; 1911, Mechanical Engineer, Chief Engineer's office, I.R.C., Moncton, N.B.; 1912 to 1914, Efficiency Engineer, Power Plant, Canadian Government Rys., Moncton, N.B.; 1915 to 1918, Assistant Engineer, under Signal and Electrical Engineer, C.G.R., Moncton, N.B.; Sept., 1918 to May, 1919, engineer in charge of equipping St. Malo shops, C.G.R.

Mrs. E. H. Lingo, who died at Denison, Texas, May 10, was mother of Mrs. H. G. Kelley, wife of the President, G.T.R. and Grand Trunk Pacific Ry.

J. D. McDonald, who has been appointed General Passenger and Baggage Agent, Grand Trunk Western Lines Rd. (U.S.R.A.), Chicago, Ill., was born at Toronto, Aug. 27, 1885, and entered G.T.R. service in 1868, since when he has been, to 1870, messenger, Toronto; 1870 to 1875, Assistant Ticket Agent, Toronto; 1875 to 1896, Ticket Agent, Buffalo, N.Y.; 1896 to May, 1902, City Passenger and Ticket Agent, Buffalo, N.Y.; May, 1902 to Mar. 1, 1911, District Passenger Agent, Toronto; Mar. 1, 1911 to Oct., 1918, Assistant General Passenger Agent, Chicago, Ill.; Oct., 1918 to May, 1919, Assistant General Passenger Agent, Eastern Regional District, U.S. Railroad Administration, Chicago, Ill.

J. D. McDonald.
General Passenger and Baggage Agent, Grand Trunk Western Lines Railroad.

Hamilton Grant McMicken, who died in London, Eng., recently aged 72, was at one time engaged in private business at Windsor, Ont., and afterwards at Winnipeg, and owned and operated the first steamboat for hire on Lake Winnipeg, the first propeller steamboat on the Red River, and the first omnibus line at Winnipeg. He entered Great Northern Ry. service in 1885, and was appointed Canadian Traffic Agent in 1897. In 1898 he was appointed European Traffic Agent at London, Eng

Miss Ethel Mackenzie, daughter of Sir Wm. Mackenzie, left Toronto early in May for France, to visit her sister, the Countess de Lesseps.

Wilmot D. Matthews, one of the C.P.R. directors, who died at Toronto, May 24, was born at Burford, Ont., June 22, 1850, and was engaged in the grain business since 1873. He was one of the promoters of the St. Lawrence and Chicago Steam Navigation Co. in 1890, the Toronto and Montreal Steamboat Co. in 1895, and the Montreal and Lake Erie Steamship Co. in 1905, and was at one time President, Kingston and Pembroke Ry. after it became owned by the C.P.R. He was also at various times on the boards of the Northern Navigation Co., Toronto Ry., Canadian General Electric Co., Steel Co. of Canada, Dominion Bank, and several other financial and industrial companies. The funeral took place at Toronto, May 27, amongst the honorary pallbearers being Lord Shaughnessy, chairman, and Sir Edmund Osler, director, C.P.R.; Hon. F. Nicholls, President, Canadian General Electric Co.; L. H. Clarke, President, Toronto Harbor Commission; J. H. G. Hagarty, formerly of the St. Lawrence and Chicago Steam Navigation Co.; R. Hobson, President, Steel Co. of Canada, and Jas. Carruthers, formerly President, Canada Steamship Lines Ltd.

William Mills, who had been employed in the Transportation Department, G.T.R., Belleville, Ont., continuously for 40 years, died at Brockville, Ont., May 12.

Jno. E. Muhlfeld, at one time Superintendent of Rolling Stock, Intercolonial Ry., Moncton, N.B. and latterly President, Pulverized Fuel Equipment Corporation, New York, N.Y., has resigned the latter position, and with other engineers, has formed the Railway & Industrial Engineers, Inc., with offices in New York, to act as consulting and advisory engineers between bankers, railways and industrial corporations.

Sir Augustus Nanton, one of the C.P.R. directors, went from Winnipeg to attend the company's annual meeting in Montreal, early in May.

Godefroy Pelletier, who was appointed Assistant Superintendent Canadian National Rys., Levis, Que., recently, was born at Isle Verte, Que., Nov. 28, 1872, and entered railway service Nov. 25, 1889, since when he has been, to Sept. 20, 1890, relieving operator, Intercolonial Ry., at various points; Sept. 20, 1890 to Jan. 20, 1897, operator and dispatcher I.R.C., Riviere du Loup, Que.; Jan 28. 1897 to Nov. 1, 1917, dispatcher, I.R.C., Riviere du Loup, Que.; Nov. 1, 1917 to Mar. 12, 1918, Assistant Chief Dispatcher, I.R.C., Riviere du Loup, Que.; Mar. 12, 1918, to Jan., 1919, Assistant Superintendent, Canadian Government Rys., Levis, Que.

William Phelan, appointed Car Accountant, C.P.R., Montreal, recently, was born there, Mar. 5, 1875, and entered C.P.R. service Nov. 29, 1889, since when he has been, to Feb. 1, 1890, office boy; Feb. 1, 1890 to Nov. 1, 1892, car record clerk; Nov. 1, 1892 to June 30, 1897, mileage and tonnage statistical accountant clerk; July 1, 1897 to June 30, 1902, chief mileage and statistical clerk; July 1, 1902 to Feb. 28, 1903, chief per diem clerk; Mar. 1, 1903 to Oct 31, 1918, chief clerk to Car Accountant, all at Montreal.

Alfred Price, General Manager, Eastern Lines, C.P.R., has removed from 457 Roslyn Ave., Westmount, to 45 St. Mark St., Montreal.

Lord and Lady Shaughnessy and Hon. Marguerite Shaughnessy, will go to their seaside house, Fort Tipperary, St. Andrews, N.B., about the middle of June.

Arthur L. Smith, who has been appointed Superintendent, Toronto Union Station, was born at Toronto, and was for some time in C.P.R. service as Superintendent, District 3, Eastern Division, Montreal; Superintendent, District

1, Lake Superior Division, Sudbury, Ont., and Superintendent, London Division, Ontario District, London, Ont., resigning the last named position in Mar., 1917, on his appointment as President and General Manager, Algoma Eastern Ry., Sudbury, Ont., which position he resigned in Jan., 1918.

Lieut.-Col. G. R. Starke, President, Dominion Transport Co., and Mrs. Starke, entertained Sir Robert and Lady Baden-Powell at a buffet tea, at the Ritz-Carlton, Montreal, May 23. Among those president being Lord and Lady Shaughnessy, Sir Thos. and Lady Tait, A. D. MacTier, Vice President, Eastern Lines, C.P.R., and Mrs. MacTier.

Wm. Herbert Thompson, who was appointed Chief Dispatcher, C.P.R., Edmonton, Alta., recently, was born at Bobcaygeon, Ont., Dec. 26, 1886, and entered railway service May 15, 1906, since when he has been, to July, 1909, operator and relieving agent, Northern Division, G.T. D.; July, 1909 to Aug., 1910, dispatcher, G.T.R., Lindsay, Ont.; Sept. to Dec., 1910, operator, C.P.R.; Calgary, Alta.; Jan. to Mar., 1911, operator, C.P.R., Red Deer, Alta.; Mar. to Aug., 1911, operator, C.P. R., Calgary, Alta.; 1911 to Aug., 1914, dispatcher, C.P.R., Calgary, Alta.; Aug., 1914 to Oct., 1918, dispatcher, C.P.R., Edmonton, Alta.

Ivan E. Vallee, whose appointment as Chief Engineer and Director of Railways and Harbors, Quebec Public Works Department, and Engineer, Quebec Public Utilities Commission, Quebec, Que., was announced in our last issue, was born there, Feb. 11, 1877, and graduated from Laval University, Montreal, in 1910, with the degree of B.A.Sc. in civil engineering, and as chemical engineer. He entered Quebec Government service in May, 1910 as first Assistant Engineer and Assistant Director of Railways and Harbors, and held that position to Apr. 17, the date of his present appointment.

H. H. Vaughan, formerly assistant to Vice President, C.P.R., and now Vice President and General Manager, Dominion Bridge Co., and Dominion Copper Products Co., Montreal, has been elected a director of Armstrong Whitworth of Canada, Ltd.

F. L. Wanklyn, General Executive Assistant, C.P.R., and Mrs. Wanklyn, have opened their summer house at Ste. Anne de Bellevue, near Montreal, for the season.

John Wardrop, whose appointment as General Agent, Industrial and Resources Department, Canadian National Rys., Winnipeg, was announced in a recent issue, was born at Montreal, June 21, 1888, and entered railway service in 1908, since when he has been, to 1910, Immigration Agent, 1910 to 1915, Assistant Industrial Commissioner, 1915 to 1919, Agent in charge of U.S. and European Immigration, all with Canadian Northern Ry., Winnipeg.

H. E. Whittenberger, who has been appointed Federal Manager Grand Trunk Western Lines Rd. (U.S.R.A.), Detroit, Mich., was born at Peru, Ind., Nov. 9, 1869, and entered transportation service in 1885, since when he has been, 1885 to Feb., 1897, in various positions, Wabash Rd.; Feb., 1897 to May, 1902, Trainmaster, Middle Division, G.T.R.; May, 1902 to Sept., 1904, Superintendent, Denver & Rio Grande Ry.; Sept., 1904 to Jan., 1906, Superintendent, Cincinnati, Hamilton & Dayton Rd., Indianapolis, Ind.; Jan., 1906 to Sept. 30, 1907, Superintendent, Kansas City & Southern Rd.; Sept. 30, 1907 to Oct. 17, 1912, Superintendent, Eastern Division, G.T.R., Montreal; Oct. 17, 1912 to Jan. 14, 1913, Superintendent, Middle Division, G.T.R., Toronto; Jan. 14, 1913 to May 1, 1918, General Superintendent, Ontario Lines, G.T.R., Toronto; May 1, 1918 to May 1, 1919, General Manager, Grand Trunk Western Lines Rd. (U.S.R.A.), Detroit, Mich.

E. R. Wood, of the Canadian National Rys. directorate, returned to Toronto at the end of April, after spending most of the winter in California.

Traffic Orders by Board of Railway Commissioners.

Baggage Car Traffic Regulations.

General order 262, May 8—Re general order 151, Nov. 8, 1915, prescribing regulations governing baggage car traffic for observance of every railway company within the legislative authority of the Dominion Parliament as amended by general orders 179, 181 and 191, dated respectively, Jan. 29, Feb. 3, and May 26, 1917; and the C.P.R.'s application for an order further amending rule 26 (d) of the regulations: A question having been raised as to whether, in view of the punctuation of the section, the words "otherwise the carrier shall not be liable" apply only to the cause of damage or delay, as set out in the second sentence, and not to non-delivery, as set out in the first sentence of the rule; upon reading what is alleged in support of the application to amend, and to make the intention clear, it is ordered that rule 26, sub-section (d) of the regulations governing baggage car traffic be, further amended by striking out the comma, after the word "receptacle," and before the word "otherwise," in the last line of the sub-section, and substituting therefor a period, making the words, "otherwise the carrier shall not be liable," a separate sentence.

Freight Rate on Logs.

28289, May 2.—Re complaint of Adolph Lumber Co., of Baynes Lake, B.C., against rate charged by Great Northern Ry. on shipments of logs from Dorr, B.C., to Baynes Lake, B.C. Upon hearing the complaint at Nelson, B.C., on Feb. 21, 1919, the complainant and the Great Northern Ry. Company being represented, and upon reading the further written submissions filed on behalf of the complainant and of the G.N.R., and the report and recommendation of the board's Chief Traffic Officer, it is ordered that the complaint be dismissed.

Stencilling Inches on Inside Walls of Grain Cars.

28,316, May 14. Re application of the Grain Claims Bureau, Ltd., on behalf of grain shippers in Western Canada, for an order directing railway companies to show on bills of lading covering grain shipped from points in Manitoba, Saskatchewan and Alberta, the depth in inches ofthe grain loaded in the cars, or, if this information is shown on the bills of lading by the shippers, to authorize their agents, after examination of the cars, to isgn bills of lading whereon this record is shown; upon heading the matter at Winnipeg, March 3, 1919, in the presence of counsel and representatives for the Canadian Pacific, Grand Trunk Pacific, and Canadian National Railways, the applicant being represented and upon its appearing to the board, desirable that no action should be taken upon the application until a further opportunity shall be given of judging as to the practical effect of general order 205, Aug. 15, 1917, requiring railway companies to stencil inches on the inside walls of cars used in the grain traffic in Manitoba, Saskatchewan and Alberta, so as to show the depth in grain loaded therein, is set forth in the order; it is ordered that the application be dismissed.

Commodity Rates on Glass Bottles.

28,348, May 19. Re special commodity rates on glass bottles, in carloads, from Wallaceburg, Ont., to London, Kitchener, Hamilton, and Toronto and Montreal, effective under the board's judgment of July 30, 1904; the supplemental schedules filed by the Canadian Pacific and Grand Trunk Railways on June 24 and 27, 1918, respectively, announcing the cancellation on July 25 and 28 of the commodity rates on bottles from Toronto, Hamilton and Montreal; and the board order 27,438, July 17, 1918, made upon the application of the Montreal Board of Trade, suspending the operation of said supplemental schedules pending hearing at a date to be fixed by the board, and the later application of the Canadian Pacific and Grand Trunk Railways, for leave also to cancel the said commodity rates from Wallaceburg; upon hearing the matter at Ottawa, Sept. 10, 1918, in the presence of counsel for the C.P.R., the Canadian Manufacturers' Association, the Montreal Board of Trade's Transportation Bureau being represented at the hearing, and upon reading the exhibits filed in support of the application and in opposition thereto, and the report of the board's Chief Traffic Officer; it is ordered that order 27,438, July 17, 1918, suspending C.P.R. supplement 77 to tariff C.R.C. no. E 3,210, and C.P.R. supplement 73 to tariff C.R.C. no. E 3,426, cancelling the special commodity rates on glass bottles, in carloads, from Hamilton, Toronto and Montreal, Quebec, be rescinded, and that leave be granted the C.P.R. and G.T.R. to cancel the special commodity rates on bottles, in carloads, from Wallaceburg, made effective in pursuance of the said judgment of July 30, 1904; the said cancellations to take effect simultaneously.

Milk Tariffs.

28,355, May 28. The application on behalf of National Dairy Council for an order suspending C.P.R. tariff C.R.C. no. E 25, to take effect June 1, 1919, increasing rates on milk in passenger or mixed passenger and freight train service; and application of Toronto Board of Trade for an order suspending G.T.R., tariff 693, C.R.C. no. 22,756, effective June 1, 1919, and other similar tariffs, increasing rates for transportation of milk in baggage cars; upon reading what is filed in support of the application, and on behalf of the C.P.R. and G.T.R., and upon its appearing that other railway companies have filed with the board similar increased tariffs for the transportation of milk in baggage cars; it is ordered that the following tariffs, namely:—C.P.R. tariff C.R.C. no E 25; G.T.R. tariff, C.R.C. no. E 2,756; Canadian National Rys'. tariff, C.R.C. no. E. 29; New York Central Rd. tariff C.R.C. 249; Quebec, Montreal and Southern Ry. tariff, C.R.C., 271; Napierville Jct. Ry. tariff, C.R.C., 115, and Montreal and Southern Counties Ry. tariff, supplement 2, to C. R.C. 22, be suspended pending a hearing of the matter to be held in Ottawa, June 10, 1919.

Problems in Design and Maintenance of Car Trucks in Relation to Maintenance of Roadway.

The paper on the above subject, read by W. J. Hyman, Chief Draftsman, Car Department, G.T.R., before the Canadian Railway Club, and published in Canadian Railway and Marine World for May, elicited considerable discussion, in the course of which much data of interest was brought out. An abstract of the discussion is given as follows:—

E. J. McVeigh, General Storekeeper, G.T.R.—I do not know of any railway in America that makes a practice of grinding cast iron chilled wheels that are going under freight cars, although it is a fact that before the use of cast iron wheels was abandoned under passenger cars, some roads had all the cast iron wheels for passenger cars ground before application, so as to make the wheels more perfect, orders reading that the wheels had to be ground, centered and balanced. When the American Railway Engineering Association set out to make an investigation, it was only considering it from the standpoint of the road department. Its recommendation was that flat spots should be reduced, the maximum being 1½ in., and it actually did reduce it to ½ in. I have felt for a long time that the 2½ in. flat spot was much too great.

E. A. Cunningham, Efficiency Engineer, Vice President's office, C.P.R.—The Pennsylvania Rd. grinds its cast iron wheels, and has been doing so for years. The practice has become so common with it that it keeps no record of the wheels so ground.

W. J. Hyman (in reply to queries).—My information is to the effect that there are only two railways in America that grind cast iron wheels, the Pennsylvania and the Atchison, Topeka and Sante Fe, and it is the custom to take wheels with flat spots out of service and grind them once, but the Sante Fe claims that its has ground the same pair of wheels three times for flat spots, and has obtained good service from them after the third grinding.

In reply to a query as to whether the ground wheels operate under the same conditions as prevail on Canadian lines, he said:—We accept Sante Fe cars on our lines, and if we can do this and not have trouble with them, why should not wheels that have been ground and applied to our own equipment in this climate give good results?

W. H. Sample, Superintendent of Motive Power, G.T.R.—It is my understanding from information received, that the Sante Fe is not applying ground wheels to all its equipment, and the cars so equipped do not leave its line. I think there should be some regulated practice in regard to the grinding, and the depth of chill will govern the extent to which the flat spot may be ground out. If it goes beyond, or near the end of the chill, it would be unsafe to operate the wheel except in light service.

W. J. Hyman.—A 2½ in. flat spot will take 1-16 in. exactly to grind out. The chill on the wheel, according to M.C.B. specification, must be not less than ½ in., nor more than 1 in., and the average chill is ⅝ in. thick, although it runs down in some cases to ⅞ in., but it is very seldom we find a real good chill more than ⅝ in. deep, from which point it begins to string out into the softer metal. It would, therefore, be possible to grind a 2½ in. flat spot three times, and retain a factor of safety. But I think that if a wheel was ground twice for 2½ in. flat spots, it would be the maximum we could expect. If the flat spots were only 1½ in. instead of 2½ in., we would be able to grind the wheels four times with safety, as 1-32 in. will remove a 1½ in. flat.

E. A. Cunningham—In Pennsylvania Rd. practice, the wheels are ground on an ordinary grinder with two heads. The center of the axle is made to revolve the wheels against the grinder, which has from ¾ to 1 in. bearing against the wheel. The grinder moves across the face of the wheel, and a plentiful supply of liquid is used to prevent the wheel from becoming hot. 2½ in. flat spot is the limit to which they go. An air hoist is used for putting the wheels in and out of the grinder, and as soon as finished, they are put back in service. The cost of the work is about 26c. This practice has been followed for many years, and gives good results.

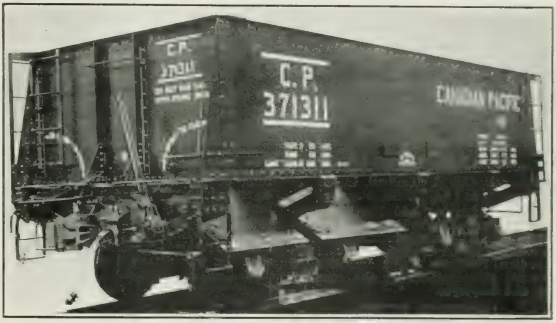
E. J. McVeigh—I made a test at Chicago on wheels having flat spots from 2½ to 4 in. We had them ground, and broke some across where the flat spot had been. With the 4 in. flat, we found the wheel had been burnt, but in the smaller spots, there was nothing to indicate that the wheels had received injury. The chills were found to average from ⅝ to ¾ in. But there is no difficulty in giving a 1 in. chill, and the manufacturers would do so if called upon, and as many grindings as desired might be given. Admitting the tendency to weaken, the inside of the tread might be strengthened by putting more metal there, should the practice of grinding be found to be practical and economical. I believe the day will come when we will put a cast wheel under a car until it has been ground smooth, because, in the tests mentioned, not a wheel was found to be true.

E. A. Cunningham—The M.C.B. Association has the question of reducing allowable flat spots from 2½ to 1½ in. under discussion.

W. J. Hyman—Sometime ago, a test was made by a western university, by means of an instrument which recorded photographically the force of the blow delivered by flat spots. In these tests, it was found that a 3 in. flat spot, under a car going 16 m.p.h., and carrying a load of 20,000 lbs., strikes a blow of 104,000 lbs. Under similar conditions, a 2 in. flat spot produces a blow of 2,000 lbs., and a 1½ in. flat spot, 20,000 lbs. This would prove the value of reducing the flat spots from 2½ to 1½ in.

General Service Cars, Canadian Pacific Railway.

The accompanying illustration shows one of the 140 Hart-Otis general service cars built for the C.P.R. by Canadian Car & Foundry Co. at its Montreal plant, as announced previously in Canadian Railway and Marine World.



General Service Car, Canadian Pacific Railway.

The floor of the car is composed of 8 drop doors, 4 on each side, hinged to the center sill, and operated in pairs. The operating gear is the Hart-Otis Car Co.'s latest improved rolling shaft type, the operating shaft being 2½ in. open hearth mild steel. The car floors have an apex 11½ in. high along the center line, by 2 ft. 4 in. at the floor line, and are built up of steel plates and angles, entirely covering the center sills. Following are the chief dimensions:—

Length inside coupler knuckles	[illegible] ft. 4½ in.
Length over end sills	[illegible] ft. 4 in.
Length inside	[illegible] ft. [illegible] in.
Width overall	9 ft. 11¼ in.
Height inside	[illegible] ft.
Height from rail	[illegible] ft. [illegible] 13-16 in.
Height from rail to floor	[illegible] ft. [illegible] 13-16 in.
Truck centers	[illegible] ft.
Wheel base of truck	5 ft. 6 in.
Wheel base of car	18 ft. 6 in.
Doors on each side	4
Width of door opening	[illegible]
Length of door opening, intermediate	[illegible] ft. 7 in.
Length of door opening, end	4 ft.
Capacity	[illegible] cu. ft.
Weight	[illegible] lb.

The Dominion Dredging Co., Ottawa, which has the contract for section 1, Welland Ship Canal, has opened a branch office in the Canadian Bank of Commerce Building, St. Catharines, Ont., and is getting its plant and machinery in order to resume operations, which will be in charge of E. A. Larmonth, Vice President, and H. A. Foster.

Canadian Transportation Men, Engineers, Etc. in the War.

The Canadian Military and Civil Engineers' Association has been formed by officers of engineering units of the Canadian Expeditionary Forces, according to a statement made by Maj. F. J. O'Leary, late Brigade Major, First Canadian Divisional Engineers, who arrived in Canada recently from France. The object of the association is announced to be to protect the interests of its members regarding pensions, war-service gratuities and civil re-establishment, as well as rendering financial assistance where required. The officers, elected in France, include the following: Gen. Sir A. C. MacDonnell, Col. A. McPhail, Lt.-Col. J. M. Rolston, and Lt.-Col. E. Peppler.

Railway yard at Bapaume, France, Nov. 29, 1917. From photograph loaned by C.P.R.

The Timiskaming and Northern Ontario Railway Men's Patrioti Association to Mar. 31, contributed $99,446.50 to the Canadian Red Cross Society and the Canadian Patriotic Fund, exclusive of personal subscriptions by the commission and employes.

PERSONAL NOTES.

Capt. P. Beasley, of the Royal Air Force, who returned to Victoria, B.C., May 14, after nearly four years in the Imperial Army, is son of H. E. Beasley, General Superintendent, Esquimalt and Nanaimo Ry. He enlisted early in 1915 and after preliminary training at Dayton, Ohio, completed his training in England, where he obtained a commission in the Royal Naval Air Service. He went to France in 1916 and participated in many of the raids over German territory, and was latter engaged with the bombing and coast patrol in the neighborhood of Dunkirk, France. He visited Victoria on a short furlough in 1917 and on his return to France participated in the Ostend and Zeebrugge episodes. He went to England later and was appointed commanding officer of the Marine Observers' School on the Isle of Sheppey in Kent.

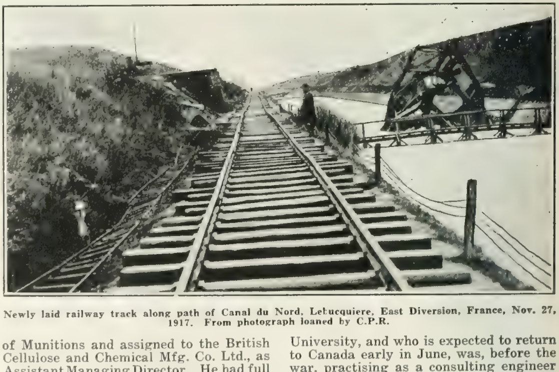
Major-General Garnet B. Hughes, C.B., C.M.G., D.S.O., who is Assistant Managing Director, British Cellulose and Chemical Mfg. Co. Ltd., Derby, Eng., is a civil engineer and was at one time in Mackenzie, Mann & Co.'s service and entered British Columbia Electric Ry. service, Sept. 4, 1911 as Resident Engineer on the construction of the Saanich Suburban line, and also took charge of extensive track reconstruction in Victoria, B.C. He also supervised track maintenance work for the company, on Vancouver Island. He resigned in March, 1914 on his appointment as District Engineer for the Dominion Government at Victoria, B.C. Prior to the war he held the rank of major in the 50th Regiment, Victoria, B.C., and on the outbreak of war was appointed Brigade Major, 3rd Canadian Infantry Brigade, at Valcartier, Que., went overseas early in the war, and held that position until after the second battle of Ypres. On the formation of the 2nd division, he was given command of a brigade and promoted to Brigadier-General. When the 5th division was formed early in 1917, in England, he was recalled from France and given command of that division with the rank of Major-General. He held this command until the 5th division was broken up early in 1918, when he was appointed General Officer Commanding troops at Witley Camp, Eng., which position he retained for about three months, when he was seconded to the Ministry of Munitions and assigned to the British Cellulose and Chemical Mfg. Co. Ltd., as Assistant Managing Director. He had full charge of the largest plant under erection for the manufacture of cellulose acetate, commonly called "dope," with which all aeroplanes had to be treated prior to going to France, to render them both fire and weather proof.

Col. B. N. Humble, D.S.O., who was appointed Manager, Empress Hotel, C.P. R., Victoria, B.C., recently, was, at the outbreak of war, Captain, 1st British Columbia Regiment. After being at Valcartier, Que., he proceeded to France in Mar., 1915. He was appointed Officer Commanding no. 1 Co., 7th Battalion, June 1, 1915, and Staff Captain, 2nd Infantry Brigade, Oct., 1915, and was promoted to Major the following month. He commanded the 7th Brigade temporarily on two occasions during the absence of the commanding officer while wounded. He was mentioned in dispatches Nov. 13, 1916 and was awarded the D.S.O. for services in the field, Jan. 1, 1917. He was appointed to command the Canadian Railway Troops in England, Mar. 18, 1917, promoted Lieut.-Col., Dec. 18, 1917, and Colonel, July 5, 1918. Prior to the recent war, he had served the Riel Rebellion, in the Northwest Territories, in 1885, was with the 7th Fusiliers, London, Ont., 3rd Victoria Rifles, Montreal, 1900 to 1912, and 6th Regiment Duke of Connaught's Own Rifles, 1912 to 1914.

Col. Hon. Angus McDonnell, C.M.G., who returned from France recently, is a partner in the firm of Grant Smith & McDonnell, general contractors, Vancouver, B.C. He was second in command of the Canadian Railway Troops under **Brigadier-General J. W. Stewart, C.B.,** of Foley, Welch & Stewart, railway contractors, who has also returned after long service in France and has since organized the firm of Jno. W. Stewart & Co., railway contractors, at Winnipeg, which has received several contracts from the Canadian National Rys.

T. McGuiness, who has been appointed acting Traffic Inspector, Regina Municipal Ry., Regina, Sask., was on active service with the 239th Construction Battalion, and prior to enlistment, was overhead foreman, Regina Municipal Ry.

Brig.-Gen. C. H. Mitchell, C.B., C.M.G., D.S.O., who has been appointed Dean of the Faculty of Applied Science, Toronto University, and who is expected to return to Canada early in June, was, before the war, practising as a consulting engineer as a partner, in C. H. and P. H. Mitchell, Toronto. He is a Toronto University graduate and went overseas as Major in the Intelligence Department of the C.E.F., and was shortly afterwards transferred to the Imperial Army and placed on the General Staff. On account of the acknowledged excellence of his work, his promotion was rapid, passing through the various grades to Brigadier-General, and first class staff officer in charge of the intelligence work



Newly laid railway track along path of Canal du Nord, Lebucquiere, East Diversion, France, Nov. 27, 1917. From photograph loaned by C.P.R.

for the Second Army. In addition to the decorations already mentioned, he has been awarded the following: Officer of the Legion of Honor, France; Croix de Guerre, and officer of the Order of Leopold, Belgium; Croci di Guerre and officer of the Crown of Italy, Italy. The Engineering Institute of Canada's Montreal Branch, has decided to entertain him at dinner on his arrival at Montreal.

Capt. D. J. Murphy Jr., formerly Superintendent, Dominion Atlantic Ry., Kentville, N. S., who is acting as Assistant Canadian Red Cross Commisioner for France will remain in France for some time owing to the volume of Red Cross work still to be done there. He went overseas in the spring of 1916 as captain with No. 1 Division Supply Company, from Halifax, N. S., and was latter transferred to No. 3 Canadian Field Ambulance. After taking an active part in this capacity through all the principal battles he was loaned to the Red Cross Sept. 1, 1918, and during the heavy fighting at Mons was in personal charge of Red Cross supplies, arriving at Jemappes, 2½ miles from Mons, the day before the signing of the armistice, later following the attacking parties into Mons on Nov. 11 with supplies for the posts and emergency hospitals. He has been made a life member of the Belgian Red Cross Society and was presented with its gold medal. He was also in charge of Red Cross supplies for Cambrai, Denham and Valenciennes. His duties necessitated his motoring many times over the entire battlefields of France and Belgium. Premier Clemenceau in speaking in the Trench Chamber of Deputies, on Marshal Foch's report on the last 100 days fighting, and the wonderful part of the British troops in feeding so many civilians in the captured towns, said, "In this work, I want to make special reference to the achievements of the Canadian Red Cross; this work, under the supervision of Capt. Murphy, reflects great credit on him, and for his work he has been commended to military headquarters by several of the most prominent generals."

Capt. R. S. Reford, who has been appointed aide de camp to Viscount French, Commander in Chief of the forces in Ireland and Lord Lieutenant, is a son of R. W. Reford of the Robert Reford Co., steamship agents, Montreal. At the outbreak of war, he was attending Oxford University, and joined the King Edward Horse, later being transferred to the Sherwood Foresters, with which regiment he served about 18 months in France. He was later transferred to the 1st Battalion, Irish Guards, was wounded in 1917, and rejoined his regiment in France about the time of the armistice.

Col. G. S. Rennie, M.D., returned to Hamilton, Ont., May 5, having been overseas since the commencement of the war, as commanding officer, no. 2, Canadian General Hospital. He is medical officer for the Toronto, Hamilton and Buffalo Ry., and also for the Dominion Power & Transmission Co., which controls the various electric railways in, and radiating from, Hamilton, Ont.

Major S. F. Workman, M.C., who returned to Canada recently, was, before the war, engaged in engineering on C. P.R. Western Lines. He went overseas with the 3rd Pioneer Battalion, arriving in France in Mar., 1916, where he remained until the signing of the armistice. When the Canadian Railway Troops were organized, he transferred to that branch and received the M.C. for gallantry in action and devotion to duty, and was mentioned in dispatches three times.

Lieut.-Col. S. C. Young, who was acting as Assistant Director of Railways and Docks, at Cherbourg, France, returned to Canada early in May. At the outbreak of war he was Mayor of Fort William and was gazetted Lieutenant-Colonel, and given authority to raise the 52nd Battalion. He was later commandant of the infantry school at Winnipeg for two years. Subsequently he went overseas to undertake the transportation duties at Cherbourg and Boulogne. He was in C.P.R. service for about 14 years.

Canadian National Railways' President and Vice President's Eastern Trip.

D. B. Hanna, President, and M. H. MacLeod, Vice President, Operation, etc., Canadian National Railways, have completed an inspection trip over the eastern lines. The principal feature of the trip was a meeting with a delegation representing the Moncton, N.B., City Council and Board of Trade, on May 17. The delegation presented their views at considerable length, urging, among other things, the maintenance of the management of the eastern lines at any rate at Moncton; suggesting that the proposed operation of steamships from Montreal to Newfoundland by the Canadian National Rys would operate against the freight traffic on the line from Montreal to Sydney, and asking as to the plans for second track construction from Moncton to St. John, and from Moncton to Halifax.

Capt. D. J. Murphy, Jr.,
Formerly Superintendent, Dominion Atlantic Railway.

Mr. Hanna is reported to have said in reply, that he could not definitely understand what the delegation desired. There had not been any one removed from Moncton, but in the way of promotion, and the railway's payroll in the city was larger than ever it had been before. All the traffic from the west by the Canadian National Rys. for Halifax would have to go through Moncton, which was not in any danger of becoming a mere flag station. The steamship routes were being opened up to create additional business and it was intended to establish regular lines to China, Japan, South America, Africa and the West Indies, but the Dominion subsidized line to Newfoundland was not one of the proposed Canadian Government Merchant Marine lines. Some sections of the line between Truro and Moncton would have a second track built, the work being started this year; something was necessary in the way of additional freight shed accommodation at Moncton, but no decision had been reached as to what would be done.

Messrs. Hanna and MacLeod visited Sydney, Halifax, St. John and Fredericton, prior to returning to Toronto.

Freight and Passenger Traffic Notes.

Gull Lake, near Lacombe, Alta., is being developed as a summer resort. The C.P.R. grants week end tickets at special rates from Edmonton, and a press report states that Calgary people have asked that similar facilities be granted them.

The Canadian Northern Ry. inaugurated its car ferry service between Port Mann, on the British Columbia mainland, and Patricia Bay, on Vancouver Island, May 1. The first trip was made in 7 hours, the car ferry steamship Canora, carrying 21 cars of freight.

The C.P.R. announced recently that the regular summer suburban train leaving St. John, N.B., for Welsford at 1.10 p.m., Wednesday and Saturdays, and reaching St. John on the return trip at 4 p.m., would be again put in operation May 26, and will be so run until July 12, when the service will be made daily except Sunday.

Representatives of the Western Canada Livestock Union, the United Grain Growers' Association and the Winnipeg Stock Shippers' Association, met representatives of the C.P.R., the Canadian National Railways, and the Grand Trunk Pacific Ry. in Winnipeg, recently, to discuss matters connected with the shipment of live stock in the prairie provinces. Several amendments were suggested in the restrictions as to the conditions under which live stock would be carried, and the compensation to be paid for loss of live stock during transit, etc. It was announced by the representatives of the companies that an extensive programme of stockyard improvement was being arranged for throughout the west.

The Board of Railway Commissioners has authorized the Bell Telephone Co. to increase its tolls for long distance service and on all rates for exchange telephone service, by 10%. The so called service in charge has been disallowed and the increase charges for exchange service already installed is effective July 1.

Transportation Appointments Throughout Canada.

The information under this head, which is gathered almost entirely from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Canada Steamship Lines, Ltd.—J. W. BLOSS has ben appointed District Passenger Agent, Cleveland, Ohio, vice H. W. Crawford, resigned.

R. A. CAMPBELL has been appointed Chief Dispatcher. Office, Toronto.

PERCY GRANT heretofore Assistant Traffic Manager, Toronto has been appointed Assistant Operating Manager. Office, Montreal.

J. W. GREINER, heretofore Mechanical Superintendent, has been appointed Marine Superintendent. Office, Montreal.

A. E. STINSON has been appointed Assistant Operating Superintendent. Office, Toronto.

Canadian National Rys.—G.COLLINS, Special Representative, Freight Department, has temporarily assumed the duties of acting Division Freight Agent, Ottawa Ont., M. A. Thompson, Division Freight Agent there, having resigned.

C. H. N. CONNELL, District Engineer, Quebec District, has had his office transferred from Montreal, to Champlain Bldg., Quebec, Que.

E. P. CRONK, heretofore City Freight Agent, Canadian Government Rys., Toronto, has been appointed City Freight Agent, Canadian National Rys., there.

W. A. CUNNINGHAM, heretofore Division Freight and Passenger Agent, Halifax and South Western Ry., Halifax, N.S., has been appointed Export and Import Freight Agent, Canadian National Rys. Office, Montreal.

L. C. DUPUIS has been appointed Resident Engineer, Saguenay Division, and Quebec to Shawinigan Falls, Montreal District. Office, Quebec, Que.

C. S. GZOWSKI, Jr., has been appointed Special Engineer to M. H. MacLeod, Vice President of Operation, etc. Office, Toronto.

M. HENCHY, heretofore Locomotive Formean, Chaudiere, Que., has been appointed acting Assistant Master Mechanic, Edmundston N.B., during absence on leave of H. D. McKenzie.

T. KEARNEY, heretofore Assistant Engineer, Canadian Northern Ry., Montreal, has been appointed Resident Engineer, Montreal Division, Canadian National Rys. Office, Montreal.

G. F. KNIGHT, heretofore Assistant to Mechanical Superintendent, Moncton, N.B., has been appointed Shop Superintendent, St. Malo shops, Quebec.

G. P. MacLAREN has been appointed Engineer, Ontario District. Office, Toronto.

P. MARCOUX has been appointed acting Locomotive Foreman, Chaudiere, Que.

A. PATRICK has been appointed Inspector, Sleeping, Dining and Parlor Cars, Eastern Lines, Toronto.

E. TIFFIN, heretofore General Western Agent, Canadian Government Railways, Toronto, has been appointed Special Traffic Representative, Canadian National Rys., Toronto.

Canadian Pacific Ry.—F. H. CLENDENNING, heretofore Division Freight Agent, Steamship Traffic, Vancouver, B. C., has been appointed Assistant Foreign Freight Agent, there.

W. B. HALL, heretofore Roadmaster, White River Subdivision, Algoma District, Chapleau, Ont., has been appointed Roadmaster, Heron Bay Subdivision, Algoma District, vice D. Wilson transferred. Office, Schreiber, Ont.

L. HERBERT, heretofore Roadmaster, Nemegos Subdivision, Algoma District, Chapleau, Ont., has been appointed Roadmaster, White River Subdivision, Algoma District, vice W. B. Hall, transferred. Office, Chapleau, Ont.

T. C. Hudson,
General Master Mechanic Canadian National Railways, Montreal.

John Wardrop.
General Agent, Industrial and Resources Department, Canadian National Railways.

J. R. KELLY, has been appointed General Foreman, Kenora, Ont., vice J. W. Keppel, transferred to Vancouver.

J. W. KEPPEL, heretofore General Foreman, Kenora, Ont., has been appointed General Foreman, Vancouver, B.C.

W. E. KINGSTON has been appointed Trainmaster for the portion of the Saskatoon Division west of Saskatoon, vice E. M. Smith, transferred to Lethbridge, Alta. Office, Wilkie, Sask.

E. M. SMITH, heretofore Trainmaster, Wilkie, Sask., has been appointed Trainmaster, Lethbridge, Alta., vice W. H. Gordon.

T. J. SMITH, heretofore General Freight Agent, London, Eng., has been appointed European Freight Manager. His former position has been abolished. Office, London, Eng.

W. H. THOMPSON, heretofore dispatcher, has been appointed Chief Dispatcher, Edmonton Division, Alberta District, vice R. J. Collins. Office, Edmonton.

M. W. VOUCHER, heretofore Locomotive Foreman, Ignace, Ont., has been appointed Locomotive Foreman, Field, B.C.

D. WILSON, heretofore Roadmaster, Heron Bay Subdivision, Algoma District, Schreiber, Ont., has been appointed Roadmaster, Nemegos Subdivision, Algoma District, vice L. Herbert, transferred. Office, Chapleau, Ont.

A. M. YOUNG, heretofore Night Foreman, Kenora, Ont., has been appointed Locomotive Foreman, Ignace, Ont., vice M. W. Voucher, transferred.

Canadian Pacific Ocean Service Ltd., A. G. BALCER, heretofore Freight Claims Agent, Montreal, is reported to have been appointed General Freight Claims Agent with office at Montreal.

J. R. CLANCY, heretofore representative at New York, has been appointed General Agent, Freight Department for Ontario. Office, Toronto.

H. D. DRING, heretofore General Passenger Agent, C.P.R., London, Eng., has been appointed European Passenger Manager, C.P.O.S. His former position has been abolished. Office, London, Eng.

W. G. ROCHE has been appointed General Agent, Freight Department. Office, Chicago, Ill.

J. T. WALSH, heretofore Assistant Manager, has been appointed Manager. Office, Montreal.

Grand Trunk Ry., J. F. AITCHISON, heretofore acting Auditor of Disbursements, has been appointed Auditor of Disbursements. Office, Montreal.

W. BIBBY has been appointed Supervisor of Track, District 4, Montreal Division, vice J. B. Franklin, transferred to Brockville, Ont. Office, Montreal.

G. COOPER has been appointed Trainmaster, District 5, Montreal Division, with jurisdiction from Brockville, Ont., to Turcot Yards, Montreal, vice W. J. Nixon, assigned to other duties. Office, Brockville, Ont.

J. B. FRANKLIN, heretofore Supervisor of Track, District 4, has been appointed Supervisor of Track, District 5, Brockville, Ont., vice W. Fitzgibbons, resigned.

H. M. GAIN has been appointed Trainmaster, Districts 2 and 3, Montreal Division, vice N. P. North, transferred. Office, Richmond, Que.

C. H. GODFREY, formerly Vice President, Canadian Steel Foundries Ltd., and

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NOTICE TO ADVERTISERS.

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more recently Comptroller of the City of Montreal, has been appointed Special Auditor, G.T.R., vice C. Percy, deceased.

W. JONES has been appointed Claims Inspector, Montreal Division. Office, Montreal.

LORNE MACDONALD, heretofore Division Freight Agent, Toronto, has been appointed Assistant General Freight Agent, Montreal, vice F. J. Watson, promoted.

H. C. MARTIN, heretofore General Freight Agent, Montreal, has been appointed Freight Traffic Manager, vice C. E. Dewey, deceased. Office, Montreal.

F. J. WATSON, heretofore Assistant General Freight Agent, Montreal, has been appointed General Freight Agent there, vice H. C. Martin, promoted.

Grand Trunk Pacific Ry., Grand Trunk Pacific Coast Steamship Co. (Minister of Railways, Receiver)—A. COTTER has been appointed acting Local Auditor, F. R. Hunt having resigned to accept service with another company. Office, Prince Rupert, B.C. The circular announcing this appointment was issued by J. M. Rosevear, General Auditor, and approved by Howard G. Kelley, President.

Grand Trunk Western Lines Rd. (U.S. R.A.)—This railway, which was grouped with the Pere Marquette Rd. and other roads under the U.S. Railroad Administration, has been separated and will be operated under the management of H. E. WHITTENBERGER, who has been appointed Federal Manager. Office, Detroit, Mich.

The following appointments have been made:—R. L. BURNAP, Traffic Manager; J. D. McDONALD, General Passenger and Baggage Agent; C. A. GORMALY, Division Freight Agent, with offices at Chicago, Ill.; W. H. EDMONDSON, Assistant to Federal Manager; W. K. WILLIAMS, General Solicitor; N. C. FOSS, Purchasing Agent; W. A. GEER, General Attorney; C. J. COOPER, General Claims Agent; L. R. FLANDERS, Freight Claim Agent, with offices at Detroit, Mich.; A. Z. MULLINS, Division Freight Agent, with office at Grand Rapids, Mich.; J. L. CRAMER, Federal Treasurer, and J. O. TALBOTT, Federal Auditor, with offices at Detroit, Mich.

Michigan Central Rd.—E. H. WOOD has been appointed Master Car Builder, Canada Southern Division, vice Neil Marple, assigned to other duties. Office, St. Thomas, Ont.

NEIL MARPLE, heretofore Master Car Builder, has been appointed General Foreman, St. Thomas, Ont., vice E. Mitchener, assigned to other duties.

Toronto Union Station—A. L. SMITH, formerly President and General Manager, Algoma Eastern Ry., Sudbury, Ont., has been appointed Superintendent, Toronto Union Station, vice J. J. Beck, deceased.

The Paravane in the War.

One of the secrets of the war most jealously and most successfully concealed was the paravane, and it was only recently that anything was made known about it. So complete is the protection which paravanes afford that squadrons of warships can now steam with impunity through the thickest mine fields.

The original paravane consisted of a long, buoyant, pear-shaped metal body. Ordinarily this would float on the surface of the water, but a plane placed under the broad end of the body and inclining downward serves, directly the paravane is towed through the water, to drive it below the surface. The principle is the same as that by which the pull on a string drives a kite upward in the air. Once down, the paravane is kept at a predetermined constant depth by a fishlike tail rudder, actuated by a delicate hydrostatic valve. The paravane at first carried a heavy charge of explosives, and when towed from the stern of a destroyer or trawler proved a deadly weapon against submarines.

The outcome of the explosive paravane was the twin paravane, with one side of the depressing plane weighted, causing it to tow, not in the ship's wake, but obliquely outward and away from the hull. These are towed in pairs, one on either side, and mine-mooring ropes, which are encountered as the ship moves forward, are forcibly deflected from the ship and along the whole length of the towing rope until they come to the paravane itself. Here a sharp saw set in a slot, into which the mine cable is forced by the rush of water, severs it instantly, and the released mine rushes to the surface, where it can be immediately detected and destroyed.

After the British fleet was equipped with paravanes only two ships were sunk by mines, and the Germans found the mooring ropes of their mines cut so frequently as to lead them in the latter days of the war to abandon mine-laying altogether. This valuable device was invented by Lieut. Dennis Burney, son of Admiral Sir Cecil Burney, Commander-in-Chief at Rosyth.—Toronto Globe.

The Canadian Steamship Agency Ltd. has been incorporated under the Quebec Companies Act, with $10,000 authorized capital and office at Quebec, Que., to act as steamship agent, and to own and operate steam and other vessels of every description, in the passenger, freight and other businesses. W. Q. Stobo, H. C. Thorn, C. St. J. Griffis, H. G. Deguise and J. Graham, Quebec, are the incorporators.

France and Canada Steamship Co. Ltd. has been incorporated under the Dominion Companies Act with $10,000,000 authorized capital and office at Montreal, to carry on a general navigation and transportation business. A company of this name has been carrying on a steamship business between France and North American ports for several years, but during the war the service was chiefly confined to operating sailing vessels to New York.

A bill was introduced into the House of Commons, May 21, to amend the act respecting the appointment of a harbor master for Halifax, N.S., to provide that the remuneration shall not exceed $3,000 a year, instead of $1,800 a year, as previously, and that such remuneration shall be by fees on vessels utilizing the harbor, but should the revenue from this source, not be sufficient, such sum shall be the remuneration for a year. Fees on vessels are fixed as follows: For vessels over 20 and under 50 tons register, 50c; 50 to 100 tons register, $1; 100 to 200 tons, $1.50; 200 to 300 tons, $2; 300 to 400 tons, $2.50, 400 to 500 tons, $3; 500 to 700 tons, $4; 700 to 1,000 tons, $5; and over 1,000 tons, $7. Vessels under 20 tons, and those trading between Canadian ports, are not subject to any duty.

The White Pass and Yukon Ry. and Navigation Co. expects to put its river steamers in operation between White Horse and Dawson, Yukon, June 2

Orders by Board of Railway Commissioners for Canada.

Beginning with June, 1904 Canadian Railway and Marine World has published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed the paper have a continuous record of the Board's proceedings. No other paper has done this.

[illegible]. Apr. 10.—Rescinding order [illegible], June [illegible], and limiting speed of G.T.R. trains between Brant and Durham Sts., Brantford, Ont., to [illegible] miles an hour.

[illegible]. Apr. 10.—Ordering Ottawa Gas Co. to pay G.T.R. only $3,058.50 as demurrage charges on [illegible].

[illegible]. Apr. 10.—Ordering G.T.R. to erect station at [illegible], Ont., plans to be submitted by May 1, and work to be completed by Sept. 1.

[illegible]. Apr. 10.—Approving Railways Department plan of bridge reconstruction over Trent Canal at Washago, Ont.

[illegible]. Apr. 12.—Authorizing C.P.R. to build reinforced concrete bridge over Seigneur St., Montreal, replacing existing bridge.

[illegible]. Apr. 11.—Approving Canadian National Rys. plan of permanent structure over Laronde River, replacing wooden structure there.

[illegible]. Apr. 11.—Authorizing Ottawa Electric Ry. to appeal to Supreme Court of Canada against board's orders [illegible], Nov. 6, 1918, and 28120, Feb. [illegible], 1919, which suspended and disallowed its tariff C.R.C. [illegible], upon a number of questions [illegible].

[illegible]. Apr. 12.—Authorizing C.P.R. to remove portion of Motherlode spur from mileage 3 to 5.46, near Greenwood, B.C.

28232. Apr. 14.—Declaring on complaint of Pacific Coast Shippers' Association that movement from Huntingdon to Vancouver, B.C., not being competitive within the meaning of the Railway Act, the lawful rate of lumber in carloads from Abbotsford to Vancouver on June 11, 1917, was [illegible] and authorizing reparation on that basis to Abbotsford Timber and Trading Co.

28233. Apr. 15.—Approving Canadian National Rys. plan of new abutments and approach spans at crossing of Shawanaga River, mileage 16.5 from Parry Sound, Ont.

[illegible]. Apr. 17.—Extending to May 15, time within which C.P.R. shall install automatic bell at crossing near Farrelton, Que.

28235. Apr. 16.—Authorizing C.P.R. to build spur for Canadian Axe & Harvest Tools Mfg. Co., Cote St. Paul, Que.

28236. Apr. 15.—Authorizing C.P.R. to build extension to spur for Brackman-Ker Milling Co., Calgary, Alta.

28237, 28238. Apr. 11.—Amending orders 7339, May 4, 1909, and 21288, Jan. 31, 1914, re crossings at [illegible] St., Lennoxville, Que., and Prince Edward St., Brighton, Ont., by C.P.R. and G.T.R., to provide for division of responsibility for accidents due to negligence of watchmen.

28239, 28240. Apr. 11.—Amending orders of the Railway Committee of the Privy Council, Nov. [illegible], and [illegible], Dec. 18, 1890, re crossings of Bay St., and Bloor St., Toronto, by C.P.R. and G.T.R., to provide for division of responsibility for accidents due to negligence of watchmen.

28242 to 28244. Apr. 11.—Amending orders 10508, May 6, 1910, 19232, May 9, 1913, and 23899, June 24, 1915, re crossings of William St., Brockville, Ont., King St., Weston, and Cobourg and Grafton Road, Ont., by C.P.R. and G.T.R., to provide for division responsibility for accidents due to negligence of watchmen.

28245. Apr. 14.—Authorizing C.P.R. to remove agent at [illegible], B.C., caretaker to be appointed to keep station clean, heated and lighted for passengers.

28246. Apr. 10.—Ordering G.T.R. to flag all switching movements over crossing of Niagara St., Hamilton, Ont.

28247. Apr. 22.—Extending to June 22, time within which C.P.R. shall install improved automatic bell at Horne Ave., Mission City, B.C.

28248. Apr. 19.—Amending order 28198, Mar. 31, re interchange track between C.P.R. and Canadian National Rys. at St. Leonards, N.B.

28249. Apr. 19.—Authorizing C.P.R. to build spur for Sheet Metal Mfg. Co., Calgary, Alta.

28250. Apr. 22.—Approving clearances of Pere Marquette Rd. spur for Acme Roofing Co., Walkerville, Ont.

28251. Apr. 22.—Amending order 25763, Dec. 22, 1916, closing road allowance by Canadian Northern Ry., between secs. 11 and 14 and secs. 11 and 12, Tp. [illegible], Range [illegible], west of principal meridian to provide that center lines of crossing be moved [illegible].

28252. Apr. 19.—Ordering Canadian National Rys. to stop trains [illegible] and 6 regularly at Portland, Ont.

28253. Apr. 22.—Approving agreement Apr. 1, between Bell Telephone Co. and Lake Shore Mutual Telephone Co., Bruce and Huron Counties, Ont.

28254. Apr. 22.—Amending order 25753, Dec. 22, 1916, re crossing of Church St., Weston, Ont., by C.P.R. and G.T.R.

28255. Apr. 25.—Ordering Grand Trunk Pacific Ry. to erect standard A station at Avonhurst, Sask., to be completed by Oct. 1.

28256. Apr. 23.—Amending Railway Committee of Privy Council's order of July 15, 1886, re crossing of Strachan Ave., Toronto, by C.P.R. and G.T.R. to provide for division of responsibility for accidents due to carelessness of watchmen.

28257. Apr. 24.—Ordering G.T.R. to install automatic bell at crossing near Aultsville station, Ont.

28258. Apr. 24.—Ordering Canadian National Rys. to appoint day and night watchmen at crossing of 115th Ave., Edmonton, Alta.

28259. Apr. 24.—Authorizing Canadian Northern Saskatchewan Ry. to build across highway between Sec. 5, Tp. 24, and Sec. 34, Tp. 23, Range 8, west 3rd meridian.

28260. Apr. 23.—Approving plan of reconstruction of interlocking plant at crossing of Lake Erie and Detroit River Ry. by C.P.R. at Walkerville Jct., Ont.

28261. Apr. 24.—Approving G.T.R. clearances for Maple Leaf Milling Co's sidings on Welland Canal reserve, Port Colborne, Ont.

28262. Apr. 24.—Authorizing Canadian Northern Saskatchewan Ry. to cross highway between Secs. 4 and 5, Tp. 24, Range 8, west 3rd meridian.

28263. Apr. 23.—Approving Canadian National Rys. plan of grade revision at Weir, Que.

28264. Apr. 8.—Authorizing G.T.R. to rebuild bridge crossing Weston Road, York Tp., over G.T.R., near West Toronto station, Ont.

28265. Apr. 28.—Amending order 27623, Sept. 3, 1918, providing that Canadian National Rys. stop trains 5 and 6 on flag at Clarence, Ont. instead of trains 7 and 8, which are to stop there on flag on Sundays only.

28266. Apr. 25.—Ordering G.T.R. to build stock pen by Sept. 30, with two loading chutes to load four cars at Thornby, Ont.

28267. Apr. 28.—Authorizing C.P.R. to build extension to spur for J. I. Case Threshing Co., Saskatoon, Sask.

28268. Apr. 28.—Ordering C.P.R. to provide station facilities at Corinne, Sask.

28269. Apr. 28.—Ordering apportionment of costs between the City of Edmonton, Alta., and C.P.R. re crossing of Whyte St.

28270. Apr. 29.—Extending to Dec. 31, time within which C.P.R. shall build spur for Western Canada Hardware Co., Lethbridge, Alta.

28271. Apr. 29.—Authorizing C.P.R. to divert road allowance on south boundary of s.w. ¼, Sec. 14, Tp. 35, Range 4, west 4th meridian, Alta.

28272. Apr. 30.—Ordering C.P.R. to provide additional station accommodation at Balcarres, Sask.

28273. Apr. 29.—Relieving C.P.R. from providing further protection at crossing of McDougal St., Port Arthur, Ont.

28274. Apr. 29.—Ordering C.P.R. to appoint a caretaker at Clair, Sask., to see that station is kept clean, heated and lighted for passengers.

28275. Apr. 30.—Ordering C.P.R. to build the main bodies of its standard A2 station as additional to freight shed at Prelate, Sask.

28276. Apr. 30.—Ordering Canadian National Rys. to build standard freight and passenger shelter and a one-car stock pen and chute at Katrine, Man.

28277. Apr. 30.—Relieving C.P.R. from providing further protection at crossing near Cabri, Sask.

28278. Apr. 29.—Ordering Canadian National Rys. to appoint caretaker at Runnymede, Sask., to see that station is kept clean, heated and lighted for passengers.

28279. May 2.—Approving crossing of Esquimalt & Nanaimo Ry. by Mayo Lumber Co., to spur at mileage 7.25, Sahtlawn District, Vancouver Island, B.C.

28280. May 3.—Ordering G.T.R. to limit speed of trains crossing Kingston Road, west of Port Union Station, Ont.

28281. Apr. 29.—Authorizing Canadian Northern Ontario Ry. to rebuild bridge over Farm Road, Whitchurch Tp., mileage 30.66, from Toronto.

28282. Apr. 28.—Authorizing Canadian Northern Ontario Ry. to build tie loading spur at mileage 74.46, Champagne Tp.

28283. Apr. 28.—Authorizing G.T.R. to build shelter at Perch, Ont.

28284. Apr. 25—Approving agreement between Bell Telephone Co., Apr. 7, and Tilbury West Tp., Ont.

28285. Apr. 29.—Authorizing Canadian Northern Ontario Ry. to build crossing over farm road, March Tp., mileage 17.13 from Rideau Jct.

28287. Apr 28.—Authorizing G.T.R. to operate over siding to be built in Toronto harbor industrial district by Toronto Harbor Commissioners.

28288. May 3.—Authorizing Canadian National Rys. to operate over crossing of Portage Ave., near Westside station, Man.

28289. May 2.—Dismissing complaint of Adolph Lumber Co., Baynes Lake, B.C., against rate charged by Great Northern Ry. on logs from Dorr, to Baynes Lake, B.C.

28290. Apr. 29.—Dismissing application of T. M. Kelly, Sebringville, Ont., for order directing G.T.R. to erect station between Ellice and Logan Tps., approximately midway between Sebringville and Mitchell, Ont.

28291. Apr. 28.—Authorizing C.P.R. to build reinforced concrete bridge near Atwater Ave., Montreal.

28292. May 5.—Approving proposed diversion of Rosebud River by Canadian National Rys. in n.w. ¼, Sec. 35, Tp. 27, Range 20, west 4th meridian, Alta.

28293. Apr. 25.—Authorizing C.P.R. to build spur for Canadian Tube & Iron Co., Montreal Parish, Que.

28294. May 5.—Approving Canadian National Rys. plan of proposed diversion of Rosebud River in Sec. 18, Tp. 28, Range 19, west 4th meridian, Alta.

28295. Apr. 28.—Authorizing Canadian National Rys. to divert and dam east branch of Severn River at Rattlesnake Island, mileage 88.3, Washago, Ont.

28296. Apr. 29.—Authorizing C.P.R. to build highway crossing between Secs. 1 and 2, Con. 3, of park lots, Sault Ste. Marie, Ont.

28297. Apr. 28.—Amending order 28177, Mar. 20, re Manitoba Government highway crossing over Canadian National Rys. between Secs. 14 and 23, Tp. 34, Range 23, Man.

28298. May 5.—Approving Canadian National Rys. plan for diversion of Rosebud River in Secs. 6 and 7, Tp. 28, Range 19, west 4th meridian, Alta.

28299. May 6.—Authorizing Vancouver, Victoria & Eastern Ry. & Nav. Co. (G.N.R.) to remove west leg of Y track at Colebrook, B.C.

28300. May 6.—Relieving C.P.R. and G.T.R. from maintaining signalmen to operate interlocking plant at Chatham, Ont., between 4 p.m. and 8 a.m. on week days during every month of each year excepting Sept., Oct., Nov. and Dec.

28301. May 5.—Extending to July 5, time within which C.P.R. is required to install automatic bell at crossing of Bull St., Woodstock, N.B.

28302. May 7.—Authorizing C.P.R. to build spur for Robin Hood Mills Ltd., Moose Jaw, Sask.

28303. May 6.—Ordering that gates at crossing of Eastern Ave., Toronto, by C.P.R. and G.T.R., be operated by watchmen appointed by the companies and in case of disagreement, matter to be settled by the board.

28304. May 8.—Amending order 4819, May 18, 1918, re crossing of Church St., Toronto by the G.T.R. and C.P.R.

28305. May 7.—Ordering G.T.R. to instal automatic bell at crossing of Muskoka Road, near Orillia, Ont.

28306. May 5.—Approving Canadian National Rys. plan of diversion of Rosebud River, Sec. 24, Tp. 27, Range 21, west 4th meridian, Alta.

28307. May 7.—Authorizing Montreal Tramways Co. to cross C.P.R. at Cote St. Paul, the Canal Bridge and St. Patrick St., Montreal, also G.T.R. on north bank of said bridge.

28308. May 12.—Extending to Aug. 12, time within which C.P.R. shall build spur for Rob Roy Mlls Ltd., Durham, Ont.

28309. May 12.—Relieving G.T.R. from providing further protection at crossing of first public road east of Lawrence Station, Ont.

28310. May 9.—Amending order 28343, Apr. 11, re crossing of King St., Weston, Ont., by G.T.R. and C.P.R.

28311. May 9.—Authorizing Alberta Government to build public highway crossing over Grand Trunk Pacific Ry. in northeast ¼, Sec. 26, Tp. 52, Range 3, west 5th meridian, Alta.

28312. May 8.—Approving rearrangement of G.T.R. spurs on Lachine Canal Reserve for Dominion Flour Mills Ltd., Montreal Parish, Que.

28313. May 9.—Approving location of G.T.R. shelter at Stewarttown, Ont.

28314. May 12.—Approving plan hsowing work to be done on the McIntyre-Zavitz drain, in Brooke Tp., under G.T.R.

28315. May 14.—Dismissing application of Grain Claims Bureau Ltd., on behalf of grain shippers in Western Canada, for order directing railways to show on bills of lading covering grain shipped from points in Manitoba, Saskatchewan and Alberta, the depth of inches of grain loaded in cars.

28316. May 14.—Approving Niagara, St. Catharines and Toronto Ry. plans of standard concrete culberts and standard flat top culverts of various openings.

28317. May 14.—Authorizing Canadian National Rys. to build spur for J. McMillan, Fort Rouge, Winnipeg.

General order 262. May 8.—Amending regulations governing baggage car traffic.

General order 263. May 7.—Standardizing railway regulations governing guard rails, vestibule doors and platforms on passenger cars.

Railway Development, Projected Lines, Surveys, Construction, Betterments, Etc.

The British America Nickel Corporation has, a press report states, completed location surveys for a line from its works at Nickelton into Sudbury, Ont. Nickelton is a station on the Algoma Eastern Ry., 6 miles out of Sudbury, and the located route is reported to be between the A.E.R. and the C.P.R. Sudbury-Sault Ste. Marie line.

Burrard Inlet Tunnel and Bridge Co.—A press report states that a local committee has been formed to revive this projected enterprise, that a meeting of the local reconstruction committee was held at North Vancouver, B.C., May 5 and that it was decided to have the municipalities of North Vancouver—city and district—and West Vancouver appropriate $1,000 towards an educational campaign. The building of a bridge across the second narrows of Burrard Inlet, at North Vancouver, has been under consideration for some years, and the charter for its construction, with connecting railways, etc., is held by the cities of North Vancouver, and Vancouver, and adjoining municipalities. A considerable sum has been expended upon plans, and in making foundation tests, etc. The building of such a bridge is one of the recommendations contained in the Swan report on the development of Vancouver harbor. (July, 1918, pg. 285).

Dolly Varden Mines Ry.—Subsequent to the appointment of Justice Clement as arbitrator to fix the amount due the Taylor Engineering Co. for the construction of the railway under the terms of the act passed recently by the British Columbia Legislature, an agreement was reached by which the company admits the Taylor Engineering Co.'s claim of $462,628.08 without reference to the commission. The straightening out of this matter will confirm the company in its charter rights, and give it additional time within which to complete the railway and develop its mining property. (May, pg. 253).

Edmonton, Dunvegan and British Columbia Ry.—J. D. McArthur, President, is reported to have said in the course of a recent interview at Edmonton, Alta., that extensive improvements in the line are to be carried out at once; that the first 164 miles from Edmonton to Sawridge, will receive attention first; that a large number of new ties will be placed, and that the roadbed will be generally improved so as to permit of a more rapid and more satisfactory service being given; that between Sawridge and Burnt River, there is considerable work of a miscellaneous character to be done; that from Burnt River to Spirit River, mileage 357, ballasting is to be carried forward, and continued along the branch from Rycroft to Grande Prairie, 49.8 miles, and that these improvement works will be rushed to completion.

With regard to extensions of the time, Mr. McArthur is reported to have said that construction from Peace River to Varena cannot be proceeded with this year unless the Dominion Parliament will vote a subsidy. This extension would reach 50 miles beyond the crossing of the Peace River.

In connection with the foregoing, it should be borne in mind that it has been persistently reported recently that Mr. McArthur could not carry on his railway enterprises much longer and that they would have to be taken over, either by the Dominion Government, or by the C.P.R.

W. R. Smith, General Manager and Chief Engineer of the McArthur lines (the E.D. and B.C.R., the Alberta and Great Waterways Ry., and the Central Canada Ry.) completed a trip of inspection recently over the lines in operation, under construction and projected, in company with a party stated to represent the C.P.R.

R. A. Hazelwood, C.E., is reported to have arrived in Edmonton, May 4, in connection with the company's work. (May, pg. 253).

Esquimalt and Nanaimo Ry.—After a number of conferences between representatives of the C.P.R., which operates the E. and N.R., considerable progress was reported to have been made, May 13, in the settlement of the Johnson St. bridge matter, which has been the subject of negotiations between the Victoria City Council, the company, and the British Columbia Government for three or four years past. The C.P.R. was represented at the most recent conference J. M. R. Fairbairn, Chief Engineer, and P. B. Motley, Engineer of Bridges, and the E. and N.R. by H. E. Beasley, General Superintendent, and R. A. Bainbridge, Engineer. A press report states that the only notable change decided upon is a decrease in the span of the proposed bridge from 150 ft. to 120 ft. and a slight decrease in the width of the superstructure. The city's plan procides for a curved vehicular approach by way of Johnson St. The City Engineer is reported to be engaged in remodelling the city's original bridge plans in accordance with the agreements reached at the conference.

The C.P.R. is reported to have advised the city and the B.C. Government that while $60,000 would represent the actual value of a new bridge to its railway, it was willing to contribute $100,000 towards the cost of a new structure such as the city desired. The British Columbia Government, it is reported, has promised to contribute $200,000. The estimated cost of the railway and general traffic bridge, with approaches for vehicle and pedestrian traffic asked for by the city, is about $600,000.

The mayor of Victoria, is reported to have said, May 13: "When the plans have been completed and formally approved by all parties concerned—as a matter of fact, they are being drawn up to suit the wishes of all and as soon as we have interviewed the B.C. Electric Ry. Co. on its possible contribution, and the Dominion Government, we shall be in a position to prepare a bylaw. We will make the best bargain possible and then leave the question in the hands of the people. Before the summer is over, I am sure, the ratepayers will be given an opportunity to vote on it." (Apr., pg. 190)

Essex Terminal Ry.—A press report states that the company will lay a track between two structures being built by the General Motors Corporation, Windsor, Ont. (Mar., pg. 134).

Lacombe and Northwestern Ry.—The Alberta Government will, according to a press report, ask for tenders shortly for the grading of the projected extension from the present terminus, Bentley, to Rimbey, 17 or 18 miles. Plans and specifications were on May 7 reported to be in preparation. The estimated cost of the completion of the work done by the Lacombe and Blindman Valley Electric Ry. Co. beyond Bentley, and of the new grading, etc., was recently stated by the premier in the legislature to be $319,785. (Mar., pg. 254).

Grand Trunk Ry.—The Ottawa City Council has appointed a committee to interview the Dominion Government in regard to the removal of the G.T.R. crosstown tracks.

Grand Trunk Pacific Ry.—Application is being made to the Dominion Department of Public Work, for approval site and plans of a car ferry slip and works proposed to be built by the G.T.P.R., in front of waterfront Block C, Prince Rupert, B.C. (Near pg. 134).

The Maritime Coal, Ry. and Power Co. Co., has applied to the Dominion Department of Public Works, for approval of plans of piers proposed to be built at River Hebert, on the Hebert River, and at Maccan, on the Maccan River, N.D., along the company's railway. Tenders were received to May 24 for the construction of three timber crib railway bridge piers, ballasted with rock on pile foundations, 2 to be built at Maccan and 1 at River Hebert, N.S.

Michigan Central Rd.—In reference to a press report that the company was planning extensive developments and improvements at Niagara Falls, Ont., involving the building of a new station, etc., we are officially advised that the company is not considering any large improvements there, but is making preliminary investigations towards the rebuilding or strengthening of the cantilever bridge across the Niagara River, but nothing definite has been decided in regard to this. J. F. Demling, Detroit, Mich., is Chief Engineer. (Apr., pg. 191).

Montreal Central Terminal Co.—C. N. Armstrong, who is interested in the promotion of this enterprise, submitted plans of the projected station and its connections to the Montreal Board of Trade's council, Apr. 30. He is reported to have said in the course of his explanation of the plans that the carrying out of the company's project would get rid of the present G.T.R. tracks between St. Henri and Bonaventure station, and avoid level crossings in the city or suburbs, while the tunnel would afford prompt and economical communication with the south shore. The council referred the plans to its harbor and navigation committee.

Pacific Great Eastern Ry.—The Premier of British Columbia returned to Victoria, May 7, after a trip of inspection over the line. A press report states that rails are expected to be laid as far as Williams Lake near 160 mile house by September, and as far as Deep Creek by next winter. A site for the station to be built at Williams Lake was selected and a question of location at Deep Creek, or Deep Cove crossing, in the vicinity of Soda Creek, was discussed. At this point there is a hole 280 ft. deep, and 1,200 ft. wide, across which a bridge costing approximately $500,000 would be necessary. At Quesnel, the question of relocating the line was discussed with the board of trade. The suggestion is that the line be relocated south of Quesnel at a lower level, so as to connect with navigation on the Fraser River, and do away with the necessity of building a half mile bridge and trestle crossing of the Quesnel River. The present location would also require the construction of a bridge 3,000 ft. long and 315 ft. above water level across the Cottonwood River. The Premier is reported to have said that a careful resurvey and re-examination of the route would be made by the provincial railways department's engineers before any definite conclusion was reached.

The Premier's party was accompanied by A. F. Proctor, Chief Engineer, and C. C. Worsfield representing the Dominion Government. They travelled from Squamish, to deep water terminus, to the railhead in autos, lashed to flat cars, and from the end of railhead to Quesnel by autos. (May, pg. 254).

Reid Newfoundland Ry.—Answering questions in the Newfoundland Legislature, May 1, the Colonial Secretary said the company sent in a statement to the government in connection with the branch lines contract of 1910, up to Aug., 1917. The account was divided into three sections:—(1) Balances unpaid on general contract, in which it was alleged that the government had retained a larger percentage of the guarantee than was warranted; (2) As to extra work on the branch lines in respect of which there were differences of opinion between the government and the company's engineers. and (3) As to items not considered as extras by the government engineers. The total amount of these claims was $668,041.28, of which the government subsequently paid the company $132,546.94, without prejudice. As to the amount to be retained out of the guarantees, the government engineer was to be the sole judge under the contract. As to the other two points, the matter was argued out before the government by both parties, and the government engineer was given directions how to act. The company also made a request that it be paid in cash for lands to which it is entitled at the price fixed by the contract, and the government exercising its option under the contract had acceded to the company's request.

On the same day the Premier, replying to another question, said the matter of calling upon the company to proceed without further delay to construct the branch lines to Fortune Bay and to Bonne Bay, contracted for in 1910, was under consideration, as also was the question of the general state of repair of the railway.

A petition was presented in the legislature recently, asking for the extension to Lead Cove of the branch line now terminating at Heart's Content.

St. John and Quebec Ry.—Construction equipment was reported to have been delivered, Apr. 30, for ballasting and other completion work on the Gagetown-Westfield section. The work is to be done, it is reported, by the Canadian National Railways construction staff. It is expected that the work will be completed in order to permit of the operation of trains early in July. (May, pg. 254).

The House of Commons passed a resolution May 19, declaring it to be expedient to extend the time for the construction of the St. John and Quebec Ry. from its present northerly terminus at Centerville to Andover, N.B., to Dec. 31, 1921, both with respect to the agreement as to operation, and as to subsidy, provided that such extension of time shall only be granted with the New Brunswick Government's consent. The necessity for the additional legislation, the Minister of Railways explained, was that the N.B. Government had called attention to the fact that this provision had been omitted from the act of 1918. A bill to give effect to the resolution was read a first time May 19. (May, pg. 254).

Timiskaming and Northern Ontario Ry.—We are officially advised that the engineering party which has been sent out for the collection of additional information with reference to the general physical features and economic resources of the country between Cochrane and James Bay, is in charge of W. R. Maher, Locating Engineer, T. and N.O.R. The work to be done by the party is in connection with the project for the extension of the line from its present northerly terminus at Cochrane to James Bay.

The party is reported to consist of 24 men, most of whom have seen active service at the front. They were reported to have left Cochrane, May 20, for Clute, and the route from there, it was expected, would be to the foot of the Long Sault Rapids, on the Abitibi River, where the first camp will be set up. (May, pg. 255).

Toronto, Hamilton and Buffalo Ry.—The Hamilton, Ont., Board of Control is reported to have appointed a committee to negotiate with the company for the removal of its coal dock at the west end of Herkimer St. (Jan., pg. 26).

Regulations for Handling Guard Rails, Vestibule Doors and Platforms on Passenger Cars.

The Board of Railway Commissioners passed general order 263, May 7, as follows:

Whereas, the board's attention has been called to a number of accidents, in some instances fatal, caused by failure to keep vestibule doors on passenger cars closed; upon reading what has been filed by the Canadian Railway Association for National Defence, on behalf of railway companies operating in Canada, and upon the report and recommendation of the board's Chief Operating Officer, and in pursuance of the powers conferred upon it by sections 30 and 269 of the Railway Act, and all other powers possessed by the board in that behalf, it is ordered that every railway company subject to the legislative authority of the Dominion Parliament, operating a railway by steam power, shall strictly conform to the following rules and regulations governing the handling of guard rails, vestibule doors, and platforms on passenger cars which are hereby approved, viz.:

"Through and local (except suburban) trains, double track, right hand operation. When running, all doors and platforms except those on rear right hand side of last car are to be kept closed. When standing, the right hand doors and platforms, only, are to be opened, except when necessary to open left hand doors to receive or discharge passengers.

"Through and local (except suburban) trains, double track, left hand operation. When running, all doors and platforms except those on rear left hand side of last car are to be kept closed. When standing, the left hand doors and platforms, only, are to be opened, except when necessary to open right hand doors to receive or discharge passengers.

"Through and local (except suburban) trains, single track. All doors and platforms, except those on rear of last car, are to be kept closed when running.

"Suburban trains, double track, right hand operation.—Doors and platforms on right hand side of train may be kept open, and when open are to be securely fastened. Those on left hand side must be kept closed, except when necessary to open them to receive or discharge passengers.

"Suburban trains, double track, left hand operation. Doors and platforms on left hand side of train may be kept open, and when open are to be securely fastened. Those on right hand side must be kept closed, except when necessary to open them to receive or discharge passengers.

"Suburban trains, single track.—All doors and platforms may be kept open and when open are to be securely fastened.

"Movable guard rails. When there are movable guard rails on non-vestibule or open vestibule cars, guard rails must be kept closed, except that when trains are standing they are to be opened only on the side at which passengers are to be received or discharged.

"Vestibule curtains. When cars are equipped with vestibule curtains, these appliances are to be kept closed, and are not to be uncoupled until trains stop at terminal, or when change is to be made in consist of train.

"Observation cars. When rear car is observation car, side gates and platforms must be kept closed when running.

"Tail gate, chain or bar. At rear of last car in train must invariably be kept closed."

2. "Suburban trains," as used in this order, means, and applies only to, trains within commutation limits when carrying commutation traffic.

The C.P.R. Recreation Club of Toronto has been organized to promote athletics and general social entertainment among the employes. The following officers have been elected: President, W. Fulton; Vice Presidents, T. Collins, F. M. Rutter and F. Ronaldson; Secretary, W. Henderson; Treasurer, F. MacGregor.

Jamaica Railways—A. Kingston, Jamaica, cablegram, states that owing to the high cost of coal, the Colonial Government is having a survey of the available water powers made to see if it would be possible to operate the railways on the island by electric power.

C.P.R. Pensions Raised — Montreal press dispatch, May 14.—Owing to the high cost of living the C.P.R. directors have authorized a special allowance to remain in force until the end of 1920, representing an increase of 25% on all pension payments to officers and employes on the pensions roll. According to the last annual report the pension allowances for the year ended Dec. 31, amounted to $267,097.43, there being 854 officers and employes on the pension roll, of whom 411 were over 70 years of age and 404 between 60 and 70.

Canadian National Railways Shops, St. Malo, Que.

It is the intention to place in service the Canadian National Ry. shops at St. Malo, Quebec, in the near future, the passenger car shops towards the end of June, and the locomotive shops, sometime in the autumn. These shops were built by the National Transcontinental Ry. Commission, the contract being let in 1913, and a description of the layout with plan appeared in Canadian Railway and Marine World for Sept., 1913. The shops were built during 1914, but have not been used.

The shops are located in St. Malo, a suburb of Quebec about 2 miles from, and almost due west of, the center of the city. The National Transcontinental Ry. main line enters Quebec from the west over the C.P.R. tracks from Cadorna, 3.3 miles from Quebec, and the shops adjoin these tracks. From Cadorna, the Canadian National Rys. have built a parallel line about a mile long on the south side of the C.P.R. line for the shop approach of the C.P.R. line, for the shop approaches.

The shop buildings are arranged along a midway, with those handling the heaviest equipment adjoining, and with the others located back from it. The midway, which extends the full length of the main part of the shop area, is 75 ft. wide, and is served by a 20-ton travelling crane, the track for which is supported on the building abutments and steel columns. Most of the buildings are of the same type of construction, a self-supporting steel frame, with brick walls, the whole supported on a concrete wall carried up to the windowsills. The roof of each building is of double wood sheathing, with ventilators and skylight, and covered with a prepared roofing. Most of the floors are of 6 in. concrete, overlaid with a 1½ in. layer of special grease resisting mastic asphalt. The heating of all but the locomotive and boiler shop is by direct radiation, the locomotive and boiler shop having an indirect fan system.

The locomotive and boiler shop is 603 x 152 ft., containing both locomotive and boiler departments in opposite ends, there being no divisional walls in the length of the building. The building is divided into 3 longitudinal bays, and into 26 traverse bays, at 23 ft. centers; 18 of these bays contain locomotive pits and the other 8 are for boiler work. The longitudinal bays are as follows: erecting bay, 75 ft. wide; large machine bay, 55 ft.; small machine bay, 18½ ft. Over the small machine bay, there is a gallery extending the full length of the shop, containing the lighter equipment and heating plant. The shop space gives an area of 3,400 sq. ft. per pit. The locomotive shop has two entrance tracks with provision for two more, and the boiler shop, one track. The locomotive shop erecting bay has a 120-ton travelling crane for placing the locomotives, as well as two 10-ton cranes. The boiler shop has a 20-ton crane, as well as smaller cranes.

The shop offices are in a 3 story and basement building, 60 ft. square, near the end of the locomotive shop, and back from it, and all the shop officails will be located in it, dispensing with the smaller shop offices.

The stores building is of reinforced concrete throughout, 104 x 79 ft., flush with the midway, and with a 10 ft. platform extending along three sides, with ramps leading up from the ground level at two corners. It also contains a basement. The platform on the midway side is served by the midway crane.

The forge shop is 155 x 107 ft., with a cinder floor, the steel work being designed to support jib cranes. It will contain the usual complement of forges, hammers, etc.

The power house is 125 x 107 ft., divided by a fire wall into engine and boiler rooms, with a pump pit running along the fire wall in the engine room, and a basement extending under the whole area of the boiler room to accommodate the coal and ash handling apparatus. The engine room is served by a light travelling hand crane. The power house is close to the midway, and centrally located to minimize power losses.

The oil house is a reinforced main floor and basement building at the rear end of the plant. The oil house is 30 x 40 ft., standing on a 50 x 70 ft. platform, which forms the roof of the basement.

The passenger car shop, 265 x 130 ft., is the principal of the car department buildings, and is located back from the midway. It is divided into 3 bays, 2 of which are served by cranes, and contains 4 through repair tracks, and a fifth stub track.

The planing mill, 82 x 265 ft., is at the rear of the car shop, and near the power house, to which the mill shavings will be forced by a fan system.

The dry kiln, to the rear of the planing mill, is 38 x 50 ft.

The lumber shed, 40 x 225 ft., is of wooden frame construction on concrete foundations. The whole of the car department buildings are so located as to give a continuous forward movement of the lumber through to the car shop.

The iron store and scrap bin, 140 x 24 ft., is between the forge shop and stores.

The crude oil store, 42 x 20 ft., is located between the boiler shop and oil house.

G. Fred Knight has been appointed Superintendent of the shops.

Orders for the equipment of the shops will be placed shortly as specifications from manufacturers showing the types of machines which they can supply, as well as information on delivery dates, etc., is now in the hands of Shop Superintendent Knight, who is making the necessary selection from the lists submitted.

The Canadian Ticket Agents' Association's executive committee met in Toronto, May 8, W. Jackson, C.P.R. Ticket Agent, Clinton, Ont., presiding. It was decided to hold the 33rd annual business meeting at the Prince George Hotel, Toronto, Sept. 23. The members and their wives will leave Toronto, Sept. 24, in the morning, by special G.T.R. train for Muskoka Wharf, and from there by a Muskoka Lakes Navigation and Hotel Co.'s steamboat to the Monteith House, Lake Rosseau, where the night will be spent. The party will leave there early on Sept. 25, proceeding down the lakes and return either by Muskoka Wharf and the G.T.R., or by Bala and the C.P.R., so as to reach Toronto in time to allow members to take night trains for the east, and possibly for Western Ontario points. E. de la Hooke, the Association's veteran secretary, is in charge of the general arrangements as he has been for so many years.

The Canadian Pacific Railway's New Transcanada Trains.

We are officially advised that in order to handle the increasingly large volume of trans-continental travel, and to give business travellers a faster service to and from the west, the C.P.R. has arranged to put on new daily limited express trains to be known as Trans-Canada Limited. These trains, which will start running June 1, will reduce the journey between Montreal, or Toronto, and Vancouver, to less than four days and save a full business day. They will be strictly limited; i.e., will have space for sleeping car passengers only. In addition to the ordinary sleeping cars, compartment cars and dining cars, will be run out of both Montreal and Toronto.

Train 7 will leave Montreal at 8.30 p.m. and train 9 will leave Toronto at 7.15 p.m. They will be consolidated at Sudbury and will be operated as train 7 from there to Vancouver. Passengers leaving Montreal or Toronto, say on a Sunday, will leave Sudbury at 4.20 a.m. Monday, reach other points as follows: Fort William, 9.30 p.m. Monday; Winnipeg, 9.05 a.m. Tuesday; Regina, 7.15 p.m. Tuesday; Calgary, 9.30 a.m. Wednesday, and Vancouver, 10 a.m. Thursday. The schedules of the Trans-Canada Limited, show a running time of 93 hours, 30 minutes, westbound, from Montreal to Vancouver, and 92 hours, 15 minutes, eastbound, from Vancouver to Montreal. From Toronto to Vancouver, 89 hours, 45 minutes; from Vancouver to Toronto, 88 hours.

The eastbound train no. 8, which will leave Vancouver at 7.30 p.m., is arranged with equal convenience for the business man. A Toronto man with business to do in Winnipeg, could leave Toronto on Monday evening, spend a full day in Winnipeg, and be back in Toronto at 1.30 p.m. on Friday.

These new trains will be particularly convenient for tourists from eastern Canada and the United States, desiring to reach the mountain resorts at Banff and Lake Louise. They will also be a great convenience for passengers to the Orient, who will be able to save a full business day in connecting with the C.P.R. Express steamships from Vancouver.

Canadian Northern Ry. Earnings, Etc.

The Minister of Railways in reply to questions in the House of Commons, May 15, said the fixed charges of the Canadian Northern Ry. system for the year ended Dec. 31, 1918, were $17,[illegible]-522.31. Included in this was the interest payable to the government, $3,000,-529.15. In the statement [illegible] made recently, showing that the net earnings for the C.N.R. system for the calendar year, 1918, were $3,562,303.40, no provision was made for the payment of this interest. The deficit for 1918, after fixed charges had been provided for over $14,-333,085.07. The Dominion Government is a shareholder of the C.N.R., but as such does not necessarily assume all its liabilities.

E. W. Beatty, K.C., President, C.P.R., left Montreal, May 15, on his first official trip over the company's Western lines since his appointment to that position. Owing to the strike situation in Winnipeg, his movements have not been fully reported. He is said to have accepted an invitation to address the Canadian Club at Victoria, B.C., during his visit.

Aerial Transportation for Canada.

Canadian Pacific Railway's Application to Parliament.

As stated in Canadian Railway and Marine World for May, the C.P.R. Co. has applied to the Dominion Parliament for an act to authorize it to establish, maintain and operate services by air craft between such points and places within or without Canada as may be found desirable, and to exercise and employ such powers as may be necessary for such purposes.

Grant Hall, Vice President, is reported to have stated in this connection as follows:—

"The C.P.R.'s application for an air charter is only natural when one considers that we are approaching a new epoch in air transport as applied to commerce. Even before the war a dirigible airship maintained a regular passenger service between Frankfort and Berlin for two years, and during the war the progress in aerial transit has been phenomenal. Much of that progress has been due to the skill and daring of Canadian fliers. General Seeley, in the British House of Commons, recently, acknowledged the indebtedness of the allies to Canada in securing aerial supremacy and said: 'Canada gave the largest contribution in numbers and of her services those who know what Canadian airmen did need not be reminded—they were second to none.'

"The British Government has allowed no less than $300,000,000 in the estimates for the coming year for air service, of which $10,000,000 has been set aside for experimental research and civil aviation. Bonar Law owns his own aeroplane, which is used for his frequent visits to Paris, and there is a regular daily service of a 17-passenger Handley-Page machine between London and Paris. Although at present aerial transport is a distinctly expensive matter, the progress being made, both in aeroplanes and dirigibles is so rapid that it is quite in order for a company such as the C.P.R. to be ready to enter the field as soon as air transportation comes within the range of practical politics.

"Although there are areas in Canada which will for a long time present difficulties, particularly to aeroplanists, there are other areas which conform to the requirements of the experts. Take, for instance, the western prairies, which offer the conditions described by General Seeley as vital, viz.: that they are regions 'where there are wide spaces with almost complete absence of the airman's real enemy—mist and fog—not wind.' It is there where air travelling might be made profitable.

"There are, however, many costly features about an air service by means of aeroplanes which will militate against any hope of very low rates—particularly the necessity of suitable landing spaces at frequent intervals, in case of engine trouble. Orville Wright maintains that to make flying reasonably safe, good landing places should be provided at 10 or at most 15, miles interval. A landing space must be about a quarter section in size and the surface must be of level, smooth, hard sod. Then, in the case of airships, the cost of sheds is a very considerable item. Thus, for instance, a shed to house two of the new rigid R-80 British dirigibles is about $2,000,000—so that anyone who is under the impression that air transportation in the near future will reduce either rail or steamship rates is likely to be disappointed.

"In a word, the future of commercial air transportation is bound up in the question of cost, but we are of the opinion that with the engineering and operating resources which the C.P.R. has always been able to command, we should be able to enter the field with confidence when the time seems ripe."

Act to Authorize the Appointment of An Air Board for the Control of Aeronautics.

The Air Board Act to authorize the appointment of an air board for the control of aeronautics was passed by the House of Commons, May 6.

In introducing the bill Apr. 29, Hon. A. K. Maclean, acting Minister of Naval Service, said, owing to the development of aeronautics in Canada and in other countries, it is necessary to administer these services in this country. The bill proposes the establishment of an air board to consist of not less than 5 and not more than 7 members to be appointed by the government. It is intended that the chairman shall be a minister of the crown, and that the Militia and the Naval Service Departments shall each be represented on the board by one member. The purpose of the bill is to control and regulate and to prescribe laws for the conduct of aeronautics in Canada. It is deemed advisable to constitute a board for the time being as the most practicable method of dealing with this new subject. Possibly after a year's trial it may be found that some other legislation is necessary.

In the committee stage of the bill, May 5, it was stated that provision would be made for the services of the air board in the supplementary estimates; that the operations of the board would largely relate to commercial activities, as it was anticipated that naval and military activities would be limited for the next few years; that up to the present it is not the fixed or settled policy of the government to establish a school where practical or theoretical instruction will be imparted so as to render a man thoroughly competent to take charge of an aeroplane. Hon. A. K. Maclean, in charge of the bill, said the Militia and Naval Service Departments, during the period of the war, carried out a programme of education, but it has now practically ceased. It is necessary to first enact legislation before any fixed policy can be adopted by the government in respect of any form of aeronautical activity. Many applications have been received from commercial companies for the establishment of aeronautical routes throughout Canada. It is open to the government to embark upon various forms of aerial activity, such as the conveyance of mails, the survey of forest, fire protection, patrols by the mounted police, and so forth, but at the present time the government has reached no definite policy in respect of any of these matters. The immediate purpose of this legislation is chiefly to control aeronautics in Canada, established by any government department or by private corporations. For example, it is not within the right of any individual to fly in the air with aeroplanes or hydroplanes or any other machine of the kind, although there is no statutory law which directly prohibits it. It is unknown to both the common law and the statutory law. Consequently nobody can legally engage in flying today, and in none of the provinces or in Canada, as a whole, is there any statutory authority for anybody to grant licenses for the purpose. The board must establish aerial routes; the machines used must be licensed and inspected, just as a steamship is; the flyers and the crews must be licensed; regulations must be enacted compelling flying machines to use telephone or wireless apparatus. A very close parallel to the control of aerial navigation is the control exercised by the government over shipping. Generally speaking, the object of this legislation is to put the government in a position to control aeronautics chiefly commercial, as that is the form it will have to be dealt with in the immediate future in Canada.

A question was raised as to the rights of the provinces, but Mr. Maclean pointed out that any doubt entertained did not affect the competency of parliament to pass the legislation, although later it might be held by the courts to be only intra vires in so far as it affects interprovincial aeronautics.

The bill as passed by the House of Commons, provides that the members of the air board shall be appointed for three years; they shall be eligible for reappointment, and shall be paid salaries to be fixed by the government. The board's duty will be to supervise all matters connected with aeronautics; to study the development of aeronautics in Canada and other countries, and to undertake such technical research as may be requisite for the development of aeronautics, and to co-operate with other institutions in carrying out such research; to construct and maintain all government aerodromes and air stations, including all plant, machinery and buildings necessary for their efficient equipment and upkeep; to control and manage all aircraft and equipment necessary for the conduct of any of His Majesty's services; to operate such services as the government may approve; to prescribe aerial routes; to co-operate with other officers of His Majesty, and to assist in the carrying on of any service under their jurisdiction which may require aerial work of any nature, and to collaborate with the officers employed in existing air services of His Majesty in such extension of their present work as the development of aeronautics may require; to take such action as may be necessary to secure by international regulation or otherwise the rights of His Majesty in respect of the Dominion Government in international air routes; to co-operate with officers of the Militia and of the Naval Service Departments on all questions relating to the air defence of Canada; to co-operate with the air staffs or authorities of other governments or countries for any purpose pertaining to air services; to investigate, examine and report on all proposals for the institution of commercial air services within or partly within Canada or the territorial waters of Canada; to consider, prepare and draft for approval by the government such regulations as may be considered necessary for the control or operation of aeronautics in Canada or within the limits of the territorial waters of Canada and to perform such other duties as the government may impose. The board is empowered to make regulations, subject to the government's approval for licensing of pilots and other persons for the navigation of air craft; for the registration, inspection and licensing of aircraft; for licensing, inspection and regulation of aerodromes and air stations; the conditions under which aircraft may carry goods, mail and passengers; the conditions under which goods, mail and passengers may be imported or exported; the prohibition of navigation of aircraft over prescribed areas; the areas within which aircraft coming from places outside Canada are to land and the conditions to be complied with by such aircraft; the institution and enforcement of such laws, rules and regulations as may be deemed necessary for the safe and proper navigation of aircraft in Canada, or the territorial waters of Canada, and the organization, discipline, efficiency and good government generally of the officers and men employed under the air board. All regulations made are to become valid upon publication in the Canada Gazette. Persons found guilty, upon summary conviction, of violating any of the regulations, are liable to a fine not exceeding $1,000, or to imprisonment for not exceeding six months, or to both fine and imprisonment. The board may employ such officers and men as may be required, at rates of pay, together with such arrangements for housing, boarding, clothing, etc., as may be approved by the government.

Aerial Transportation Notes

The Aerial League of Canada, is reported to be arranging for a flight across the Rocky Mountains and to have selected Vernon, B.C., as one of the points of call.

A press report states that work is in progress on laying out an "air port" at Atlantic City, N.J., and that an area of 160 acres is being developed, with landing places, hangars, and service stations.

A Sudbury, Ont., press report, May 11, states that a hydroplane service will be put in operation shortly between there and the new gold mining district of West Shining Tree. The report also states that Sudbury will be a station on a route the promoters expect to be able to develop to include Toronto, Fort William, Port Arthur and other points.

Two seaplanes given to Canada by the Imperial Government, are reported to have been turned over by the Minister of Marine to the St. Maurice River Forestry Protection Association, for use in connection with its work of forest protection in the St. Maurice River Valley. It is expected that the seaplanes will begin their work June 1, Three Rivers, Que., being their starting point. The work is being done by the association in close co-operation with the Quebec Government.

Major J. Inwood, Secretary of the Aero Club of Canada, who has been touring Canada in the club's interests, is reported to have said in Vancouver, May 7: "After the armistice was signed, 7,000 air mechanics of the R.A.F. in Canada were demobilized, besides 4,400 cadets discharged in various stages of training, 3,300 cadets who had been trained and sent to England as flying officers, and between 3,400 and 4,000 men who transferred from the C.E.F. to the flying forces. All these and 2,500 employes of Canadian Aeroplanes Ltd., are now seeking employment or have temporarily taken employment in some calling where they are unable to make use of the technical knowledge and training they possess. Vancouver, by its position on the coast, is bound to have a great future as a station in the multiplicity of passenger and commercial flying stations that will, within the next few years, be employed in carrying mail and other important matter and passengers across the Dominion. The Vancouver people are alive to the vast possibilities of this new industry, and are ready to encourage those who are interested in the future of flying, and are working for an immediate development that will provide remunerative and congenial occupation for the large number of Canadian flying men and mechanics trained in the technology of this new business." The Aerial League of Canada, which has recently been organized in Vancouver, will, it is reported to have been arranged, become the provincial governing body of the Aero Club of Canada in British Columbia.

Timiskaming and Northern Ontario Railway Report.

The Timiskaming and Northern Ontario Ry's report for the year ended Oct. 31, 1918, has been issued by the commission which operates it and the Nispissing Central Ry.—an electric line—for the Ontario Government. Following are extracts:—

MILEAGE.

Main line, North Bay to Cochrane	252.29
Branch lines (three)	76.21
Nipissing Jct. spur, leased to G.T.R.	2.10
Yards and sidings	113.89
Second track	1.70
Total mileage operated	446.19
Leased to Nipissing Central Ry.	13.16
Total mileage owned	459.35

ASSETS

Cost of road	$18,478,510.12
Cost of equipment	2,871,693.83
Investment Nipissing Central Ry	492,123.31
Empire Lumber plant, Latchford	1,007.60
Working assets	1,300,119.95
Deferred debit items	16,634.72
	$23,163,119.53

LIABILITIES.

Provincial loan account	$21,822,744.13
Working liabilities	618,581.97
Deferred credit items	325,696.04
Balance profit and loss	396,097.39
	$23,163,119.53

EARNINGS AND EXPENSES

Revenue from transportation	$2,688,658.36
Revenue other than transportation	123,652.26
Total operating revenue	$2,812,310.62
Maintenance of way and structures	$462,526.51
Maintenance of equipment	486,055.18
Traffic expenses	19,376.52
Transportation expenses	1,260,079.90
Miscellaneous operations	52,641.27
General expenses	111,097.85
Transportation for investment (cr.)	586.63
Total operating expenses	$2,390,202.60
Net operating revenue	$422,108.02
Ore royalties	96,579.78
Rent from joint facilities	14,118.11
Rent from lease of road	12,802.18
Interest (dr.)	3,459.15
Miscellaneous income	8,931.73
Total income	$551,080.67
Deductions from income	121,661.03
Net earnings	$429,419.64

Compared with the year ended Oct. 31, 1917, the total operating revenue increased $480,404.83; the operating expenses increased $508,906.31, and the net operating revenue decreased $28,501.48. The income from other sources also decreased, making a total decrease of income of $49,346.69, while the deductions from income increased $37,934.23, thus making a decrease of net earnings of $87,280.92. From profit and loss, $300,000 was paid to the Treasurer of Ontario, certain adjustments were made and $396,097.39 was carried forward.

TRAFFIC STATISTICS

Revenue passengers	476,084
Passengers carried one mile	25,548,424
Passengers carried one mile per mile of road	73,749
Average distance carried (miles)	53.44
Average amount received	$1.48
Passenger train revenue per train mile	$1.75
Revenue freight carried (tons)	1,284,210
Tons carried one mile	237,088,877
Tons carried one mile per mile of road	721,764
Average distance of haul of one ton (miles)	182.16
Average revenue per ton	$1.77
Average amount received per ton per mile	0.009
Freight revenue per train mile	$2.95
Freight originating on the line (tons)	514,717
Received from Canadian lines	644,422
Received from U.S. lines (tons)	84,261
Total (tons)	1,284,210
Mileage of revenue passenger trains	378,572
Mileage of revenue mixed trains	41,687
Mileage of revenue freight trains	605,297
Total revenue train mileage	[illegible]

Railway Finance, Meetings, Etc.

Canadian Northern Ry.—A press report of May 16 stated that an issue of $7,500,000 of 6% equipment trust certificates was being placed on the United States markets, at prices yielding from 5½ to 6%. The certificates are to be issued against new rolling stock, costing $10,724,705 on account of which $3,224,705 has been paid by the company.

Guelph Jct. Ry.—The Guelph Jct. Ry. are reported to have declared a dividend of 6¾%, May 17. The line is owned by the City of Guelph, but is leased to the C.P.R., and is operated as part of a through line from Toronto to Goderich, connection also being given with Hamilton, by a line from Guelph Jct., on the Toronto-Windsor line.

Reid Newfoundland Co.—The Colonial Secretary laid before the Newfoundland Legislature May 1, a report of the railway operations of the Reid Newfoundland Co. for the year ended June 30, 1918. A local paper in summarizing the report, says the gross earnings of the railway were $1,253,565.99, and the operating expenses, $1,600,190.84, thus showing a deficit of $346,624.85. The detail figures given show the gross earnings to be as stated, but do not agree with the expenses as given.

Timiskaming and Northern Ontario Ry.—Passenger earnings for Feb., $49,624; freight earnings, $167,392.48; total earnings, $217,016.48; passenger earnings for March, $68,195.08; freight earnings, $166,515.87; total earnings, $234,710.95, against $38,859.37, passenger earnings;earnings; $109,393.20, freight earnings; $148,252.57, total earnings, for Feb., and $51,403.97, passenger earnings; $214,884.14, freight earnings, and $266,288.11, total earnings, for March, 1918.

The Board of Railway Commissioners has ordered the C.P.R. to resume the two trains daily service between Calgary and Macleod, Alta., commencing June 1

Canadian National Railways Construction, Betterments, Etc.

Halifax Terminals—The Minister of Railways replying to a question in the House of Commons, May 14, said the total cost to Mar. 31, of the Halifax terminals, including the cost of the branch railway connecting the terminals with the Intercolonial Ry. main line, was $14,502,655.11. The estimated cost, at present prices, of the work necessary to complete the first unit of 9 berths, including permanent station, train shed, passenger landing and immigration facilities, 2 story permanent sheds at berths, not now equipped with sheds, and leaving 4 temporary wooden sheds as they are, grain elevators, and conveyers, tracks, roadways, subways, etc., and completion of existing contracts, together with new locomotive facilities at Fairview is $8,000,000.

Truro-Painsec Jct. Second Track—In Canadian Railway and Marine World for May, reference was made to a press report, crediting W. A. Kingsland, Assistant General Manager, Eastern Lines, with having stated that this year's construction programme will include the building of a second track between Truro, N.S., and Painsec Jct., N.B., from which point there is a double track to Moncton. We are officially advised that Mr. Kingsland did not make such a statement but merely said that a certain amount of second track would be laid. We are also advised that it is intended to lay some second track in both directions from certain stations between Truro and Painsec Jct.

Moncton Freight Shed—We were officially advised, May 8, while certain changes will have to be made in connection with the Moncton, N.B., freight sheds, owing to the T. Eaton Co. having located a distributing warehouse there, nothing definite has yet been decided.

Fredericton-McGivney Jct. Track Improvements—Fredericton, N.B., press report, of Apr. 30, stated that work had been started on the Fredericton-McGivney Jct., section of the old Canada Eastern Ry., to bring it up to main line standard, for use in handling through traffic from the National Transcontinental Ry. to and from St. John, N.B.

The New Brunswick Minister of Lands and Mines is reported to have said recently, that the building of a spur line of about 5 miles from the National Transcontinental Ry. to the Grand Lake coal fields had been discussed with Canadian National Rys. directors, and was being considered. The district is now served by the Fredericton and Grand Lakes Coal and Ry. Co.'s line, which is operated by the C.P.R.

Levis Station—A press report of May 16, states that the location of the proposed new station for Levis, Que., is to be looked into by the Minister of Railways, upon representations made in favor of building it on the site of the one burned down.

The question of building a temporary station at a cost of about $100,000 was [illegible] on in the Senate, May 7, [illegible] urging the Minister of Railways [illegible] upon a temporary station and arrange for a meeting of the [illegible] with the Levis people [illegible] matter.

St. Malo Shops, Quebec—It was reported May 6, that the rails to give these shops connection with the National Transcontinental Ry. main line, were being laid, and that the shops would be ready for opening early in July. They are dealt with in a separate article in this issue.

Ontario Lines—We are officially advised that contracts have been let for bridge and culvert work as follows:—Trenton Subdivision, Pillsworth and Daly, Cobourg Ont.; Rideau Subdivision, Doran and Devlin, Ottawa; Muskoka Subdivision, Jas. Bogue, Peterborough, Ont.; Pembroke Subdivision, Hyland Construction Co., Toronto; North Bay Subdivision, Wallace and Angus, North Bay, Ont.; Nipigon Subdivision, Campbell and Lathmore, Toronto.

Port Arthur and Duluth Ry.—A Flint, Ont., press report, May 1, states that a delegation of business men along the branch from Twin City Jct. to North Lake, Ont., was informed recently by Superintendent Moodie, that $40,000 will be expended during this year on this branch, in putting in new ties and ballasting.

Western Lines Betterments, Etc.—Tenders were received up to May 26 for the supply of all labor and materials for the erection and completion of the following:—Port Arthur, Ont., 5 stall additions to locomotive house, and turntable foundation, Winnipeg; addition to freight car shop and addition to power house; Kamsack, Sask.; a 10-stall addition to locomotive house and a machine shop; North Battleford, Sask., 15-stall addition to locomotive house and a machine shop; Prince Albert, Sask., no. 4 stores building; Kindersley, Sask., cinder pit; Edmonton, Alta., 5-stall addition to locomotive house, and a cinder pit; Hanna, Alta., 5-stall addition to locomotive house; Calgary, Alta., no. 4 stores building; Big Valley, Alta., no. 4 stores building. J. Schofield is the company's architect, at Winnipeg.

Tenders have been received for the erection of standard fineing on the Oliver, Crooked Lake and Elrose Subdivisions.

A Port Arthur, Ont., press report of May 12, stated that fully 35% of this year's work on the line from Port Arthur to Winnipeg for this year had been completed. The report added that 250 men were relaying track between Port Arthur and Emo, and that this work would be completed at an early date.

An Edmonton, Alta., press report of May 8, stated that 80 lb. rails were being laid between Warman and Prince Albert, Sask., to replace lighter rails.

A press report states that the building of a second track from Wayne to Manson, in the Drumheller-Colbery district, Alta., will be completed this year.

Extensions in Prairie Provinces—In reference to the matter under this head, published in Canadian Railway and Marine World for May, we are officially advised that the following corrections should be made:—

Lampman-Peebles line — Lampman, Sask., is on the Maryfield extension, where it intersects the Bienfait branch, and Peebles is on the Brandon-Regina line, not on the Prince Albert line, as stated previously. The extension is not from Peebles northerly, but from Peebles southerly, for 21 miles.

Leech Lake extension is a continuation from Elrose Jct. for 35 miles from Dunblane, 13 miles of which were build previous to this year.

Acadia Valley line, 25 miles, is to be built from at or near Alsask, Alta., on the Elrose extension southwesterly.

Gibbs Bros., Lumsden, Sask., who have the contract for the Swift Current extension, which is for continuing for some 25 miles on the Avonlea-Gravelbourg line from Gravelbourg, Sask., towards Swift Current, are farmers as well as railway contractors, the three members of the firm being W.C., Frank and David Gibbs.

The Canadian Construction Co. Ltd., which contracts for grading and culverts on the Lampman-Peebles line and the Hanna-Medicine Hat line, will have its headquarters for the latter contract at Millicent, Alta. The company's officers are J. D. McArthur, President; W. A. Dutton, Vice President and General Manager; E. J. Rankin, Treasurer, and D. N. McLeod, Secretary. Its head office being at Winnipeg.

A press report of May 8 stated that track had been laid on this branch to mileage 73, and that as soon as track laying is completed on the finished grading, ballasting will be started. The rails being laid on this line were lifted from the main line west of Battleford, Sask., where 85 lb. rails are being laid.

Kamloops-Vernon-Lumby Branch—A press report of May 8 stated that H. F. Silverthorne, of the C.N.R. engineering staff, had opened an office in Vernon, B.C., and had a survey staff going over the location. A Vancouver press dispatch of May 9 referred to the assembling of the contractor's plant, and quoted J. W. Stewart, the principal member of the contracting firm, as stating that work would be started at once.

New Westminster to Vancouver—A press report states that the building of a line from New Westminster to Vancouver, is contemplated, and that as soon as plans are prepared construction will be started. It is stated that the line will run through New Westminster, and down the North Arm, to South Vancouver, this year, and that eventually it will, in all probability, be continued on to Vancouver, and that it will probably be operated by electricity.

Victoria, B.C., Terminals—We are officially advised that the management is arranging for a car ferry slip at Patricia Bay on Vancouver Island, and for the erection of a 5-stall locomotive house at Victoria.

A recent press report stated that the electric equipment for he slip at Patricia Bay had been delivered, and that as soon as it was installed the slip would be equipped with 3 aprons, to enable the car ferry steamship Canora to be operated at any stage of the tide.

The same report also stated that the temporary terminal buildings at Victroia would be erected on the north side of Point Ellice bridge, and that this would make it possible to put in operation the track between Esquimalt Road and Alpha St., also the new bridge across the Selkirk water. Until entrance can be secured to the Songhees Indian Reserve, secured for permanent terminal purposes, the passenger station will remain, it is said, north of Esquimalt Road. Another report says that the management will go ahead with some of the permanent buildings on the Songhees Reserve, and with the erection of a car ferry slip to give access to the new government docks at Ogden Point. (May, pg. 246).

Canadian Pacific Railway Construction, Betterments, Etc.

Chateau Frontenac Improvements—A press report states that Mapes and Maxwell, architects, have prepared plans for the erection of an extensive addition to the Chateau Frontenac, Quebec, at an estimated cost of from $1,500,000 to $2,000,000. The report says the addition will be 10 stories high with a 15 story tower.

Quebec District—An unconfirmed press report states that tenders will be asked at an early date for the electrification of the branch line from Three Rivers to Shawinigan Falls and Grand Mere, Que., 27 miles.

Ontario District — Automatic signals are being installed between Galt and Woodstock, Ont., mileage 57.7 to 88. There are 3 positions, upper quadrant, top first mechanism, low voltage d.c., with d.c., track circuits; the type of control known being absolute permissive block. The work is being done by the General Railway Signal Co. of Canada, and it is expected to have it completed by the end of August.

Manitoba District—Tenders are under consideration for the construction of 4 concrete arch culverts on the Neudorf subdivision, and for new standard A-3 station at Harding, Man., and Marchwell, Sask.

A press report states that a considerable amount of ballasting will be done during this year between Virden and Broadview, Man., 84 miles, and that about 11 miles of new 85 lb. rails will be laid west of Virden.

Saskatchewan District — A Regina press dispatch, May 9, stated that the Saskatchewan Government had received a telegram from D. C. Coleman, Vice President Western Lines, C.P.R., announcing that work would be started immediately upon the construction of a line from Victoria or Govanlock, Sask., easterly. These stations are on the Weyburn-Lethbridge line, which has its present western terminus at Altawan, on the Saskatchewan-Alberta boundary, Govanlock being 7 miles and Vidora 28 miles east of that point. The line is projected to run easterly a few miles north of the International Boundary, and finally effect a function with a line running easterly from Estevan. Surveys were made some years ago, and Grant Hall, then Vice President and General Manager Western Lines, made a trip through the country to be opened up.

Western Branch Lines—The C.P.R. made application to the Dominion Parliament this session for authority to build a number of branch lines in Saskatchewan and Alberta. A bill providing for the building of seven branch lines has been passed by the House of Commons, and is now before the Senate. The bill provides that the company may within two years begin, and within five years, complete the construction of any of the specified lines, at the end of which period the powers of construction shall be null and void in respect of so much of any of the lines remaining uncompleted. The company is authorized to issue securities for $40,000 a mile in respect of the lines, such issues to be made in accordance with the terms of the Company's Special Act as defined by the Railway Act, sec. 2. By consent of the shareholders, the company may issue consolidated debenture stock to the same amount, in lieu of the securities authorized by the present act. The following are the various branches:

From near Tp. 7, Range 29, west 2nd meridian, Sask., generally southerly to Tp. 5, Range 30, west 2nd meridian, thence generally westerly to Range 7, west 3rd meridian. This branch will probably be located from between Willows and Assiniboia on the Weyburn-Stirling line, and run south and then west, just north of Wood Mountains, midway between the Weyburn-Stirling line and the International Boundary.

From near Lanigan, Sask., on the Pleasant Hills branch, Tp. 33, Range 22, west 2nd meridian, a generally north easterly to near Watson, and thence in a generally northerly through Melfort to Tp. 48, Range 17, west 2nd meridian. Lanigan is the junction of a line from Virden, Man., with the Manitoba North Western Ry. extension into Saskatoon, and the projected line will cross the Canadian Northern Ry. main line at Watson, and the Canadian Northern Ry. Prince Albert line at Melfort, to the Carrot River Valley.

From the Manitou Lake branch, Tp. 43, Range 21, west 3rd meridian, Sask., generally northwesterly through Lloydminster to Whitford Lake, Tp. 56, Range 15, west 4th meridian, Alta. The section with regard to this line provides that for the purpose of avoiding duplication of construction of the portion of the line west of Lloydminster the approval of the route map shall be made subject to joint construction or operation with the Canadian Northern Ry., on terms to be agreed upon by the companies or settled by the Board of Railway Commissioners. The Manitou Lake branch terminates 29 nine miles from Wilkie, at Cutknife, in Tp. 43, Range 21, west 3rd meridian, consequently the projected line is an extension of the branch across the Grand Trunk Pacific Ry. branch, to Lloydminster on the Canadian Northern Ry., thence on the Whitford Lake.

From near Archive, Sask., on the Moose Jaw Southwesterly branch, in Tp. 15, Range 27, west 2nd meridian, Sask., southwesterly to near Weymark, on the Swift Current Southeasterly branch in Tp. 13, Range 13, west 3rd meridian. Archive is 10 miles from Moose Jaw, being the second station on the branch named, and Weymark is 17 miles from Swift Current, being also the second station on that branch. The line will run between Chaplin and Johnson's Lakes.

From Rosetown, Sask., on the Moose Jaw Northwesterly branch, in Tp. 30, Range 15, west 3rd meridian, generally southerly for 50 miles, then generally easterly for 30 miles to Tps. 20, 21 or 22, Range 10, west 3rd meridian. Rosetown is near the point where the Canadian Northern Ry., Saskatoon-Calgary line crosses the C.P.R., and the projected line will cross the South Saskatchewan River, on its southerly stretch, and on its easterly stretch will probably effect a junction with the main transcontinental line near M[illegible].

From near Leader, Sask., on the Swift Current, Northerwestly branch, Tp. [illegible], Range 26, west of the 3rd meridian, generally southwesterly for 50 miles, thence generally easterly to near Success or Cantaur, Sask. Leader is at mileage 94 from Swift Current on the line to Bassano, and the projected line would run 50 miles southwesterly, and then working easterly would rejoin it near Success or Cantaur, which are 20 and 13 miles respectively out of Swift Current.

From near Duchess, Alta., on the Bassano Easterly branch, in Tp. 20, Range 14, west 4th meridian, in a generally northerly direction to Tp. 25, Ranges 14, 15 or 16, west 4th meridian. Duchess is 25 miles east of Bassano. This projected branch would cross the Red Deer River and terminate south and east of the Hand Hills.

The Moose Jaw Southwesterly Branch was originally built from Moose Jaw to Expanse, 35 miles, and was extended subsequently to a junction with the Weyburn-Stirling line at Assiniboia, mileage 66. This section of line was apparently built without the shareholders' authority having been first obtained, as at the company's recent annual meeting a resolution was passed approving of the building of this line, and authorizing the directors to proceed with the construction of certain other branch lines, and extensions of branch lines referred to hereafter, when in their opinion conditions warrant, and after statutory authority, where any be necessary, shall have been obtained, and that to and in the construction and equipment of all such lines the directors may issue consolidated debenture stock to such an amount as they may deem expedient, but not exceeding in respect of any of the said lines the amount which the company is or may be empowered by statute to issue. The lines specifically mentioned in the resolution are:—

Branch of Manitoba and North Western Ry., Russell North branch, from Russell, Man., northerly, 15 miles. This is in operation from Hazelcliffe to Russell, 11 miles.

Lanigan, Northeasterly Branch from Lanigan, Sask., for 150 miles. This is the line from Lanigan through Watson and Melfort, and beyond for which the company has obtained parliamentary sanction recently.

Part of the Moose Jaw Southwesterly branch from Vidora, Sask., easterly, 35 miles. Vidora is 28 miles east of Altawan, the present western terminus of the Weyburn-Stirling line, and then 35 miles of extension would probably connect with the projected line for which parliamentary authority has just been obtained, to start somewhere near Assiniboia or Willows, and to run south and east.

Extension of the Bassano easterly branch from Empress, Alta., south easterly to Milden, 142 miles. Empress is equidistant, 118 miles, from both Bassano and Swift Current, and Milden is at mileage 142 on the Moose Jaw, northwesterly line to Kerrobert and Macklin.

Extension of Langdon North branch from Acme, Alta., to the projected extension of the Swift Current Northwestern branch near Empress, [illegible] miles. The Langdon branch serves the irrigation area between Langdon and Acme, 40 miles, and the projected extension from Acme would connect with the line now located due northerly from Empress. The line from Duchess, authority for which has been obtained from the Dominion Parliament, would apparently connect with this line.

British Columbia District.—A New Westminster, B.C., press report, states that H. Rindal, District Engineer, C.P.R., Vancouver, has received instructions to prepare plans and specifications for the extension of the C.P.R. wharf at New Westminster to the harbor line. (May, pg. 258.)

United States to Return Railways, Telegraphs and Telephones to Owning Companies.

The message of President Woodrow Wilson, read at the opening of the United States Congress, May 20, contained the following reference to railway, telegraph and telephone utilities:—

"The telegraph and telephone lines will, of course, be returned to their owners so soon as the retransfer can be effected without administrative confusion—so soon, that is, as the change can be made with least possible inconvenience to the public and to the owners themselves. The railroads will be handed over to their owners at the end of the calendar year. If I were in immediate contact with the administrative question which must govern the retransfer of the telegraph and telephone lines, I could name the exact date for their return also. Until I am in direct contact with the practical questions involved, I can only suggest that in the case of the telegraph and telephone, as in the case of the railways, it is clearly desirable in the public interest that some legislation should be considered which may tend to make of these indispensable instrumentalities of our modern life a uniform and co-ordinated system which will afford those who use them as complete and certain means of communication with all parts of the country as has so long been afforded by the postal system of the government and at rates as uniform and intelligible. Expert advice, of course, available in this very practical matter, and the public interest is manifest. Neither the telegraph nor the telephone service of the country can be said to be in in any sense a national system. There are many confusions and inconsistencies of rates. The scientific means by which communication by such instrumentalities can be rendered more thorough and satisfactory has not been made full use of. An exhaustive study of the whole question of electrical communication and of the means by which the central authority of the nation can be used to unify and improve it if undertaken by the appropriate committees of Congress, would certainly result, indirectly even if not directly, in a great public benefit."

Commenting on the foregoing, the Railway Review, says:—

"The President did not wish to spend money in cabling to Congress about railways, on the operation of which the government is now losing somewhere about half a billion dollars a year, so he limited consideration of that subject to 16 words which fixed the end of the calendar year for returning them to their owners. He acknowledges that he is, owing to his absence from the country, out of touch with the practical questions involved and proves it by saying that legislation should make telegraphs and telephones and railways 'afford those who use them as complete and certain means of communication' as the postal system. This certainly is proof incontestible that he is not 'in direct contact' with home affairs. The postal system as at present administered is the acme of uncertainty and disservice. Just while these words are being penned, comes to the writer's desk a roll of blue-prints which has taken five days to come from an eastern city. Such events and worse are of daily occurrence. When we are paying 13c for letter postage to insure any certainty of service, we look longingly for the old 2c days. The fact that the 10c for special delivery does insure some promptness and accuracy, shows incontrovertibly that the postal administration alone is to blame. Time was when complaint brought inspection, investigation and correction, now it brings only resentment or acknowledgement of general inefficiency."

Amendments to the Railway Act re Location of Railways.

The Dominion Parliament has under consideration a measure to repeal sec. 157 and 159 of the Railway Act, 1906, as amended by sec. 4, chap. 22 of the statutes of 1911, and to substitute a new section therefor. The bill was introduced in the Senate, Apr. 30, and was passed through its different stages May 8, when it went to the commons.

On the second reading of the bill in the Senate, May 6, Sir James Lougheed stated that the section of the bill was taken from the bill to consolidate the Railway Act, now under consideration. It had been thought desirable that these clauses should be passed in a separate bill in the event of the railway bill not passing this session. The clauses in the present bill refer to the location of railways, and the policy is that there should not be a duplication of roads if that duplication can possibly be prevented. Therefore, particularly in the western provinces, roads paralleling each other which have been practically built at the public expense, and which are within a stone's throw of each other. This being a waste of public money and failing to develop or serve a section of country, which might well have been served had the railways been built within a reasonable distance from each other, it is desirable that this policy should be put into operation at the earliest possible date. It is proposed that the location of roads should be determined by the Board of Railway Commissioners.

When the bill came up in the committee of the House of Commons, May 16, the Minister of Railways said that in the bill to consolidate the Railway Act, which is before a special committee, these clauses have been changed so as to vest in the Board of Railway Commissioners the authority to approve of route maps, this authority having in the past been exercised by the Minister of Railways. When a charter was granted by parliament before construction could be proceeded with, a route map had to be approved by the minister. It was proposed to change that to provide that the Board of Railway Commissioners shall have this power of approval. It is the intention to have this bill put through in case the bill to consolidate the Railway Act does not go through this session. If the general railway bill now before the special committee was passed he would not proceed further with the location bill. In the event of the general railway bill not being passed at this session, he wished to provide that the authority for approving of route maps be placed in the Board of Railway Commissioner's hands. The reason for this is that practically speaking there are only two railway systems in Canada, and it is advisable that the Board of Railway Commissioners should decide on the route maps to be approved of. The Canadian National Railways or the Canadian Pacific Ry. might be involved and there might be a conflict of the two interests.

The new section, 157, provides that plans shall be prepared, showing the general location of the proposed line, on a scale of not less than 6 in. to the mile, covering such towns, railways, navigable streams, etc., within a radius of 30 miles and be submitted to the board. Before approving of the plan the board may, subject to the company's special act, make such alterations therein as it may deem expedient, and upon approval, the plan shall be filed in the Railway Department. The board may approve of the whole or any portion of the map submitted. The provisions of the section shall only apply to the main line and to branches over 6 miles in length.

Sec. 159 provides for the sanction by the board of plan, profile and book of reference, the effect of which is that the location of the railway, the grades and curves as shown are approved, but that the company is not thereby relieved from otherwise complying with the act; the board may sanction deviations of not more than one mile from the general route as previously approved. In granting such sanction, the board may fix the period within which the right of way may be acquired, and notices may be given.

Canadian Railway Club's Annual Meeting.

The Canadian Railway Club's annual meeting was held in Montreal, May 13, T. C. Hudson, President, in the chair. Jas. Powell, who had been Secretary for the 14 years, and who retired recently from the G.T.R. service to take up work in connection with vocational classes for returned soldiers, tendered his resignation. The President, on behalf of the membership, presented him with a solid silver epergne, as a mark of appreciation for the lengthened services.

The following officers and committee were elected for the current year:—President, J. Hendry, Master Car Builder, G.T.R.; First Vice President, W. H. Winterrowd, Chief Mechanical Engineer, C.P.R.; Second Vice President, C. H. N. Connell, District Engineer, Canadian National Rys., Quebec; executive committee, E. A. Nix, acting Assistant Works Manager, Car Department, C.P.R.; B. F. Shortley, recently Terminal Agent Canadian Government Railways; E. R. Battley, Superintendent Motive Power, G.T.R.; R. A. Pyne, Superintendent Motive Power and Car Department, C.P.R.; W. H. Sample, General Superintendent Motive Power and Car Department, G.T.R.; W. H. Langridge, Auditor of Stores and Mechanical Accounts, C.P.R.; G. M. Wilson, Superintendent Motive Power Shops, G.T.R.; R. M. Harvey, Safety Car Heating and Lighting Co.; Secretary, W. A. Booth, Chief Draftsman, Motive Power Department, G.T.R.; Treasurer, E. E. Lloyd, Auditor of Disbursements, C.P.R.

The retiring President was presented with a gold past president's badge.

The Grand Trunk Pacific Ry. is having 1,500 wooden box cars, 30 tons capacity, repaired by the Canadian Car and Foundry Co. at Fort William, Ont.

Electric Railway Department

Electric Railway Employes' Wages, Working Conditions, Etc.

Edmonton Radial Ry.—Towards the end of April it was stated that employes had applied to the Labor Department for a board of conciliation. Early in May we were officially advised that an application had been received, but that a board had not been established, as where the employer is a municipality a conciliation board can only be established by mutual consent and that the city had not concurred in the application. The Labor Department's Calgary officer was then at Edmonton trying to arrange a settlement. On May 28 it was reported that the employes had struck, probably sympathetically.

Fort William Municipal Ry.—The conductors and motormen asked recently for large advances in wages, the following table showing the present rates and those asked per hour:—

	Present	Asked
First six months	35c	50c
Second six months	"	55c
Second year	"	60c
Second 18 months	37½c	.....
Third year	40c	.....
One-man car operators extra	2c	5c

Overtime is now paid only when employe is working on his day off. Time and a half is asked for all over 8 hours and for time worked on day off and on legal holidays. The present average day is 9¾ hours. An 8 hour day is asked with overtime beyond that. Four cents an hour extra is asked for training students, and 5 minutes is asked for carrying fare boxes to office.

Employes now pay 25% of cost of uniforms and overcoats. These are asked to be supplied free. Seats for conductors and heaters in rear of car are also asked for.

The other employes are asking for increased pay according as follows:—Painters, union scale of wages; pitmen, 62½c an hour; handy men and laborers, 55c; trackmen, 45c. Day to be eight hours, and time and a half to be paid for all overtime.

The Fort William and Port Arthur Public Utilities Commissions held a joint meeting at Fort William, May 14, to discuss the wage schedules and conditions of employment. A press report states that no joint decision was reached, it being thought advisable that each committee should treat with its own employes, separately.

Guelph Radial Ry.—A press report states that a conference took place May 14, between Alderman Westoby, chairman of the Guelph City Council committee in charge of the Guelph Radial Ry., and J. Gibbons, Toronto, representing the men, relative to differences as to wages and hours of work of the Guelph Radial Ry. employes. The men asked for an 8 hour day and an increase of pay time and a half for overtime, and double pay for Sundays. The president and secretary of the local union are reported to have been dismissed by the management. Alderman Westoby is reported to have said that with a loss of $11,000 on the line for 1918, there could not be any increase of wages.

A press report of May 21, stated that the matter was settled at a further conference that day, by increasing the wages 4c an hour, the hours to remain unchanged.

Hull Electric Co.—A board of conciliation was appointed in April, the company's representative being Geo. Kelley, of Ottawa, and the men's representative, Fred Bancroft, of Toronto. The Minister of Labor appointed D'Arcy Scott, K.C., of Ottawa, formerly a member of the Board of Railway Commissioners, as chairman. Up to May 30, the award had not been made public.

London and Port Stanley Ry.—Employes of some of the departments expressed dissatisfaction with conditions under which they work, and placed their grievances before the commissioners, April 30. Sir Adam Beck, chairman, met a delegation of employes, May 3, and a press report states he offered to advance linemen's wages from 45c to 50c an hour, and trackmen's wages from 37c to 40c an hour, for an 8 hour day. The trackmen asked for 55c an hour for a 9 hour day, or 60c an hour for an 8 hour day. The conductors and motormen, who are now getting a maximum rate of 45c, are reported as asking for an increase. Another press report states that a board of conciliation may be appointed.

Port Arthur Civic Railway—See Fort William Municipal Ry.

Regina Municipal Ry.—The employes application for increased wages has been under consideration by the City Council for some time. The council was asked by the union to deal with the matter at its meeting May 6, but no advice of the result has been received.

Sandwich, Windsor and Amherstburg Ry.—The board of conciliation appointed to investigate matters in dispute between this company and its employes, consisted of Judge Wallace, Woodstock, Ont., chairman; F. H. McGuigan, Toronto, representing the company, and A. E. Hooper, Windsor, representing the men. The board held its first sitting Apr. 16, and presented a majority report Apr. 24, a minority report being submitted subsequently by Mr. Hooper. The report did not recommend any change in the hourly rates of wages, which were as follows:

First 6 months	35c
Second 6 months	37c
Second year	38c
Third year	40c

A material change was, however, recommended in the overtime rate, viz.: 20c an hour, instead of 6c as formerly, and the extra pay for training new men was advanced from 40c to 50c a day. A schedule attached to the report also set out regulations governing the conditions of work, etc., while in the report certain matters with respect to particular employes were dealt with.

The company filed an acceptance of the majority award with the Labor Department, but the men, according to a press report, insisted on full recognition being given to the union; that F. E. Hayes, Superintendent, be dismissed, and 8 hour day, with a minimum wage of 50c and a maximum of 55c an hour. They are reported to have expressed their willingness to compromise on all points, but Mr. Hayes' dismissal. Attempts to reach a settlement were unavailing, and the men struck May 3. The company made an attempt to operate its cars May 9, when considerable disorder occurred. An order was obtained from the Ontario Railway and Municipal Board, May 12, directing the immediate resumption of the service, and with the assistance of soldiers taken from London, Ont., a partial service was put in operation.

An understanding was reached on the evening of May 13 under which the men agreed to return to work at the old rate of wages, pending the submission of bylaws to the several municipalities affected to grant an increase of fares. In Windsor a straight 5c fare, with 1c additional for transfers, will be asked in lieu of the present rate of 6 tickets for 25c with free transfer.

The vote will be taken in Windsor, Walkerville and Sandwich on June 14. The increase of wages to be given should the fares be increased, will be a minimum of 40c for the first 6 months, and a maximum of 50c to date from May 15.

In future, men's grievances are to be submitted to Jas. Anderson, Vice President, representing the company; M. Bell, President of the Trade and Labor Council and a third person to be selected by them.

Winnipeg Electric Ry.—We are officially advised that towards the end of April the street railway men's union presented a proposed schedule in which they asked for changes in working conditions, including an 8 hour day, a closed shop, and that the term of any agreement must not exceed 30 days, and for wages at th erate of 60c an hour for new men and 70c an hour for 2-year men. The management agreed to the 8 hour day, offered an increase of wages ranging from a minimum of 44c to a maximum of 53c an hour, but refused to agree to a closed shop and to a 30 day agreement. Ninety per cent of the men voted in favor of a strike to enforce their demands. The company applied to the Labor Department for a board of conciliation and named I. Pitblado, K.C., as its representative. This was granted and the men were asked to name their representative. The union declined to have anything to do with arbitration proceedings, but the union's business agent stated that if the board took action at once the men would wait for its decision. The Labor Department then appointed R. S. Ward, Winnipeg, who asked for the men on the board which sat in Oct., 1918. Owing to Mr. Pitblado's illness, the company named J. B. Coyne, K.C., as its representative, and on May 6, Justice Metcalfe of Winnipeg was appointed by the Minister of Labor as chairman. The board held its first meeting May 13, but the union was not represented.

In the meantime the employes of the general machine shops and of the various building trades in the city, struck and May 12, it was reported, that the street railway men's union had voted unanimously in favor if a strike of their demands were not immediately granted. The strike situation in the city became general after May 13, the street railway men going out along with nearly all the other union men in the city. Newspapers ceased publication, and rumors of all kinds were circulated, including one of the establishment of a soviet government of the city which was denied subsequently. Up to the time of writing, May 2[illegible] the operation of the railway had not been resumed.

Toronto Eastern Railway Construction and the Hydro-Electric Radial Railway Plans.

The question of the construction of a system of electric railways east of Toronto under the Hydro-Electric Power Commission of Ontario, has assumed a somewhat different phase since the partially constructed Toronto Eastern Ry. passed from the ownership of Sir Wm. Mackenzie and his associates to the Dominion Government through the Canadian National Rys.

Representatives of the Lake Shore municipalities met at Whitby, Ont., May 5, at which E. W. Oliver, General Superintendent Niagara, St. Catharines and Toronto Ry., attended, representing D. B. Hanna, President, Canadian National Rys. We are advised that the meeting was called by the Whitby Board of Trade and was attended by representatives of all the municipalities from Whitby to Scarborough. About two months ago Mr. Hanna informed a delegation that it was intended to electrify, that year, the line from Bowmanville easterly to Pickering, on most of which mileage track has been laid, and that it was intended to proceed with the construction of the line easterly to Toronto as soon as possible. This statement, Mr. Oliver reported at the meeting, and a resolution approving of the proposed work was passed. Mr. Oliver is also reported to have intimated that there was no possibility of diverting the road northerly from Pickering to Cherrywood, the present location running south of the Kingston Road, having been located and approved by the Board of Railway Commissioners.

Representatives of municipalities east of Toronto interested in the building of electric railways under the Ontario Hydro-Electric Railway Act, met at Whitby, Ont., May 8, when a resolution was passed by a majority to the effect that a hydro-electric railway be built from Toronto east to the St. Lawrence River region, and that the Dominion Government be requested to transfer on just terms the Toronto Eastern Ry. to the Hydro-Electric Commission to form a portion of such hydro-electric municipal railway.

A second resolution, passed unanimously, was to the effect that the Dominion Government be petitioned to co-operate with the Hydro-Electric Power Commission of Ontario, so that municipalities, through the commission, may acquire by lease, purchase or otherwise, such branch lines of the Grand Trunk and Canadian National Railway systems as will enable the municipalities to carry out the [illegible] scheme to the best advantage throughout Ontario.

The campaign for the building of electric railways under the Ontario Hydro-Electric Railways Act, is being carried on at various points east of Toronto. The residents of South Hastings at a meeting at Warkworth, May 5, passed a resolution asking for the building of a line from [illegible] Jct. in Rawdon Tp. through Campbellford and Warkworth and other places to Cobourg, Ont., and Sir Adam Beck, speaking at a meeting at Picton, on May 20, is reported to have said that the Minister of Railways has actually offered the Hydro Electric Power Commission of Ontario the Toronto Eastern Ry. on condition that the commission pay the cost of the same to the government plus carrying charges to date. The meeting passed a resolution calling on the Dominion Government to turn over to the commission the surplus branches of steam lines, approved of the construction of hydro-radial railways to the St. Lawrence, and asked that the commission be given an opportunity to acquire one of the railways that parallel between Toronto and Napanee, and the C.N.R. branches between Trenton and Picton.

Authority to Board of Railway Commissioners to Over-ride Franchise Agreements.

Bill A—An Act to Consolidate and Amend the Railway Act introduced in the Senate, Feb. 20, 1919, proposes to amend the Railway Act, Consolidated Statutes of Canada, 1906, by substituting the following as sec. 325 for sec. 323 in the original act:

"325. (1) The Board" (of Railway Commissioners) "may disallow any tariff or any portion thereof which it considers to be unjust or unreasonable, or contrary to any of the provisions of this act, and may require the company, within a prescribed time, to substitute a tariff satisfactory to the board in lieu thereof, or may prescribe other tolls in lieu of the tolls so disallowed.

"(2) The board may designate the date at which any tariff shall come into force, and either on application or of its own motion may, pending investigation or for any reason postpone the effective date of, or either before or after it comes into effect, suspend any tariff or any portion thereof.

"(3) Except as otherwise provided, any tariff in force, except standard tariffs hereinafter mentioned, may, subject to disallowance or change by the board, be amended or supplemented by the company by new tariffs, in accordance with the provisions of this Act.

"(4) When any tariff has been amended or supplemented, or is proposed to be amended or supplemented, the board may order that a consolidation and reissue of such tariff be made by the company."

At a meeting of the House of Commons special committee, May 7, the Minister of Railways moved to add another subsection, which had been drafted by Sir Henry Drayton, Chairman Board of Railway Commissioners, as follows:—

"(5) Notwithstanding the provisions of sec. 3, the powers given to the board under this act to fix, determine, and enforce, just and reasonable rates, and to change and alter rates as changing conditions or cost of transportation may from time to time require, shall not be limited or in any manner affected by the provisions of any act of the Parliament of Canada, whether general in applcation or special and relating only to any specific railway or railways, and the board shall not excuse any charge of unjust discrimination, whether practised against shippers, consignees, or localities, or of undue or unreasonable preference, on the ground that such discrimination or preference is justified or required by any agreement made or entered into by the company."

The amendment was opposed by representatives from Hamilton and Burlington, Ont., but was adopted by the committee.

Glasgow and Winnipeg Electric Railway Conditions Compared.

The Winnipeg Electric Public Service News, issued by the Winnipeg Electric Ry., had the following in a recent number: "In many of the public discussions on local transportation matters, reference has been made to Glasgow and its tramway system which is claimed to be a 'pattern.' We do not deny the justice of the claim, but we do suggest that when the fares charged in Glasgow are being compared with the fares charged in Winnipeg, some attention should be paid to the contrast in operating conditions.

"For instance the motormen and conductors in Glasgow start in at slightly more than 25½c an hour, and work up to 29½c an hour at the end of seven years. The women employes, who constitute more than half of those who work on the platform, receive somewhat less because, the men are more steady in showing up for duty and expect to stay in the business. The women conductors start in at 14c an hour, and work up to 22c an hour. The motoresses earn about 1¼c an hour more.

"Winnipeg, at present, the motormen and conductors start in at 39c an hour, while men who have been with us two years receive 47c an hour. The men are now asking 50c an hour for the first six months, 55c for the second six months, and 60c an hour for the second year and thereafter. The average time worked in Glasgow by motorman or conductor is 9 hours and 14 minutes a day. In Winnipeg the 8-hour day is asked.

"One large item of operating expense which the Glasgow system is spared, is that of car heating; nor does the public expect the cars to be heated. In order to heat the cars adequately in Winnipeg last winter, we spent well over $40,000.

"There are always two sides to a story!"

The Mexico Tramways Returned to the Owners.

The system of electric railways operated by the Mexico Tramways Co., in the City of Mexico, and surrounding area, which was taken over by the then government of the Mexican Republic, in Oct., 1914, and operated by that government and its successors was handed back to the company May 7.

The Mexico Tramways Co. is organized under Canadian law and has an underlying company, the Mexico Electric Tramways Ltd., whose lines are operated by the M.T. Co. The company had in 1910, a total of 179.93 miles of track of which 158.62 miles were operated by electricity, and on 21.31 miles, of which the cars were hauled by mules. This was the property taken over and operated by the Mexican Government, and now handed back to the owners.

The M.T. Co. controls through stock ownership the Mexican Light and Power Co. Ltd., which in turn operates the Mexican Electric Light Co.'s property under a lease agreement. The companies' properties have not been interfered with in the way of operation by the Mexican Government, but have been throughout under the control of the Receiver of the Mexican Light and Power Co., G. R. C. Conway, M.I.C.E., acting in conjunction with the bondholders' committee in London, Eng., and through the board of directors.

Increases in Electric Railway Freight and Passenger Rates.

Calgary Municipal Ry.—The Calgary Alta., commissioners had under consideration, May 5, proposals for the revision of the fare schedule on the Calgary Municipal Ry., and press reports state that the suggested new schedule will be a straight 5c fare, or 5 tickets for 25c; school children's tickets, 8 for 25c, and workmen's tickets, 6 for 25c. The question was not settled, but the report said it was expected that a recommendation would be made along the lines suggested at the next council meeting. Commissioner Graves is reported to have stated that there was an increase of $287 a day in operating expenses, and before any marked improvement could be made in the service at least 25 new cars would have to be purchased.

The new schedule was put in force May 14. It provides for a 5c cash fare. Tickets are sold 5 for 25c instead of 6 for 25c as heretofore; or 22 for $1 instead of 25 for $1 as heretofore. Workmen's tickets, heretofore sold 8 for 25c and good during limited hours in mornings only, haxe been abolished. Children's tickets are sold 8 for 25c, instead of 10 for 25c as heretofore. The new rates went into effect May 14.

Edmonton Radial Ry.—The Edmonton City Council passed a resolution, Apr. 14, stating that having considered the question of fares, and having taken it up with the commissioners and traffic manager, and having regard to the increased cost of operation, the price of tickets should be increase on Apr. 21. The cash fare remains as before, viz.: 7c until 11 p.m., after which it is 10c. Tickets were, up to Apr. 20, sold 4 for 25c if bought on the cars, or 5 for 25c if bought at stores throughout the city. They are now sold 5 for 25c, good only to 8.30 a.m. and 4 for 25c, good only to 11 p.m. Children's tickets remain as before, 10 for 25c. Night fares can be paid by 2 tickets instead of cash.

We are officially advised that for the first 10 days of the new fares being in force, Apr. 26 to 30, the number of passengers carried was 297,254, and the revenue therefrom, $17,298.04, against 278,307 passengers and a revenue of $13,113,30 for the corresponding 10 days of April, 1918.

The Hamilton and Dundas Ry. is reported to have refused to consider a suggestion by the Hamilton, Ont., City Council's street railway committee that a fare of 5c be put in operation as far as Ainslie's Woods.

Hamilton Radial Ry.—One of the amendments to the Consolidated Railway Act under consideration by the Dominion Parliament, provides for the granting of authority to the Board of Railway Commissioners to over-rule any agreement made between a company and a municipality and ratified by parliament insofar as such agreement debars an increase of rates as times and conditions may warrant. The amendment was opposed before the special committee of the House of Commons, May 6, by representatives of Hamilton and Burlington, Ont., which places are interested in an agreement with the Hamilton Radial Ry., which was the subject of considerable controversy during the winter. The Board of Railway Commissioners granted an increase of rates, subject to the franchises from the municipalities. The amendment to the act was approved by the committee and is given fully elsewhere in this issue.

London St. Ry.—The London, Ont., City Council is reported to have passed a bylaw, May 19, fixing the fare for the Sunday operation of cars on the company's lines in the city at 5c straight, from May 1, 1919 to April 30, 1920. C. Currie, President, attended the meeting and explained that the company's employes are paid one-third more for Sunday work, representing about $25,000 a year. If the men would forego the increase in wages, the company could carry passengers on Sundays at the same rate as on week days. If the increase in fares was not granted the company could be compelled to cut off the Sunday service. The bylaw was passed by six votes to three. The Sunday fare hitherto has been 7 tickets for 25c. The question of fares for the Sunday operation of cars on the Springbank line, which is outside the city, has not been settled.

Nova Scotia Tramways and Power Co.—See "The Street Railway Situation in Halifax, N.S."

The Street Railway Situation in Halifax, N.S.

A. S. Pratt, of Stone and Webster, Inc., the newly elected President of the Nova Scotia Tramways and Power Co., was reported to have returned to Boston, Mas., May 19, after having spent several days in Halifax, N.S., inspecting the company's properties. In the course of an interview prior to leaving, he is reported to have said: "My investigation of the company's affairs assures me that there is real need of large expenditures of money in order to secure for the people the adequate facilities which a city of this size should have. The problem before us is how to provide these facilities. To do this means the raising of a very large sum. The investor must be assured of his investment and a fair return thereon. With the rising costs in material and proper increases in wages, the company is faced ith a problem very difficult of solution. The company as a whole is not earning a fair return on the actual cash investment. In many ways, however, the tramway department is the worst off, because it employs more labor in proportion to its earnings than do the other departments. It is perfectly manifest to any thinking man, especially to one who has followed electric transportation results in other communities, that the fare here, which averages four and thirty one hundredth cents a passenger, must ultimately be increased, if operating costs are to remain at the present high level. If the necessary money for improvements is to be raised it will be because the investor has faith that the people of Halifax are willing to pay a higher rate for service, assuming always as a necessary precedent that the service is improved from what it is today. If we are able to go on with our plans we hope to deserve and receive the co-operation of the public. We must, however, ask them to realize that track reconstruction cannot go on without some interruption of service, and that new cars cannot be bought like some other things, but are built to order, and take a good many months to construct."

British Columbia Public Utilities Commission.

Major John L. Retallack has, as stated in Canadian Railway and Marine World for April, been appointed Public Utilities Commissioner for British Columbia under the new Public Utilities Act. He went overseas as Quartermaster of the 48th Battalion. Later he was transport officer in the Railway Corps. He is a mining engineer. He was born in Quebec Dec. 2, 1863, and was educated in England. He served for five years with the Royal North West Mounted Police before going to British Columbia in 1890.

Major Retallack's appointment came after several days of public clamor, when the government's first appointment of R. H. Gale, Mayor of Vancouver, met with such opposition from the returned soldiers' organization, that Mr. Gale tendered his resignation.

Several weeks ago it was reported that Mr. Gale was slated for the position. Returned soldiers' bodies immediately protested, pointing to the government's promise to give returned men preference for any positions. When Mr. Gale's appointment was announced on Apr. 17, gatherings in Vancouver denounced it in such terms that he went to Victoria to consult the government. On his return on Apr. 19, he announced that he had resigned. He had been active in opposition to the B.C. Electric Ry., the largest public utility in the province. Immediately on Mr. Gale's resignation, the government appointed Major Retallack. He is to be paid $7,000 a year.

Calgary Municipal Railway Operating Results.

The report for the calendar year, 1918, shows the following results, compared with those for 1917:

Revenue:	1918	1917
Car earnings	$606,[illegible]	[illegible]
Miscellaneous earnings	10,9[illegible]	[illegible]
Bank interest	[illegible]	[illegible]
Total	[illegible]	[illegible]
Operating expenses	$419,[illegible]	[illegible]
Fixed charges, etc.	[illegible]	[illegible]
Total	[illegible]	[illegible]
Deficit	$7,118.34	
Surplus		[illegible]
Car miles	[illegible]	[illegible]
Car hours	[illegible]	[illegible]
Fare passengers	[illegible]	[illegible]
Transfers	[illegible]	[illegible]
Total passengers	[illegible]	[illegible]
Average fare revenue per passenger	[illegible]	[illegible]
Average fare of passengers	[illegible]	[illegible]
Average daily receipts	[illegible]	[illegible]
Average daily operating expenses	[illegible]	[illegible]
Average [illegible]	[illegible]	[illegible]
Percentage of operating expenses to revenue	[illegible]	61.1%
[illegible]	[illegible]	[illegible]

The report shows that all taxes were paid and that allowances were made for sinking fund and depreciation. During 1918 unlimited tickets were sold 6 for 25c and 25 for $1; workmen's tickets, good 6 to 8 a.m., 8 for 25c; school children's tickets, 10 for 25c. In consequence of the deficit, fares were raised May 14, particulars being given elsewhere in this issue. T. H. McCauley is General Superintendent.

Electric Railway Projects, Construction, Betterments, Etc.

Brantford Municipal Ry.—A press report states that construction on the extension of the city lines into the Terrace Hill district, approved by the ratepayers in January, will be started at an early date. The commission has, says the report, decided to run the loop around the east ward manufacturing districts also, tapping a section which is progressing rapidly industrially, even though this will make the time longer for the round trip, and though the Terrace Hill residents wanted a more direct route. The commission's viewpoint is that this plan will provide an extension which would have to be built within a short time in any event. The work will, it is reported, be done by the city's labor department. The rails for the extension were expected to be delivered by the end of May. The estimated cost of the work, together with the purchase of some additional equipment, is $125,000. (Feb., pg. 90).

The British Columbia Electric Ry. on May 8 cut in its new Point Grey substation, which serves part of Vancouver and all the municipality of Point Grey, both for railway and light and power, and which has been under construction for the last year. It was formerly a temporary structure, and while in operation, the permanent concrete building was completed over it. It also has an enlarged capacity and will render unnecessary a portable substation the company had been using.

British Columbia Electric Ry.—A press report states that the company has prepared plans for the erection of a station at Langley Prairie, B.C.

The bridge carrying the company's line over the Kitsilano Creek was reported, May 3, to be undergoing repairs, and traffic was being routed over the Grenville St. bridge. (Mar., pg. 143).

Calgary Municipal Ry.—The St. Andrews Golf Club has asked the Calgary Alta., City Council, to extend the Calgary Municipal Ry. so as to provide a service to the golf grounds.

The city commissioners are reported to have provided in the estimates for this year $50,000 for improvements and extensions of the electric railway. (May, pg. 267).

Calgary Municipal Ry.—We are officially advised that it is proposed to build approximately a mile of new track in the city, using thereon rails, etc., from the line which was laid to serve the military camp on the Sarcee Indian Reserve. A recent press report stated that it was intended to extend the city's line as a loop to Mewata Park, south of the Armories. Another report refers to an extension of the Killarney line as having been approved by the council, May 12. (Feb., pg. 88).

Cape Breton Electric Co.—A delegation from New Waterford, N.S., appeared before the county council, recently and asked for co-operation in securing an electric railway service from Sydney. A committee was appointed to co-operate with the town committee to see what can be done. (Feb., pg. 88).

Hamilton St. Ry.—Negotiations are reported to be in progress between the city council's special street railway committee and the company with a view to having some extensions built. Extensions on Queen St. via Aberdeen and Dundurn Sts., and Charlton Ave. to the present Locke St. line; and on York St. to the end of the cemetery, have been discussed. It is also suggested that the Queen St. line be extended to Aberdeen St., and then west to Ainslie Woods.

Hull Electric Co.—We are officially advised that the company is replacing 56 lb. rails on 1.5 miles of its belt line in Hull, Que., with 85 lb. rails.

The company is in the market for two 60 k.v.a. oil cooled, single phase transformers, 10,000 volts to 2,300 volts. G. Gordon Gale is Vice President and General Manager. (Jan., pg. 40).

International Transit Co.—We are officially advised that the company proposes to lay a second track for about 6,400 ft. in the central part of Sault Ste. Marie, Ont., the work to be done in advance of the city laying permanent paving. A. E. Pickering is Manager.

The Levis County Ry. is, we are officially advised, proceeding with the track reconstruction which was left incompleted last year. Contracts for rails, ties, etc., were let in June, 1918, in connection with the reconstruction of the entire line, and the building of about two miles of additional line. New ties were to be put in on the whole line, and stone ballasting provided. Several miles of reconstruction had been completed when work was suspended for the season in Nov., 1918. (Dec., 1919, pg. 561).

Montreal Tramways Co.—A press report states that the company is preparing plans for building a second track on 10 miles of line on Lawrence St. to Gouvin Boulevard, and through Bordeaux Village to Park Ave. This work does not appear to be part of the construction specified in article 33 of the company's contract with the city. The contract specified six lines upon which construction was to be done between June and Nov., 1918, that year. The length of each of these lines with details of construction was given in Canadian Railway and Marine World for Aug., 1918, pg. 348. The time for construction of the lines was extended to this year, owing to the difficulty of obtaining rails, etc.

Niagara, St. Catharines and Toronto Ry.—We are officially advised that the company has the following works in progress: On Ontario St., St. Catharines, Ont., the city is continuing the paving to the crossing of the Port Dalhousie line, as a result of which the company will have to pave between the rails and for 18 in. on the outside thereof; On James St., St. Catharines, the company is relaying the rails and putting down new pavement on its portion of the street. The company is reconstructing its transmission line between Thorold and St. Catharines, and carrying out spring repairs at Dalhousie Park, Port Dalhousie, which has been leased to the Colonial Amusement Co. of St. Catharines, which intends to add a great many amusement features. (May, pg. 267).

The Quebec Ry. Light and Power Co., we are officially advised, contemplates the construction of about a mile of new track on the Beauport Road in Limoilou Ward, between the Canadian Northern Ry. tracks at Mastai Village at the city limits. In 1916 an agreement was entered into between the company and the city with reference to street railway extension, when it was decided to extend the existing line from the corner of 3rd Ave. and 6th St. in Limoilou Ward to the city limits, Beauport Asylum. This extension should have been completed by Dec. 31, 1917, but, due, however, to the abnormally high cost of labor and material, an understanding was reached with the city for delaying the work. The city is about to commence building a permanent highway on the location above referred to, and has insisted that the company construct its line at the same time, in order to prevent cutting up the highway after it has been built. The company has agreed to undertake the work, but the line to be built will be different from that originally planned. Instead of building a line on the Beauport Road from the corner of 3rd Ave. and 6th St., it is the intention to form a loop and build on 8th Ave. across the Beauport Road, along 10th St., and down 3rd Ave., and then build on the main road from the Canadian Northern Ry. tracks to the city limits. The total line to be built will be approximately 1.5 miles. This will mean the construction of a line from the corner of 3rd Ave. and 10th St. along 10th St. across Beauport Road, and down 8th Ave. to a junction with the present line at the corner of 5th St., the lifting of the present rails on 3rd Ave. and 5th St., thus making a belt line, and the construction of a stubline from the crossing of the C.N.R. to the city limits. By this means the company will save approximately $10,000 in not laying tracks and diamonds over the C.N.R., and will also save approximately $3,100 a year upkeep on account of the diamond crossings. (Dec., 1918, pg. 561).

St. Thomas St. Ry.—A press report states that a bylaw will be submitted to St. Thomas, Ont., ratepayers at an early date to raise money for improving the street railway. The amount involved is $45,000, distributed as follows: New rails and track equipment on Talbot St., $18,587.80; repairing tracks on other streets, $16,126.64; changing and improving cars, etc., $10,285.56. (Mar., pg. 143).

Winnipeg Electric Ry.—The Assiniboia Ratepayers' Association on May 6 decided to ask the Manitoba Public Utilities Commission to order the company to place its tracks in the center of Portage Ave., and not at one side as at present. (May, pg. 267).

Beer and Wine for Quebec.—Among the committee of moderation, who appealed to the people of the Province of Quebec recently, to vote in favor of the use of beer and wine, were: Lord Shaughnesy, who is one of the honorary presidents; Sir Herbert Holt, another C.P.R. director; W. W. Butler, President, Canadian Car & Foundry Co.; R. F. Jones, Manager, Eastern Division, Bell Telephone Co.; W. F. Angus, director, Dominion Bridge Co.; A. Archibald, member of Montreal Tramways Commission; A. Lacombe, President, Street Railway Employes Union; and Alex. Dick, General Agent, Dominion Coal Co.

The Winnipeg Municipal Hospitals Commission is discussing with the Winnipeg Electric Ry. a plan for putting on, with the city's consent, a bus service to the King George Hospital.

Ontario Hydro-Electric Railway Legislation.

The Ontario Legislature at its recent session passed the Hydro-Electric Railway Act, 1919, which amends the previous Hydro-Electric Railway Acts in several particulars, and comprises a number of contracts and bylaws.

The act first of all repeals sec. 9 of the Act of 1916, amending the original Act of 1914, which prohibited the issuing of bonds for the construction of any electric railway for which agreements had been entered into between the Hydro-Electric Power Commission of Ontario and local municipalities until after the war, and provided that no bonds should be issued or work undertaken except under the authority of the Lieutenant-Governor in Council, and made provision for the purchase of right of way for such lines.

Section 3 confirms bylaws passed by the municipalities interested in the construction of the projected line from Port Credit to St. Catharines, and also bylaws passed by the municipalities interested in the projected Welland, Port Colborne, and Bridgeburg radial line. Sections 4 and 5 authorize the municipalities to complete the bylaws, and sec. 7 confirms an agreement between the commission and Blanshard Township Council for the construction of an electric railway.

A new section, 17a, is added to the Act of 1914 as follows: "(1) Where a municipal corporation has entered into an agreement with the commission for the construction and operation of a railway under the provisions of this act, the corporation shall not enter into any agreement or arrangement with, nor grant any bonus, license or other inducement to any railway or transportation company without the written consent of the commission, and where any such corporation controls or holds share or stock in a company operating a railway, an electric railway or street railway, the transfer of the control of such company or of stock or shares therein or securities thereof to any person or corporation shall be deemed to be an agreement or arrangement within the meaning of this section; (2) Every agreement or arrangement entered into by a municipal corporation in violation of subsection 1 shall be null and void."

Other new sections are as follows: Sec. 9:—"(1) Notwithstanding anything in the Hydro-Electric Railway Act, 1914, or any amendments thereto, or in any contract or bylaw made or passed, or purporting to be made or passed under the authority of the said act or the amendments thereto, where any municipal corporation named as a party to any such agreement has failed to pass the necessary bylaw and to execute the agreement, and it appears to the Lieutenant-Governor in Council that the amount for which such municipal corporation would be liable under the agreement does not exceed 10% of the estimated cost of construction and equipment of the railway, and that the remaining municipal corporation parties to the agreement have by resolution of their respective councils, expressed the desire to proceed with the undertaking notwithstanding the failure of such first mentioned municipal corporation to execute the agreement, the Lieutenant-Governor in Council may authorize the commission to proceed with the construction, equipment and operation of the railway provided for in the agreement, and to issue bonds from time to time for the amount required for the undertaking and may authorize the Treasurer of Ontario for and on behalf of the province to guarantee such bonds, as provided in the Hydro-Electric Railway Act, 1914, and amendments thereto, and in such case the municipal corporations which have executed the agreement shall deposit with the commission additional debentures in the respective proportions in which they undertook by the agreement to contribute to the cost of the undertaking, to the amount required to replace the debentures which would have been deposited by the first mentioned municipal corporation."

"(2) Should any municipal corporation which has failed to execute the agreement subsequently execute the same and deposit debentures as required by the Hydro-Electric Act, 1914, and amendments thereto, the commission shall return to the municipal corporations the debentures deposited under subsec. 1, and such debentures may be cancelled by the respective corporations.

"(3) Until a municipal corporation party to any agreement for the construction and operation of a railway under the Hydro-Electric Railway Act, 1914, has executed the agreement and deposited debentures with the commission as required by the said act, and the agreement, the commission shall not be bound to construct, maintain, equip or operate within the limits of the corporation any works contemplated by the agreement except such as may be necessary for the construction, equipment and maintenance of the railway in passing through the municipality, to and from municipalities the corporations of which have executed the agreements and deposited debentures to the amount stated therein."

A formal request is reported to have been made by the commission to the Ontario Government for an order in council authorizing the immediate starting of work on the projected lines from Toronto to Niagara Falls, and from Toronto to London. A local report from Bridgeburg states that the first part of the Toronto-Niagara Falls line, which will be built, will be the section from Port Colborne to Bridgeburg.

Proposed Large Street Railway Expenditures of Toronto.

The Mayor of Toronto moved at a board of control meeting, May 28, that a recommendation be made to the city council favoring the submission of a bylaw at the next municipal election providing for the expenditure of $5,000,000 on track extension, rolling stock, and other equipment, preparatory to the taking over of the Toronto Ry. in 1921. He also asked that the Finance and the Works Commissioners, be directed to make a report on the suggestion and to submit plans therefor, together with a recommendation as to whether the work, if authorized, be done by day labor or under the contract system. The controllers thought more time was required to consider about such an extensive enterprise, and decided to refer the matter to the Transportation Commission for a report.

Moose Jaw Electric Railway's Negotiations With City.

Negotiations were reported to have been reopened Apr. 28, between the Moose Jaw Electric Ry. and the Moose Jaw, Sask., City Council. The company is reported to have submitted an offer that the city and the company become partners, and that out of the receipts of each year the company pay all operating expenses, interest charges, set aside a fair amount for insurance and depreciation and pay 6% interest to the shareholders. The balance would be distributed in the proportion of 80% to the city and 20% to the company. The city is asked to undertake the cost of the repairs to the Fourth Ave. bridge, and to relieve the company of all charges until the end of the franchise; to authorize the operation of one-man cars, and to increase the fare to 6c cash or 6 tickets for 35c; workmen's limited hour tickets 8 for 35c, and school children's tickets, 40 for $1.10. The company, under this proposal, would operate the partially constructed line on Hill St. As an alternative, the company advised the council it was still willing to recommend its shareholders to accept an offer from the city to take over the line under the terms of the present franchise and to accept in payment city bonds bearing interest. The council referred the matter to the special Street Railway Committee. (Mar., pg., 143).

The Rule of the Road in British Columbia.

The rule of the road in British Columbia follows that of Great Britain, and is therefore at variance with that prevailing practically everywhere else in Canada. A plan is under consideration by the B.C. Government for changing the rule so as to conform to the more generally adopted practice in America, and it is suggested that the new plan be put in force July 1, 1920. The B.C. Electric Ry. is very much interested in the proposal as its lines were laid out, and its rolling stock built to suit existing conditions. W. G. Murrin, Assistant General Manager, Vancouver, and A. T. Goward, Local Manager, Victoria, had an interview with the B.C. Premier on May 9. While expressing no objection to the proposed change, if desired by the people, they contended that the expense should be borne by those requesting the change, and not by the company.

Mr. Murrin estimated that to change the company's tracks and equipment would cost $600,000, and he reminded the Premier that the company had been put to an expense of between $100,000 and $200,000 several years ago by the Provincial Tramways Act, which prescribed certain changes in equipment. The Premier asked the company's representatives to submit a memorandum, setting out the company's views as to the payment of the cost of making the change.

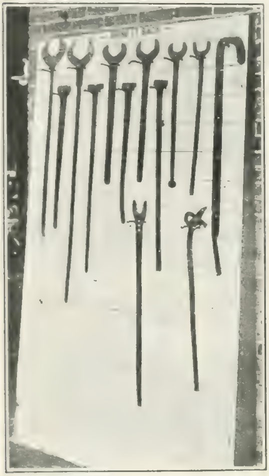
A Motor Passenger Omnibus has been placed on the Toronto-Hamilton highway and is making regular trips between Sunnyside, Toronto, and Stop 31.

In connection with a recent strike of building trades employes at Ottawa, it was reported May 8, that Ottawa Electric Ry. employes had voted in favor of a sympathetic strike.

Wrench Rack, Winnipeg Electric Railway Shops.

The many different special wrenches and larger tools necessary, where pit work is being done, pinions remover and put on armature shafts, etc., makes it a problem not where to put the tools—but where to find them when wanted.

In the Winnipeg Electric Ry. Shops, this problem is solved by the provision of a tool board or rack, as shown in the accompanying illustration. The front of the board is painted a light grey, and the exact outline of each tool is painted in black, so that one always knows where the tool belongs. No tools were on the board at the time the photograph, from which the illustration was made, was taken. Note the brief instructions on the top of the board, "Bring it back".



Trailer Cars for Toronto Railway.

The Toronto Ry. is completing in its shops, the conversion of a number of open motor cars, into closed trailers. The open motor cars were rendered no longer serviceable by the order Ontario Railway and Municipal Board's order of Nov. 22, 1915, forbidding their use, and the bodies are being used for this present purpose.

The whole body, with the exception of the frame work, is being practically rebuilt. They have the standard flat sides, with large sash, and with vestibules enclosed except for the step side. The interior layout comprises longitudinal rattan seats, the heating stove being mounted midway in one side. The finish inside is light colored varnished hardwood. The motor undergear is not being used, entirely new trailer undergearing being made in the company's shops.

The bodies are 22 ft. long, and the overall length of the cars is 32 ft. Some 30 trailers are now completed and in operation, and it is the intention to convert some 16 or 17 more, some of which are nearly ready for operation.

Electric Railway Finance, Meetings, Etc.

British Columbia Electric Ry. and allied companies:—

	1919	1918	9 mons. to Mar. 31, 1919	9 mons. to Mar. 31, 1918
Gross	$649,120	$510,892	$5,390,119	$4,495,271
Expenses	457,600	381,234	3,724,249	3,462,714
Net	191,520	129,658	1,665,870	1,032,557

For the calendar year, 1918, there was an increase of 27.05% in gross earnings, the percentage of working expenses to gross earnings being 74.6%. For the first three months of 1919, the percentage of working expenses to gross earnings was 70.4%.

Cape Breton Electric Co.—

	Mar., 1919	Mar., 1918	3 mons. to Mar. 31, 1919	3 mons. to Mar. 31, 1918
Gross	$42,924.29	$39,516.74	$138,078.43	$117,239.52
Expenses	32,558.33	30,123.82	103,415.83	92,379.63
Net	10,365.96	9,392.92	34,662.60	24,859.89

Edmonton Radial Ry.—The city comptroller in reporting upon the Edmonton, Alta., public utilities for the three months, Mar. 31, is reported to have said: The gross earnings of the civic utilities were $503,768.60, against $459,979.37 for the first quarter of 1918, an increase of 9.5%. The combined operation and maintenance expenses on the other hand showed a composite increase of 13.5% over 1918. The deficit on the municipal railway was $765.66 more tha nin 1918. The railway's gross earnings show an increase of 11.3%, while the cost of operation increased 17.7%.

Hamilton St. Ry.—Hamilton, Ont., City Treasurer reported Apr. 30, that the receipts of the Hamilton St. Ry. for the three months ended Mar. 31, were $217,606.92, against $204,157.38 for the corresponding quarter of 1918. The city's share of the receipts was $17,408.55, against $16,332.59 for the corresponding quarter of 1918.

Ottawa Electric Ry.—Under the provisions of the mortgage trust deed of June 29, 1987, fifteen debentures of $1,000 each have been drawn for redemption, payable July 5, on which date all interest ceases.

Toronto Ry., Toronto and York Radial Ry. and allied companies:—

	1919	1918	3 mons. to Mar. 31, 1919	3 mons. to Mar. 31, 1918
Gross	$1,083,285	$1,113,472	$3,205,922	$3,163,724
Expenses	647,053	581,747	1,902,546	1,720 890
Net	436,232	531,725	1,303,376	1,442,834

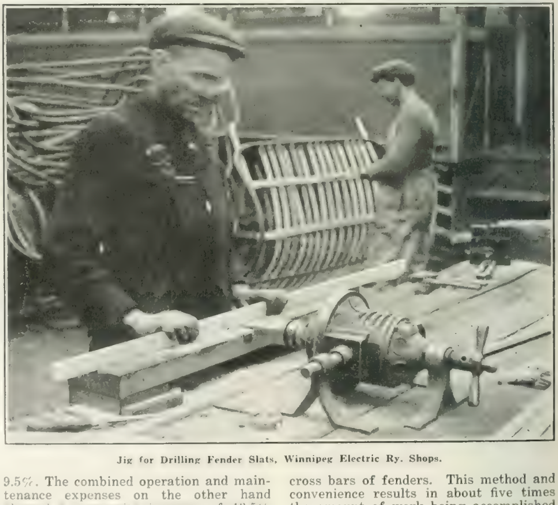
Winnipeg Electric Ry. and subsidiary companies:—

	1919	1918	3 mons. to Mar. 31, 1919	3 mons. to Mar. 31, 1918
Gross	$387,841	$307,289	$1,119,542	$940,830
Expenses	287,944	240,628	842,868	723,974
Net	99,897	66,661	306,674	216,856

The surplus after payment of fixed charges for March, was $40,954.88.

Drilling Fender Slats, in Winnipeg Electric Railway Shops.

Severe operating conditions in Winnipeg keep car fender work active. The accompanying illustration shows an electric drill, used formerly in some other branch of the service, recovered and placed on a bench, with jig and stop for drilling and counter-sinking slats and cross bars of fenders. This method and convenience results in about five times the amount of work being accomplished as was formerly done by hand.



Jig for Drilling Fender Slats, Winnipeg Electric Ry. Shops.

The Reid Newfoundland Co.'s steamships are reported to be making regular trips between Port aux Basques, Nfld., and Sydney, N.S., and are moving much of the freight that accumulated during the winter at Port aux Basques and elsewhere. At one time during the winter the train service from Port aux Basques to St. John's, Nfld., was not operated for about a month.

Electric Railway Notes.

The Winnipeg Electric Ry. is employing some 400 returned soldiers.

The Quebec Ry. Light and Power Co. has asked prices for the supply of 10 double truck p.a.y.e. type of cars, 41 ft., for its city service.

The Regina, Sask., City Council decided recently to ask the City Commissioners to report on the question of operating the municipal railway cars on the skip stop plan in certain sections.

A Hamilton press dispatch of May 28 said that commencing June 1 the Hamilton St. Ry. cars would stop before crossing street intersections and that some 30 stops would be cut off.

The London and Port Stanley Ry. is reported to be considering a suggestion to operate a car service on Sundays from London to Pond Mills, where it is proposed to lay out a public amusement park.

The Hydro Electric Power Commission of Ontario has ordered an additional electric locomotive, similar to the 6 ordered previously and illustrated in our May issue, from Canadian Car and Foundry Co.

The Regina, Sask., City Council's special committee on May 16, directed that an account of Eli Parrish for $300 for investigating the street railway department and for his work during the recent judicial investigation of the railway's affairs, be laid on the table.

The Regina Municipal Ry. has, it is reported, erected a galvanized metal waiting room at the terminus of its Eastview line. It is stated that if this building proves satisfactory, the present wooden waiting rooms will be replaced by galvanized metal ones.

The Regina Municipal Ry. is reported to have installed a new type of power recorder in its power station in Regina, Sask. It is claimed that the new device has proved efficient in saving power where it has been installed—the saving being said to be about 17%.

The Calgary, Alta., City Commissioners, have, according to a press report, practically agreed that there shall be no special taxes on the municipally owned utilities. For the latter half of 1918, the tax levied on the Calgary Municipal Ry. was reported to be approximately $25,000.

A list of employes of the City of Edmonton, Alta., compiled by the city comptroller, shows a total of 755 with a total monthly pay roll of $73,985.31. The Edmonton Radial Ry. has 214 of the total on its list, the average monthly pay roll being $19,176.33. Of the total number of employes, 690 are Canadian or British, the remaining 65 being of 12 different nationalities.

J. L. Retallack, who has been appoint- Public Utilities Commissioner for British Columbia, is reported to have said in a recent interview: "It is not likely that any investigation will be undertaken until I have had an opportunity of examining the scope and methods of public utilities commissions elsewhere. The great point to be kept in view is to make the commission as easy of access to the public as possible."

The Regina, Sask., City Council was to have considered a bylaw to authorize the operation of one-man cars in the city, at its meeting, May 6, but the matter was not reached when the council adjourned. The bylaw was on the agenda for a first and second reading May 20. The bylaw has to be approved by the ratepayers before it becomes operative. The employes' union has issued a statement urging that the bylaw be not passed.

The Regina, Sask., City Council, held a further lengthy session in committee Apr. 30, to discuss the suggestions of City Commissioner Thornton, as summarised in Canadian Railway and Marine World for May, pg. 262. The only conclusion arrived at was the adoption of a recommendation for the appointment of an additional inspector, for which appointment T. McGuinness, a returned soldier, formerly in the department's employ, was suggested. The meeting adjourned without adopting the report as a whole.

The question of standard time or daylight saving is responsible for a good deal of discontent in London, Ont. The London St. Ry. is being operated on standard time, but the company wishes it to be operated on daylight saving time. The men want the matter settled one way or the other, and asked the City Council to refer it to a vote of the ratepayers on May 31. At a meeting of the council, May 19, this was refused by seven votes to three, but a resolution was passed, asking the men to agree to starting the cars half an hour earlier.

The Quebec Court of Appeal on May 2, confirmed a judgment of the Court of Review giving A. Bergeron judgment for $283.18 against the Montreal Tramways Co. for damages to an auto. Bergeron's auto became stalled on the track while being backed out of the garage, at the time it was struck. At the first hearing the action was dismissed, the court being of opinion that Bergeron was at fault, but this decision was reversed by the Court of Review. Justice Martin, in confirming this decision, held that the M.T. Co.'s employes could and should have seen the auto on the track and so prevented the accident.

The Toronto and York Radial Railway and the City of Toronto.

The acquisition of the Toronto and York Radial Ry.'s Metropolitan Division, within the city limits, was again discussed by the Toronto Board of Control, May 15, when a conference was held with representatives of the company and of the Hydro Electric Power Commission of Ontario. The agreement which had been arrived at between the company and the city, fell through, as the Hydro Electric Power Commission of Ontario would not consent to the city concluding it. A counter proposal made by the commission would not have required legislation to make it effective, but owing to the late date at which the bill was introduced into the legislature, the private bills committee threw it out. The city's negotiations now appear to have been started de novo, and the mayor stated recently that it was his desire to "clean the Metropolitan off Yonge St." W. H. Moore, General Manager, T. & Y.R.R., in replying to the mayor's question as to whether the company was prepared to sell, stated that a few years ago the city obtained legislative authority to expropriate the portion of the line within the city limits; the company is operating under a franchise, and he felt that it had nothing to sell, except according to the terms and conditions of the franchise, which gave it certain powers and also certain obligations, and it could only sell if the city was prepared to indemnify it against any claim which might be made relative to the company's obligations, particularly to the York County and in regard to the transportation of freight.

After considerable fruitless discussion, a committee was appointed representing the City of Toronto, York County and the company, to discuss the matter further, and to see if an arrangement could not be arrived at. A further meeting took place May 26, and a report was made to the Board of Control, May 28, to the effect that the company will not submit any offer, unless the city agrees to take care of the freight between the city limits and Farnham Ave., where the company's receiving station is at present located. The mayor stated that he had desired the company to submit some offer, but the city would only purchase, if the price was right and reasonable, and the title to the property free of all claim and encumbrances, and freight franchises of all kinds eliminated within the city limits. The board deferred action.

Mainly About Electric Railway People.

Thos. Boden, Superintendent, Brandon Municipal Ry., has also been appointed City Electrician, the former City Electrician and City Purchasing Agent, Mr. Skead, having left the city's service. The head of each city department now does the purchasing for his respective department.

James Gunn, Superintendent, Toronto Ry., completed 50 years of continuous service with the company and its predecessors, May 15, when he received numerous congratulations from associates and other friends.

T. McGuinness, a returned soldier, formerly in the Regina Municipal Ry.'s employ, has, according to a press report, been appointed Traffic Inspector for the line. This is a new position just authorized by the Regina, Sask., City Council.

A. S. Pratt of Stone and Webster, Inc., Boston, Mass., has been elected President Nova Scotia Tramways and Power Co.

E. F. Seixas, Official Representative and General Manager, Monterey Railway, Light & Power Co., Monterey, Mexico, visited St. Catharines, Ont., and Toronto, towards the end of May to arrange for his wife and family, who have remained in St. Catharines, since he went to Monterey, spending the summer on the Atlantic coast.

George Lee Snelling, who has been acting Secretary Treasurer, Ottawa Electric Ry., since the death of Jas. D. Fraser, has been appointed Secretary-Treasurer. He was born at Ottawa, Mar. 2, 1880, and entered the company's service, Aug. 1, 1898, since when he has been, to Feb., 1902, junior clerk; Feb., 1902 to Aug. 1, 1912, timekeeper, stenographer and storekeeper; Aug. 1, 1912 to Dec. 23, 1918, accountant, and from Mar. 2, 1914, during various absences of the late Secretary Treasurer, acting Secretary-Treasurer

Bell Telephone Co. Authorized to Increase Rates.

The Board of Railway Commissioners passed general order 264 May 13, as follows:— Re application of Bell Telephone Company of Canada, for an order permitting an increase in rates of 20% on all tolls, rates, and charges for exchange telephone service; for a revised schedule of long distance tolls; for a charge to be known as "service connection charge"; and a charge for moving telephone stations and other equipment; all as set forth in tariffs of tolls accompanying the application. Upon hearing the application at Ottawa, Jan. 8 and 22 and Feb. 12, 1919, and in Toronto and Montreal on Janfl 13 and 16, 1919, respectively, in the presence of counsel for the applicant company, the Union of Canadian Municipalities, and the corporations of the following cities and towns: Montreal, Toronto, Hamilton, Ottawa, Quebec, London, Windsor, Brantford, Outremont, Westmount, Levis, Granby, Brockville and Verdun; the boards of trade of Toronto, Montreal, and Cornwall, the municipalities of North Gower and Marlborough, and the Proprietors' League of Montreal being represented at the hearings, the evidence of experts offered both in support of and in opposition to the application, and what was alleged; and upon reading the written statements, reports, and submissions of experts filed on behalf of the applicant company and the respondent corporations, as well as the reports of chartered accountants, made after examination of the applicant company's books which were available to them by the direction and under the authority of the Board's order; no objection being made to the long distance tolls as filed.

It is ordered that (a) the revised increased tolls for long distance service, (b) an increase of 10% instead of 20% on all tolls, rates, and charges for exchange telephone service and charges incidental thereto, and (c) the charges for moving telephone stations and other equipment, all as set out in the application filed with the board, be, authorized and allowed. That the "service connection charge," so-called, as applied for be disallowed. That where exchange services are at present installed, the increased tolls hereby authorized and allowed may become effective July 1, 1919. That the increased tolls hereby authorized and allowed for long distance service, for moving telephone stations and other equipment, and where new exchange services are installed subsequent to the date of this order and prior to July 1, 1919, may become effective on one week's notice.

Jurisdiction Over Grand River Ry.—The Dominion Parliament has been asked to amend Chap. 47 of the statutes of Canada, 1904, by repealing sec. 3, which enacts that the acquisition by the company of the Galt, Preston and Hespeler St. Ry., and the Preston and Berlin St. Ry. shall not make such railways subject to the Railway Act or works for the general advantage of Canada, but that they shall remain subject to Ontario jurisdiction. (May, pg. 267).

It All Depends.

"Is your place within walking distance of the cars?"

"I dunno," answered Farmer Corntossel. "How far kin you walk?"—Washington Star.

The Death of Duncan McDonald.

Duncan McDonald, formerly General Manager, Montreal Tramways Co., who died at Ste. Agathe, Que., May 8, from tubercolosis. He was born at St. Thomas de Montmagny, Que., June 17, 1859, and removed to Montreal in 1875. He entered Montreal St. Ry. service in 1881, as a driver, in order to acquire a thorough knowledge of street railway work from its veyr commencement. He was soon changed to conductor and after about a year in that capacity, was appointed roadmaster. In 1886 he severed his connection with the company and engaged in other business. Anticipating the progress that the trolley system would make, he went to St. Paul and Minneapolis, Minn., in 1889, and secured a practical knowledge of electric railways. He returned to Montreal in 1892 and re-entered Montreal St. Ry. service as inspector, and in 1894 was appointed Superintendent of Transportation, which position he held until 1898, when he resigned to become General Manager, Parisian Tramways Co., Paris, France, in which position he organized the Parisian system to a high degree of efficiency. In 1903 he returned to Montreal, having been offered the position of Manager, Montreal St. Ry., which position he held to Nov., 1910, when he was appointed General Manager, and on the organization of the Montreal Tramways Co., in 1912, he was appointed General Manager of the new company, resigning in July, 1912, after which he devoted his time to his other interests, including the Montreal Tunnel and Terminal Co., the Prepayment Car Sales Co., of which he was President, and which controls the pay as you enter cars, of which he was one of the patentees, and also the pay within car. He was a director of the Dominion Park Co., the Automobile Club of Canada, a member of the Civil Engineers' Society of France, a member of the Institution of Electrical Engineers of England, and was connected with the Canadian Street Railway Association, now Canadian Electric Railway Association, from its inception until his retirement from actual street railway service, being President for two years and member of the executive committee for several years. For two years he was a city controller of Montreal, and was an unsuccessful candidate for the mayoralty in 1916. In 1917 he acted as the Toronto Ry.'s representative on a board of conciliation appointed under the Industrial Disputes Investigation Act, to deal with wages, questions in dispute between the company and its employes.

Duncan McDonald.
Formerly General Manager, Montreal Tramways Company.

Mr. McDonald had a most extensive circle of friends, and was especially well known to electric railway officials. He was most generous and hospitable, and exceedingly popular with all classes.

One-Man Cars in Edmonton. — Edmonton, Alta., Municipal Ry. union employes passed the following resolution recently:—"That owing to the increased responsibility caused by the city in changing the fare, in that almost every passenger is purchasing tickets from the motorman-conductor, also the fact that those who pay cash fares have to receive change, and that the department insists that the crews keep on schedule time, we hereby declare that we will not be responsible for any accidents that may occur, owing to the fact that our attention has to be given to so many matters at one time it is impossible for us to run the cars in the interest of public safety, and we would recommend that the city commissioners and council in the interest of the travelling public place two men on each car; also that it was promised that at the time that the one-man car was introduced it was done as a war time necessity, now that the war is over and the day of reconstruction has arrived, we would ask in the interest of the returned soldiers that this be done at once."

The Montreal Harbor Commissioners' report for 1918 shows that the cost of work was $28,000,000. The accommodation in the harbor includes 100 steamship berths, 350 to 750 ft. long, with depth of wate from 20 to 35 ft. There are 2 modern fire proof elevators, with a conveyor system to 15 steamship berths; 21 permanent fireproof sheds and 51 miles of railway. The channel from Montreal towards the sea has been deepened and widened and during the year there was never less than 30 ft. of water available. The number of trans-Atlantic vessels arriving at the port during 1918 was 674, the greatest on record. Merchandise exported was valued at $496,793,000 and imports, $178,021,000. The exports included 962,000 tons of grain, 490,000 tons of flour, 394,000 tons of packing house and dairy products, 500,000 tons of lumber, 209,000 tons of fluel oil and 492,000 tons of munitions. In addition to this, there were the cargoes of about 250 vessels sailing under allied or neutral flags. The harbor revenue was $2,104,191, and expenditure $2,026,542, including $903,585 interest on debentures.

The Victoria and Sidney Ry., on Vancouver Island, a line owned by the Great Northern Ry., U.S., ceased operating Apr. 30. Since the company announced that it intended to cease operating, residents of the area served have been petitioning the Premier of British Columbia to take steps to have a service provided on the line, and the government has been negotiating with the Canadian National Rys. management. It was reported in Victoria, May 16, that the C. N.R. is ready to operate the line as soon as the necessary legal formalities can be complied with.

Marine Department

The Dominion Government's Shipbuilding Programme Discussed in the House of Commons.

When the House of Commons went into committee of supply, May 8, on the item of $30,000,000 required for the construction of ships in accordance with the government's shipbuilding programme, the Minister of Marine, Hon. C. C. Ballantyne, said: "A year ago I had the honor of introducing the government's merchant marine shipbuilding policy. A great many changes have taken place since the armistice has been signed, and it seems to me to be an opportune time to furnish to this house all the information that I have on the subject for which the vote is now asked. I think it would be well for us to look at the shipping conditions of the world, and particularly as they existed in Canada when the government deemed it wise to embark on its shipbuilding policy.

"Up to about Feb. or Mar., 1918, the Imperial Munitions Board was occupying all the vacant steel shipyards in Canada, building ships for England. The British Government is to be congratulated for its energy and foresight in not only having ships built to the fullest capacity of the immense shipyards of the United Kingdom, but also for utilizing all the available yards in Canada. But, when I became Minister of Marine I could not see what particular value the steel ships that were being built in Canada for England could be to our own country, and after considering the matter from every point of view, I thought the time had come when Canada should have her own merchant marine. Therefore I recommended to my colleagues in the government that we should utilize our own yards to build up a national merchant marine, and, much as we admire the old country and desire at all times to render her every assistance possible, more particularly when she is engaged in war, I consider that we were doing not only our full duty to Canada, but also to the Empire when we took that course. There was an immense total loss of shipping at that time, about 15,000,000 gross tons, the war being at a very serious and critical stage, and the success of Great Britain and her allies depending very largely on the extent of their merchant marine. So pressing was the need for tonnage that all Canadian ships under Canadian register and all ships plying in Canadian waters under British register, were commandeered by the British Ministry of Shipping, a fact which left Canada devoid of a merchant marine.

"At that time, all of our allies, with the exception of our neighbor to the south, were coming to me constantly to know if I would allow them to build ships in our yards—I refer particularly to France and to Italy, and also to Norway, one of the neutral powers. I had to reply to the overtures made to me that the policy of the Canadian Government was to utilize to the fullest extent our own steel shipyards, and that therefore we could not look with favor upon building ships for them. It was not so much a matter of price. Many of our allies were willing to pay from $20 to $25 per ton more than this government was paying for the ships it was having built under contract. The policy of the Imperial Munitions Board was to build wooden as well as steel cargo vessels. The Canadian Government did not think it good policy to have wooden ships built. Not that either I or the government had anything to say against wooden ships, but we thought it was a sounder policy, having in view that sometime peace would come, to confine our efforts to the building of steel ships only, which accounts for our not having built any wooden ships. The money for the ships that were being built by the Imperial Munitions Board for Great Britain was being loaned by the Canadian Government. As these ships were being built with Canadian money, it seemed to me to be a wise and sound policy that they should be Canadian ships, for the use of the Canadian people.

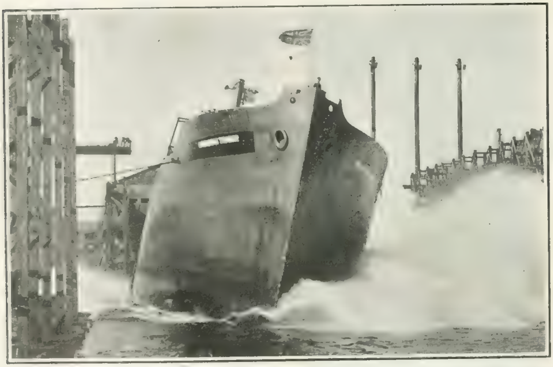
Hon. C. C. Ballantyne, M.P.
Minister of Marine and Fisheries

"There were three reasons why the government adopted the policy of building up a mercantile marine. The first for reasons arising out of the conditions brought about by he war, and to which I have already alluded. The second was the desirability of building up our export trade. At no time in our history have the prospects been so favorable as at present for the building up, the extending, and the expanding of our export trade. The third reason was that Canada has a vast railway system, and it was proper that the government, in order to complete the chain of transportation and to place our railways on as favorable a footing as possible, should supply those railways with the necessary steamship service. Parliament and the people generally will, I am sure, agree as to the wisdom of the policy of having these splendid cargo ships work in co-operation with our railways and carrying on a service somewhat similar to that operated by the C.P.R. Co. We hope to see our ships on the Atlantic and on the Pacific oceans, plying to England, to Australia, to New Zealand, to South Africa, to South America and to all the ports with which Canada can carry on a foreign trade. At present we have under contract 45 steel ships, orders for which have been placed in yards from Prince Rupert to Halifax."

The minister then read a summary statement of orders placed, the particulars of which have been given in considerably more detail in each issue of Canadian Railway and Marine World for several months past, and he proceeded as follows:—"The total tonnage of these 45 ships is 263,850 dead weight tons. We have at present ready to go into service the Canadian Ranger and the Canadian Pioneer, both of 8,100 tons dead weight; we have the Canadian Voyageur, 4,350 tons, which has been doing splendid service for some months; and we have the Canadian Warrior, 3,750 tons. Two more will be ready in May, 5 in June, 3 in July, 2 in September, 4 in October, 7 in November, and 2 in December, making 25 ships that we expect to put into service during this year. The value of the contracts which have been placed is, in round figures, about $52,000,000 and up to the end of the present fiscal year $20,000,000 of that will have been paid. The item that we are asking the committee to pass is for $30,000,000, which with the $20,000,000, constitutes, in round figures, the total amount of all the contracts, $52,091,450.

"I stated in the house a year ago that it was the policy of the government to utilize only existing steel shipyards. But there existed at Prince Rupert a large ship repairing plant and floating dry dock, and considerable pressure was brought to bear upon the government, especially as the war was proceeding at that time in a way that did not look favorable to us, and tonnage was very badly needed, to place some orders out there. I took the ground that the government was not investing money in shipyards, but that if any firm would come along with the necessary capital the government would be willing to give it a share of their business. That accounts for the placing of orders for 2 ships of 8,100 tons at Prince Rupert. Victoria, B.C., did not have a modern shipyard. The Victoria Machinery Depot had a small place there, and our Victoria friends, especially the late Premier Brewster, were very anxious that we should give Victoria part of the government business. We therefore placed an order with the Victoria Machinery Depot for two ships of 8,100 tons each. Enterprising capitalists, J. W. Norcross and R. M. Wolvin, said that they were prepared to put $5,000,000 into a modern shipyard at Halifax, if the government would give them some business. I shall not weary the committee with an account of all the interviews that I had and of the requests that these gentlemen made and which the government could not see its way clear to grant. They wanted us to allow them to bring in free of duty what plant they required; I told them we could not agree to do that. They also wanted a very large order for ships, as their capital expenditure was great; but I told them that all we could do would be to give them an order for four ships, which we have done. When that yard is fully completed—and it will be completed shortly, because the keels of two vessels have already been laid there—it will be one of the finest and best equipped yards in the country.

"As regards the type of ships, after consultation with the technical officers of my department, we decided it was wise not to build too expensive a freight ship, but at the same time to make our ships as efficient as possible. And I am proud to state to the committee that in no other country in the world, not even in the old country, are any ships being built better than those which our Canadian shiypards have so far turned out for the Dominion Government.



Launching of Steel Cargo Steamship, Canadian Trader, 3,400 tons d.w., for Canadian Government Merchant Marine Ltd., by Port Arthur Shipbuilding Co., at Port Arthur, Ont., May 5, 1919.

"I now wish to refer to the matter of price which ranges all the way from $180 to $215 a ton dead weight, and I hope members will fully realize that when the government commenced their shipbuilding programme a year ago, everything was at its height; labor was very high, the rate of wages was constantly increasing, as was the cost of boilers, engines, and all the auxiliary equipment that goes into a ship. I am pleased to state that the 45 ships that we have under contract for the Dominion Government are being built at a considerably lower cost than the ships on the vast programme of shipbuilding which the United States Emergency Fleet Corporation is carrying out. Its ships have cost considerably more than ours, notwithstanding the fact that it has turned out so far 555 steel ships. I do not like to say anything but what would be pleasant about our neighbors who are our allies, and who have helped us in every way possible, but according to the information I have received, their price, taking all the ships they have ordered from the various shipyards, would be at least $25 a ton higher than the 45 contracts we have entered into in Canada.

"The other night the leader of the opposition (D. D. McKenzie) stated that the Canadian Government ships under contract cost 400% more than they had any right to cost, the comparison made by him being between the pre-war price in England of $50 a ton and the prices the Canadian Government have made with the various shipyards throughout the country. The correction I wish to make is that he overlooked stating that his price was a pre-war price. The most reliable information I can get from England, Ireland and Scotland is that all of their yards are busy; that they are building ships rapidly for themselves, and that they are also building a certain number of ships for their allies in Europe. Consequently, no one can get a firm price for ships over there. If any one in Canada wanted to build a ship of any size and approached any of the old country yards, he would be told that they would enter into a contract with him on a cost plus basis, but that they could not give him a firm price per ton. He would also be told that they could not make deliveries before at least the spring of 1920. In this connection, I may quote a well known shipbuilder, Sir G. B. Hunter, of Swan and Hunter, a firm distinguished for its shipbuilding. In an interview which was reported in the Newcastle Journal on Apr. 6, 1919, he stated that ships cost at present three times as much to build in England and Scotland as they did before the war. Therefore, if we take Mr. McKenzie's figure of $50 a ton, and if we take the well known and reliable authority, which I have quoted, viz. Sir G. B. Hunter, ships built in the United Kingdom at the present time would cost $150 a ton."

J. H. Sinclair, M.P., for Antigoish, etc., N.S., having quoted a Canadian paper as stating that ships are being built on the Clyde for $55 a ton, Mr. Ballantyne continued:—"If the member can give me the name of any firm on the Clyde that will build ships for $55 a ton the Canadian Government will be glad to give it a large contract. I do not know of any firm in the old country that would undertake to build ships at any such price, although I give the member credit for making a statement which he believed was accurate at the time. I merely want to clear this point up, because I do not want the public to think that, in order to build ships in Canada, we are compelled to pay $180 to $215 a ton when they could be built in the old country for $50 a ton. I sent cablegrams to four different firms, in order that the information which I am now giving might be accurate and up to date. It will interest members to know that one of our great allies is having 30 wooden ships built in Canada at $200 a ton d.w., so that if $200 a ton is being paid for a wooden ship I do not think the government has paid too high a price when it pays from $180 to $215 for steel ships."

Mr. Ballantyne stated, in answer to a question that the wooden ships are being built at Victoria, whereupon W. Duff, M.P., for Lunenburg, N.S., said that wooden ships are being built in Nova Scotia for about $75 a ton d.w. Mr. Ballantyne continued:—"The type of ship built at Victoria for $200 a ton, is, I imagine, entirely different from the ships being built in the Maritime Provinces for $75 a ton. I wish to explain why the government found it necessary to pay British Columbia shipbuilders $10 a ton more than eastern shipbuilders. First of all, I endeavored to place contracts with B.C. shipbuilders at eastern prices, but they pointed out that the labor cost is $7 a ton more in B.C. than in the east, and that freight rates are very much higher. After a great many interviews, extending over some months, the government agreed to pay the B.C. shipbuilders $10 a ton more than the eastern price for a similar type of ship. For instance, if an 8,100 ton ship was being built by Canadian Vickers of Montreal for $180 a ton, the price for a similar ship in the B.C. yards would be $190 a ton.

"There has been some criticism of me, especially by B.C. shipbuilders, because I would not allow them to take foreign contracts. When the war was on, France, Norway, and Italy were urging us to allow ships to be built here for them. I would gladly have consented had we been able to get sufficient ship plates, marine engines, boilers, and the other necessary equipment for our own needs, and at the same time have a surplus for ships to be built on foreign accounts; but unfortunately, notwithstanding that we had an agreement with the United States for 80,000 tons of plate, up to the time of the signing of the armistice, we had only been able to get some 6,000 tons. So I could do nothing else than say that Canada could not afford to delay her own shipbuilding programme by building ships on foreign account.

"With regard to the slowness of the construction of some of our ships, I admit that the yards have taken very much longer than I anticipated, but the delay has been unavoidable owing to the shortage of skilled and unskilled labor, and the great difficulty in getting shipbuilding plate from the U.S., as well as engines, boilers, and other equipment. The ships are coming along more rapidly now than when the war was on.

"Quite recently there has been a great demand for space. Our ships are going to be operated by Canadian Government Merchant Marine Ltd., and naturally manufacturers and firms who have large orders for shipment abroad have been coming to the Marine Department to know whether or not they can get the tonnage. The Dominion Coal Co. told me that all its ships had been requisitioned by the British Minister of Shipping, and it wanted tonnage to send 1,000,000 tons of coal to Montreal. It said that unless the Canadian Government could provide the tonnage it might have to close down its mines, which would be almost a catastrophe. The steel men, the pulp men, the sugar men and the general produce merchants, all want to know what tonnage the Canadian Government can provide. The British ships that are plying from Canadian ports at present have 70% of their available cargo space reserved for the British Minister of Shipping, which leaves only 30% for the Canadian export trade. While in England last year I did everything I could to meet the Dominion Coal Co.'s requirements. I have since sent many cables to the British Minister of Shipping. The Canadian High Commissioner, Sir George Foster, and Lloyd Harris, Chairman of the Canadian Mission, have all done their very best, but I am sorry to say they have been unable to get the tonnage. To illustrate the great necessity of our having ships at the present time, I will read a cable received by the Canadian Manufacturers' Association from the secretary of the Canadian Mission in London, Mar. 1:

"'Our work here practically futile unless additional ocean space can be secured. Commercial shipments Canada to Great Britain now three times quantity space available, and rate of freight on many lines practically prohibitive, amounting in many instances to 75% invoice value. Steamship companies in many instances charging double published rate. You may make statement that unless the matter of shipping is immediately attended to Canadian trade will suffer tremendous loss.'"

In answer to a question as to by what right the British Admiralty could requisition Dominion Coal Co.'s vessels, which are on the Canadian register, Mr. Ballantyne said: "Before a Canadian registered ship can be so requisitioned, application has to be made to the Canadian Government through the Minister of Marine. When the war was on and tonnage was required to transport munitions and foodstuffs and soldiers across the seas, the Canadian Government could not refuse to release the ships on Canadian register."

In answer to another question, Mr. Ballantyne stated that all the plate used on Dominion Government ships to date has been imported from the United States, the plate mill at Sydney not being ready.

Mr. Ballantyne continued: "I think it will interest the house to know what Australia is doing is not only building her own merchant marine, but war ships too, so their Minister of Naval Service, informed me when I was in London. Australia has during the war erected a plate mill. Besides the ships Australia is now building, she bought ten in 1915 or 1916 and these have proved to be very profitable. It is now building 20 ships more. The acting Minister of the Australian Navy, announced on Apr. 10 that the Australian Government would remain in the shipping business and would continue its shipbuilding programme. He said that the present programme contemplated the building of 20 steel ships, and war ships as well.

"I now come to the government policy for the future. I have already stated that we have 45 ships under contract. There are at present certain yards in Canada that require business. Berths are becoming vacant, and many more will become vacant in the very near future. The government has not finally decided how many additional ships it will order, but I will bring down in my supplementary estimates the amount that the government will think it wise to ask approval for. The $30,000,000 I am dealing with now is to complete the contracts we have already let, but in view of the fact that there is a great demand for ships and also that we could sell some of our ships under contract at present if the government deemed it wise to do so, we are not going to discontinue shipbuilding for the moment. We realize that there are 30,000 men engaged in the shipyards throughout Canada, from Prince Rupert to Halifax, and there are fully 10,000 more engaged in making engines, boilers, etc., and to cause 40,000 men to be out of employment at this time would be rather a dangerous thing. It is therefore not the government's intention to cease its shipbuilding programme now. We are going to order additional ships, at least to keep the yards that are requiring work busy throughout the balance of 1919, and probably for a few months in 1920. I do not want this house or the shipbuilders to think that the government can go on forever ordering ships, because there must be a limit to the number of ships that the government can use, and we are getting very near to that point. So that when I say that it is the government's intention, subject to parliament's approval, to order more ships, the shipbuilders must not expect that there will be many more orders to follow, and they must therefore look for orders for their shipyards in the same way as any other industry in the country would.

"There is no protection whatever given to Canadian shipbuilders in the way of duty and bonus, and when the yards of the United Kingdom are free a year and a half hence to take orders, it will be most difficult for Canadian shipbuilders to compete unless some form of assistance is given by the government. What that form of assistance will be has not been determined, but between now and the next session of parliament we hope to have a policy ready to present. Naturally when the shipyards complete the building of the ships that are ordered by the government now, and a few more that will be ordered, it will be a problem that the government will have to deal with, as to whether it will let these shipyards go out of existence altogether or give them a fair amount of protection the same as other Canadian industries are enjoying and have been enjoying for some years.

"Over a year ago the government entered into a contract for 250,000 tons of ship plates at $4.15 per 100 lb. based on the price of steel billets at $25.50, and as the price of steel billets would go down, so would the price of ship plates. For a few months the government placed auditors in the steel company's plant to check up the costs. The total amount of plate that we contracted for was 250,000 tons. What caused the government to give this contract was the scarcity and the impossibility of getting ship plates from the U.S. in order to carry on our shipbuilding programme. No one at that time could foresee the end of the war. It might be a year or more before the conclusion of hostilities, and when a country is at war, as Canada was, it is necessary to prepare for an indefinite continuance of war conditions. The shipyards at that time were paying for plate all the way from 4c a lb. up to 10c. The ruling price in the U.S. outside of the plates, required for the government ships, was from 4 to 5½c. I called into competition the great U.S. steel companies, besides inviting all the steel companies in Canada to tender and the best price I could get was $4.15, the U.S. steel price being 4¼c per lb. Since the letting of this contract the armistice has been signed, and the price of steel plates has dropped to 2¾c in the U.S. and may possibly go lower. I therefore interviewed the officials of the steel company recently and pointed out to them that this was a war contract that we had entered into with them, and that in view of the price of steel plates having declined so much in the U.S. and for other reasons, I wanted to negotiate with them for a modification of the existing contract. I met the President and the Vice President of the Dominion Steel Corporation, who could not have met me in a more broad and patriotic spirit than they did; and they said that

Launching of steel cargo steamship Canadian Recruit, 3,750 tons d.w., for Canadian Government Merchant Marine Ltd., by Collingwood Shipbuilding Co., at Collingwood, Ont., May 3, 1919.

they were prepared to make any modifications that I, as a responsible minister would care to propose with the approval of the government. These negotiations are being carried on, and the contract will either be modified or be entirely cancelled. The government has not yet got the necessary information before it to decide what action they will take, but I am free to state now that we can modify the contract or, if we prefer, as the company met us in a broad spirit, we can cancel it. The Dominion Steel Corporation has its plant partially up. There is no machinery or plant in it at all, and it is very far from completion. I understand it is only barely started."

W. Duff, M.P., interrupted and said: "The minister informed us earlier in his remarks that contracts had been entered into with different shipyards at from $180 to $215 a ton. I presume this price was made in view of the fact that either the shipyards or the government would have to pay to the Dominion Steel Corporation or other steel manufacturers, $4.15 per 100 lb. If, as the minister has just told us, the government makes a new contract with the Dominion Steel Corporation, or if the steel company modifies its contract to meet U.S. competition at $2.25, will the government pay the shipbuilders $215 a ton d.w. for these ships?"

Mr. Ballantyne replied:—"The gentleman could not have understood me correctly. As I said, the contract price was not based on the price of steel that we contracted for with the Dominion Steel Corporation, but on the price of steel that we contracted for with the U.S. Government at 3½c. It has really nothing to do with that price. I hope to receive the approval of the house for the $30,000,000 that I am now asking and I trust that when my supplementary estimates come down for the additional sum, for the reasons that I have explained this afternoon to the best of my ability, members will give the government their unanimous support. I hope they will not look upon this as a party question at all. I consider that our shipbuilding programme is a large, national question.

"I did not explain how these ships are going to be operated. At one time I thought I would organize a shipbuilding branch under the Marine Department and engage a capable manager to operate the ships. But after careful and serious thought I could not see how I could keep the operation of these ships free from political influence, as it was desirable that we should, and therefore, I thought the best policy for the government to pursue would be to follow the good example of the C.P.R. Co., which has its own steamships, while owned by the same shareholders as the railway, operated separately under the name of Canadian Pacific Ocean Services Ltd. Therefore I recommended to the government that D. B. Hanna and his board of directors should be responsible to the government for the operation of the government ships the same as they will for the government railways. In order that parliament and the public may know what profits and losses these ships might make I proposed that a steamship company be formed and it has been formed under the name of Canadian Government Merchant Marine Ltd. The operations of the ships are going to be kept separate from those of the railway. Mr. Hanna promised that he would procure one of the best steamship managers that he could get and an efficient organization. In addition to that, as so many enquiries come into the Marine and Trade and Commerce Departments, there will be an advisory committee here that will not in any way interfere with the management of the ships by Mr. Hanna and his board of directors, but will act more in an advisory capacity. The Deputy Minister of Marine and the Deputy Minister of Trade and Commerce, will consult as often as necessary with the general manager of the government ships in regard to what cargoes should be moved because there is more cargo available than the government has ships to carry. As these ships are built for Canada alone, Mr. Hanna understands full well that they are not to be used in any foreign trade if there is business available in Canada.

"As to whether the government will retain in its service the 45 ships ordered already and such additional ships as may be built, or, inasmuch as the work is largely for the purpose of giving employment, whether it will sell some of these ships and build others, will depend altogether on the business offered. At present it would not be wise for the government to sell any of its ships, especially those that are ready to go into service now. I had an offer from a New York firm today at $190 a ton which I have refused. It may be possible that some of the ships will not be completed until a later date and if we find the demand for ships and the volume of business falling off the government might possibly sell some of the ships.

Steel Cargo Steamship, Canadian Volunteer, 4,300 tons d.w., for Canadian Government Merchant Marine Ltd., immediately after launching by Wallace Shipyards Ltd., North Vancouver, B.C.

Trawlers and Drifters — Sir Sam Hughes asked if the Minister of Marine had considered the advisability of the government, assisting Canadian corporations in the construction of trawlers in government yards, or under some other system, so that Canada may have its own fleet of trawlers engaged in the fishing industry in this country with ocean ships to convey the products to the nations of the world. Mr. Ballantyne replied:—"Of the trawlers and drifters built in this country, only 6 were built for Canada. These trawlers and drifters were built probably more for war purposes than anything else. A large number of trawlers and drifters, which some people think belong to the Canadian Government, are at Liverpool at present. The British Government has sold some and might possibly sell more. The Canadian Government has only 6 trawlers on hand for the time being. There would never be any demand for trawlers except by fishermen, and I am quite sure that they would not pay the price of these expensive war trawlers. The sum they would want to pay would be so small that no one could build a similar type of trawler for it. I hope our friends in Canada will build the type of trawler that our fishermen need and at a price which they can pay."

Control of Rates, Etc.—J. E. Armstrong, M.P., for East Lambton, Ont., asked whether as the government railways are under the Board of Railway Commissioners' control as to rates, tolls and tariff agreements, it is the government's intention to place the ships under the same commission in regard to rates and tolls? Mr. Ballantyne replied: "That would be a matter for D. B. Hanna and his board of directors to consider more than it would be a question for the government. It would be a very difficult problem for any government to undertake to control rates for ocean traffic, but if it is at all feasible, the government would be willing to join in with the others."

United States Shipping Board's Policy—Mr. Ballantyne said:—"Chairman Hurley, of the U.S. Shipping Board, says that they have built 555 ocean going steel ships, that they have contracts for 1,336 similar ones yet to be built, and that when the programme is finished they will have 16,732,700 tons of shipping. Mr. Hurley's proposal, which he is going to submit to Congress, is that the U.S. Government shall sell these ships to private persons. He goes so far as to say that he is willing to recommend to the U.S. Government that they be sold, not at the cost of construction to the government, but at the cost of construction at the time the sale was made. He also states that he hopes the U.S. Government will be able to control rates, but I do not see how it can very well do so. He further states that they are going to set aside $15,000,000 for what he calls a merchant marine development fund, so that if any of their ships are in a trade route that does not prove to be profitable, the U.S. Government will come to their aid. He also states that the U.S. is striving to be the leading maritime nation of the world; and consequently we must recognize the keen competition that we are going to have from the U.S."

Shipbuilding at Sorel and Toronto—In answer to questions, Mr. Ballantyne stated that the government had not given any orders to build ships at Sorel, Que., as the yards there could not build the types of ships which have been ordered. The government has not placed any orders with any of the Toronto shipyards, because the two shipyards there had their berths all occupied either by ships they were building for the Norwegian Government before the Dominion Government's shipbuilding programme was undertaken, or by ships they were building for Canadian register. They have berths vacant now, but whether the government will be able to place any orders with them or not will depend on the amount that will be brought down in the supplementary estimates, and the approval of the house thereto.

Government's Policy Criticized—J. H. Sinclair, M.P. for Antigonish, N.S., said he thought the government was building the wrong class of ships. It was not following the policy of the C.P.R., which had never built tramp vessels, but liners which make regular trips, connect with its railway system and undertake to route goods to certain places and to deliver them on certain dates. The slow tramp vessels being built by the government will never be suitable for that class of work. It will be of no advantage to Canada to have its goods carried by a tramp vessel owned by the government, instead of by a private owner. The vessels already owned by the government are not developing Canadian trade. The s.s. McKee was chartered by a New York firm to carry coal from New York to Chili and to carry an ore cargo back. The s.s. Canadian Voyageur was carrying sugar from the West Indies to New York. Mr. Sinclair contended that ships are now being built in Great Britain at about $115 a ton d.w., and that Canada is paying too much. The government would lose heavily by its policy. When it ceased giving orders shipbuilding in Canada would stop. It should find some way by which Canadian investors could put their money into shipbuilding and compete successfully with the outside world.

Steel Cargo Steamship, Canadian Warrior, 3,750 tons d.w., built for Canadian Government Merchant Marine Ltd., by Collingwood Shipbuilding Co., Collingwood, Ont.

Mr. Ballantyne said in reply:—"If the ships we are building are tramp ships, then all cargo vessels that ply the various waters are also tramp ships. I cannot see why a ship, of say 11 knots sea speed, leaving Montreal for Liverpool should not make her schedule time just the same as a passenger ship can. Cargo ships are necessarily for carrying cargoes, and it would not be an economical policy for the government to built palatial passenger vessels to carry the cargoes that these ships are designed to carry. Mr. Sinclair went on to say that there is no difference between the freight ships built in the United States, in England, or in Canada. He must know that there is a vast difference in the design, speed and types of ships, just as there is in the various kinds of automobiles that are made. I cannot understand him when he classes all freight ships together, as regards cost and design. He is at a loss to know what particular use the government is going to make of its merchant marine ships to co-operate with the railways, and suggests that instead of having these freight ships we should have passenger ships plying on the various oceans. Every one knows that a passenger ship has not as much available space for cargo as a cargo ship, and therefore the government's policy is a sound business policy. These ships were never designed to carry passengers at all, but were designed and are being built to carry cargoes. They are what the Canadian National Rys. want, because they will carry freight from the Orient to Vancouver, and the Canadian National Rys. will carry the freight to whatever point in Canada it may be destined for. Rates are very high and profitable now, but as market rates drop it would not be supposed that the general manager of the steamship company for the government would ask for higher rates than those ruling at the time. These ships are being built in order that the people of Canada and the government may control the freight from the time that it leaves the port from which it is shipped to the time it reaches its destination in Canada, and they will carry export cargoes from mine, field, and forest, and from our industries here. The U.S. Government has put a ban on the export of wheat from Baltimore, New York, and Boston. What would this government do to carry the wheat of our great western prairies if we had not the ships we have now? Cargo ships are built for the very purpose of carrying freight, and the government shipbuilding programme does not include a passenger service. Whether we shall build passenger ships and have them ply on the Pacific and Atlantic is a subject that has not yet engaged the government's attention. The ships we are building are modern up to date cargo ships, and I do not think they should be referred to as ordinary tramp ships. They are built for the purposes of Canadian trade and to assist the Canadian National Rys., and I am sure the majority of the members of this house will support the government policy."

Michael Clark, M.P. for Red Deer, Alta., hoped the government would very seriously consider its shipbuilding programme before giving a very wide extension to it. He argued that ships could not be built and operated successfully under a high protective tariff. There had only been one great shipping country in the world, Great Britain, and that under free trade. Before the war Great Britain owned 60% of the world's ships. He did not believe that under its present tariff system Canada could compete successfully with Great Britain in shipbuilding.

Lieut.-Col. Currie, M.P. for North Simcoe, in replying to Mr. Clark, made a strong protectionist speech, and stated that Germany had built up its maritime trade by subsidizing shipbuilding. The German Government provided that inland manufacturers in Germany should have the same freight rate of the world's ports as those paid by manufacturers on the sea coast. The same policy should be adopted in Canada. He urged the establishment of a number of steamship lines, particularly to the East Indies, to Australia and New Zealand, and to South America.

Steel Plate Manufacture—D. D. McKenzie, M.P., for Cape Breton North and Victoria, urged the government to see that the projected steel plate mill at Sydney, N.S., be erected and put in operation and that ship plates may be made in Canada.

Mr. Ballantyne, in reply to a question as to the price to be paid for ship plates to be made at Sydney, said:—"The best price for the government that could be agreed upon over a year ago was $4.15 per 100 lb., based upon the price at which steel billets were selling at that time, viz.: $25.50 a ton. Ship's plates are made from steel billets, and in talking with the President of the company, I learned that steel billets would not in any event decline in price more than $10 a ton. When the government entered into the contract with the Dominion Iron and Steel Co., it was as a war project; we could not get steel from the U.S. and notwithstanding that we had placed an 80,000 ton contract there, we were only able to obtain 6,000 tons. Other countries at war, such as Britain and France, were depending on the U.S. for steel, and Japan was also getting steel from that country. The U.S., having a huge mercantile marine programme to carry out, naturally were going to serve their own necessities first before they supplied the needs of others; therefore, to make shipbuilding a self-contained industry in Canada, and to enable this country to get ships during the war, it seemed to the government that there was no other course open but to enter into the best contract we could to have the steel plates made here. It is greatly to the credit of the Dominion Iron and Steel Corporation that it was able to place before the government a more favorable proposal than we could get from the U. S. The ore used by the company to make the pig iron originates in British territory, and comes from Newfoundland, so that all the materials used in production are obtained on British soil. But after the armistice had been signed, the price of ship's plates being 2½c in the States, against possibly a minimum price of $3.75 under the Dominion Iron and Steel Co.'s contract and the government being obligated to take no less than 50,000 tons a year for a period of five years, making 250,000 tons in all, it seemed to the government that we could not very well afford to pay that price. The arrangement looked very favorable a year ago when plates were selling at from 4c to 10c a pound, but it does not look so favorable now. I agree with the leader of the opposition that to make Canada's shipbuilding programme permanent, the industry must be on a self contained basis in this country, and that we ought to make our own ship's plates. I am quite satisfied that the Dominion Steel Corporation could carry out the contract, and I am also well satisfied that Sydney is a very good point at which to make these plates. No definite conclusion has been arrived at, but the company's fairly stated that if it had completed its plant and installed the machinery necessary, it would have been at a capital cost of $[illegible],000,000. Therefore, if it is to meet the N.S. price, it would take it many years before it could do so, and possibly it might never be able to write off the initial cost of the plant, .or a portion of it. If the Dominion Iron and Steel Co. give us a more favorable price, the government would be more inclined to go on with the proposition than it is to cancel it. If, however, the company cannot see its way clear to modify the price, I think it is in the best interests of the country to cancel the contract.

"In regard to the 45 ships under contract for the government, the prices were zased, not on the contract made with the Dominion Iron & Steel Co., but on the agreement made with the United States at 3¼c a lb. The Dominion Iron and Steel Co. has not imported any of the required machinery at all. All it has done so far has been to partially erect the building; it contains no plant in the way of machinery, engines, and boilers."

Free Trade vs. Protection—In the course of further discussion, Michael Clark, M.P., for Red Deer, Alta., contended that, prior to the war, Great Britain had imported steel plates from Germany, used them in shipbuilding and then sold the ships to Germans at a profit.

J. H. Burnham, M.P., for West Peterborough, Ont., having made some protectionist remarks, D. D. McKenzie said: "While I am not a very high protectionist, I am not in favor of the tremendous wall that the Peterborough member would like to build; but I cannot help knowing that protection of certain industries has done much for this country. I cannot help knowing that in connection with this very plate industry we are talking about the institution of the steel works at Sydney those works have furnished a market for Nova Scotia coal and employment for thousands of colliers who today would not be employed were it not for the assistance which the government in the early stages gave to the development of our steel and iron industry.

"If there is to be a further development of that industry and of the coal industry by the manufacture of plate and the building of ships in this country, I think it is a wise move. I do not think any one is preaching any political heresy when he advocates the development of whatever resources we have within our own country and making ourselves as far as possible self sustaining and independent. I have no doubt the day is not far distant when we shall have a navy of our own, and I want this country to be able to build its own warships from stem to stern, with what we can ourselves produce. I am not a high protectionist, but I am prepared to deal with facts and circumstances and not with any theory which may suit somewhere but not elsewhere."

Great Lakes Service—J. E. Armstrong, M.P., for East Lambton, urged the minister to place one of the government steamships on the upper Great Lakes to control freight rates, and added:—"In 1909, wheat was taken from Port Arthur to Montreal for 2½c a bus., while in 1919, steamships on the upper lakes charged 11c for carrying wheat between those two ports, and the rates are constantly increasing, despite the fact that since 1909 we have been spending millions of dollars on our waterways."

Mr. Ballantyne said, in reply:—"We intend to have ships, not only on the Pacific and the Atlantic, but on all the principal trade routes, and certainly on the Great Lakes, so that our transportation chain will be complete."

Encouragement for Shipbuilding—A. McMaster, M.P., for Browne, Que., said that Canada could not establish shipbuilding on an artificial basis and that no interest in the country would be served by attempting to do so. He argued that the United States merchant shipping had decreased as a result of a protective policy.

W. S. Middleboro, M.P., for North Grey, Ont., pointed out that Germany had subsidized shipbuilding in order that it might be done more cheaply there than in England.

Mr. Ballantyne, in replying to Mr. McMaster, said:—"He would have Canadians simply hewers of wood and drawers of water. Canadians and drawers of water. - Canadians have demonstrated that with the very moderate protection they have had for a number of years they can hold their own with the people of any other country in the world. I am sorry Mr. McMaster was not in his seat yesterday, when I explained to the committee that Canadian yards have turned out ships equal in design and efficiency, and in every other respect to ships built in any part of the world. A few years ago some people in this country thought that ships could not be built in Canada, but it has been amply demonstrated during the last two years that they can be built here successfully. According to the opinion of Sir Geo. Hunter, of the shipbuilding firm of Swan & Hunter, of the ships built in England, Ireland and Scotland at present are costing three times as much as ships built in pre-war times. No one believes for a moment that wages in the United Kingdom will ever reach again the low level prevailing before the war. Both skilled and unskilled laborers in the old country are asking for a higher rate of wages, and I think they are perfectly justified in doing so. In view of the marvellous development that has taken place in Canada during the last few years, and the skill which Canadians have exhibited in turning out ships equal to similar ships turned out in the United Kingdom, I take issue with Mr. McMaster when he says that Canada will not be able to compete with the United Kingdom and other shipbuilding nations. As I stated yesterday, between now and the next session we are going to consider if it will be necessary to render any aid to our shipbuilders when the days of keen competition arrive, and there will be plenty of time to deal with this matter at the next session of parliament.

"Mr. McMaster has referred to the U.S. and apparently he has not kept abreast of the times. The U.S. has constructed 555 steel ships of various kinds and tonnage. Chairman Hurley, of the U.S. Shipping Board, states that they are going to build 1,136 more ships, and that when their entire mercantile marine programme has been completed they will have the enormous tonnage of 16,000,000 tons. The U.S. Government is going to aid that vast mercantile fleet. With a fleet like that next door to us, Mr. McMaster's advice to the government is that we should sit down with folded arms and go out of the shipbuilding business. That is not the policy of this government."

Several other members having spoken, Mr. Ballantyne said:—"Of course the government believes that shipbuilding will be a permanent industry in this country. If the house passes the suplementary estimate that I shall bring down in the very near future to have a limited number of ships constructed in addition to the 45 we have under contract, for the reasons that I gave yesterday, the cost of these ships will be very materially less than the cost of the 45 that are under contract. I have not had any firm offers because I have not yet received the authority of the house to order any more ships, and I will not have such authority until the supplementary estimate is approved. But, I firmly believe that I can buy an 8,000 ton ship for $160 a ton, and probably less.

"I explained to the house yesterday that for a year and a half to come no ships could be purchased from any of the yards in the United Kingdom. In answer to a member's question as to a comparison today between the price for a ship built in Canada and a similar ship built in England, the authority being cited of Sir George Hunter that there is only a difference of $10 a ton, it may be when I start negotiations with Canadian yards we may be able to build ships in this country at as low a rate as in any of the yards of the United Kingdom. However, I do not want to be too optimistic, and that all business men are trained to be most cautious, especially when they have the responsibility of office, such as I have. In respect to whatever further outlays are required on shipbuilding, the money will be expended on a thoroughly conservative and business-like basis.

"In reference to the 80,000 tons of steel contracted for n the U.S., we do not need to take the balance of the contract unless we desire to. This country has nothing to fear in shipbuilding competition from our neighbors to the south. I made a very conservative statement yesterday when I said that the ships built by the Emergency Fleet Corporation cost at least $25 a ton more than the 45 ships which the Canadian Government has under construction. A member talks about building ships at $200 a ton. In the plainest language possible I stated yesterday that our contracts ranged from $180 to $215 a ton. So far as we have gone with our shipbuilding programme, our prices compare favorably with those paid by the U.S. Government, which has built a vastly greater number of ships than we have contracted for. I have stated over and over again that when it comes to competition with the United Kingdom you cannot get a fixed price there that everything is on a plus cost basis. The information I obtained from England is that $150 a ton would be the cost, provided you could get your ships built there now; but it is quite impossible to get any built for a year and a half, and I have given as my authority the well-known shipbuilder, Sir George Hunter, of Swan and Hunter. Why a member wants to make it appear that the cost of a Canadian-built ship is so much more than that of a ship built in the U.S., and is basing on that supposition his argument that we can get ships built in the United Kingdom at present, is more than I am able to follow.

"I took the precaution of communicating with several of the leading shipbuilding firms in England before I came to this house to ask for approval of the $30,000,000 vote, and I submit that the information I gave to the committee yesterday and today is certainly based on facts. I suppose members noticed in the press some weeks ago that the famous firm of Yarrow and Co., said that it were going to establish a shipyard in British Columbia, and gave as the reason for leaving the old land, so famed for shipbuilding, that the cost of labor, material and everything else had gone up so high that it could build ships in British Columbia at a price to compete with the rest of the world.

"In view of that statement from such eminent authority, I do not see why we should feel so very uneasy about Canadians being able to build ships in competition with the world when the competition gets keener than it is now."

Atlantic and Pacific Ocean Marine.

The C.P.R. s.s. War Beryl, outbound from Montreal, collided with barge 8 at Beaujeau, Crane Island, about 40 miles below Quebec, May 21. Both vessels were badly damaged and the barge was docked at Levis for examination and repair.

The s.s. General Currie built recently by the Dominion Shipbuilding Co., Toronto, arrived at Montreal, May 14, and later sailed for New York, where she is to take a cargo for Great Britain. This vessel was not, as stated in a Montreal press dispatch, built under order of the Imperial Munitions Board.

The Jamaica Steamship Co. brought action against the U.S. steamship American in the Admiralty Court at Halifax, May 21, on the basis of a $100,000 mortgage on the vessel. It was decided that the vessel be sold after her cargo was removed. The master and crew are claiming against the ship for $11,000 wages.

The steamships Jiul and Principessa sailed from Montreal early in May with cargoes for Galatza, Rumania, these being the first of a number of sailings established through the efforts of the Canadian Trades Commission to develop

Vessels Registered in Canada During January and February, 1919.

In compiling the following lists of vessels registered, steamboats and motor boats, operated by engines of less than 10 n.h.p., are eliminated, as also are sailing vessels of less than 100 tons register.

STEAM.

No.	Name	Port of Registry	Where and when built	Length	Breadth	Depth	Gross Tons	Reg. Tons	Engines, Etc. N.h.p.	Owners or managing owners
141071	Avon Queen (1)	Windsor, N.S.	Hantsport, N.S., 1918	201.8	39.2	18.5	1035	939	Sc. 14	G. E. Fauquier, Ottawa, and J. P. Porter, Halifax, N.S.
140957	Canadian Voyageur (*)	Montreal	Montreal, 1918	319.4	44.3	22.6	3099	1868	Sc. 226	Minister of Marine and Fisheries, Ottawa.
141212	Cap Finisterre	Vancouver, B.C.	N. Vancouver, B.C., 1918	242.7	44.4	18.7	1471	1189	Sc. 26	William Lyall Shipbuilding Co., Montreal.
141210	Cap Horn	Vancouver, B.C.	" "	242.7	44.4	18.7	1469	1184	Sc. 17	" "
141220	Cap Vert	Vancouver B.C.	" 1919	242.7	44.4	18.7	1472	1177	Sc. 17	" "
94738	Chester	Windsor, N.S.	Hantsport, N.S., 1890	73.9	17.3	10.7	98	7	Sc. 16	Gypsum Packet Co., Windsor, N.S.
133968	Frances Boutilier	Digby, N.S.	Centreville, N.S., 1918	86.5	18.0	8.3	99	7	Sc. 16	A. Boutilier, Centreville, N.S.
138763	Huntley	Halifax, N.S.	Scots Bay, N.S., 1918	175.8	37.0	12.7	608	520	Sc. 13	W. H. Hebb, Halifax, N.S.
141174	War Ewan	New Westminster, B.C.	New Westminster, B.C., 1918	249.6	43.5	22.7	2344	1441	Sc. 143	Shipping Controller, London, Eng.
137910	Le Quesnoy	Toronto	Toronto, 1919	251.0	43.7	26.1	2742	1670	Sc. 147	Nova Scotia Transportation Co., Toronto.

(1) Formerly Jessie L. Fauquier. (*) Equipped for wireless telegraph.

SAILING.

No.	Name	Port of Registry	Rig	Where and when built	Length	Breadth	Depth	Gross Tons	Reg. Tons	Owner or Managing Owner
130389	A. E. Ponsford No.1	Amherstburg, Ont.	Scow	Fairport, Ohio, 1896	147.8	30.6	5.8	250	250	J. G. Mullen, Amherstburg, Ont.
141169	Adamac	Parrsboro, N.S.	Schr	Advocate, N.S., 1918	165.2	36.0	12.9	570	527	A. Shipping Co., St. John's, Nfld.
141046	Arthur H. Zwicker	Lunenburg, N.S.	"	Chester Basin, N.S., 1918	178.8	36.0	12.9	574	507	Arthur H. Zwicker Shipping Co., Lunenburg, N.S.
141134	B. L. Rafuse	La Have, N.S.	"	Conquerall Bank, N.S., 1918	157.8	32.2	12.8	526	481	Z. H. Richard, M.O., La Have, N.S.
141261	Barbara W.	Parrsboro, N.S.	"	Port Greville, N.S., 1919	127.0	31.5	11.7	308	286	G. E. Wagstaff, Port Greville, N.S.
141170	Barnhill Brothers	"	"	Two Rivers, N.S., 1919	144.0	34.0	12.0	410	373	Barnhill Shipping Co., Amherst, N.S.
141133	Bernice R.	La Have, N.S.	"	Salmon River, N.S., 1918	134.0	30.5	11.6	326	[illegible]	M. J. Parks, M.O., La Have, N.S.
138809	C. Maud Gaskill	Weymouth, N.S.	"	Little Brook, N.S., 1919	[illegible]	33.2	12.1	[illegible]	[illegible]	J. E. Gaskill, Grand Manan, N.B.
141135	Cape d'Or	La Have, N.S.	"	Cape d'Or, N.S., 1918	133.5	34.5	12.8	424	[illegible]	W. N. Reinhardt, M.O., La Have, N.S.
141136	Cape La Have	"	"	Yarmouth, N.S., 1918	137.8	32.2	12.3	398	363	" " "
138850	D. 12	Port Arthur, Ont.	Scow	Fort William, Ont., 1911	80.0	[illegible]	7.1	182	182	Great Lakes Dredging Co., Port Arthur, Ont.
138852	D. 77	"	"	" 1912	97.0	22.0	9.2	232	232	Thunder Bay Constructing Co., Port Arthur, Ont.
138853	D. 76	"	"	" 1912	110.0	32.0	8.5	290	290	" " "
141047	Democracy	Lunenburg, N.S.	Schr	Lunenburg, N.S., 1918	112.8	26.3	10.4	130	100	S. Corkum, M.O., Lunenburg, N.S.
138808	Donald & Keith	Weymouth, N.S.	"	White's Cove, N.S., 1918	120.0	29.7	11.0	329	285	Bank of Nova Scotia, Halifax, N.S.
138807	Edith Belliveau	"	"	Belliveau's Cove, N.S., 1919	122.0	30.3	10.7	288	238	B. Belliveau et al., Belliveau's Cove, N.S.
141044	Edith Dawson	Lunenburg, N.S.	"	Bridgewater, N.S., 1918	144.6	35.0	12.7	[illegible]	[illegible]	Bridgewater Shipping Co., Bridgewater, N.S.
141138	Ella L. Williams	La Have, N.S.	"	Eatonville, N.S., 1918	147.2	[illegible]	12.0	406	374	J. E. Backman, M.O., La Have, N.S.
141175	F.L.B. 4	New Westminster, B.C.	Scow	New Westminster, B.C., 1918	116.0	40.0	9.1	272	272	J. Crane, New Westminster, B.C.
141073	Favonian	Halifax, N.S.	Schr	Hantsport, N.S., 1918	[illegible]	[illegible]	12.1	442	428	A. Mouton, Halifax, N.S.
141221	Frances J. Elkin	Weymouth, N.S.	"	Church Point, N.S., 1918	[illegible]	[illegible]	13.8	[illegible]	[illegible]	R. C. Elkin, Ltd., St. John, N.B.
141209	G. of G. No. 7	Vancouver, B.C.	Scow	Eburne, B.C., 1914	82.6	31.8	7.8	171	171	Gulf of Georgia Towing Co., Vancouver, B.C.
141166	George Melville Cochrane	Parrsboro, N.S.	Schr	Fox River, N.S., 1918	[illegible]	37.0	13.9	886	[illegible]	W. N. Reinhardt and H. A. [illegible], La Have, N.S.
140871	Gordon T. Tibbo	Liverpool, N.S.	"	Liverpool, N.S., 1918	[illegible]	[illegible]	11.6	186	[illegible]	J. C. [illegible], Grand Bank, Nfld.
141213	Hanbury No.3	Vancouver, B.C.	Scow	Vancouver, B.C., 1910	[illegible]	26.2	6.8	114	114	J. Hanbury & Co., Vancouver, B.C.
141214	Hanbury No. 4	"	"	" 1911	81.0	[illegible]	[illegible]	121	121	
141216	Hanbury No. 6	"	"	" 1911	81.2	[illegible]	[illegible]	[illegible]	[illegible]	
138572	Harsen	Windsor, Ont.	Barge	Duluth, Minn., 1916	144.0	40.0	11.0	[illegible]	[illegible]	Ontario Gravel Freighting Co., Windsor, Ont.
141219	K.N. No. 3	Vancouver, B.C.	Scow	New Westminster, B.C., [illegible]	86.0	28.0	[illegible]	130	130	Kingcome Navigation Co., Vancouver, B.C.
141129	L.W. 21	"	"	" [illegible]	81.0	[illegible]	6.6	[illegible]	[illegible]	W. H. [illegible], Vancouver, B.C.
141137	Maid of Canada	La Have, N.S.	Schr	Weymouth, N.S., 1918	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W. N. Reinhardt, M.O., La Have, N.S.
140870	Maplefield	Liverpool, N.S.	"	Belliveau's Cove, N.S., 1918	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] W. Shipping Co., Liverpool, N.S.
138805	Melanson Bros	Weymouth, N.S.	"	Gilbert's Cove, N.S., 1918	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	L. N. Melanson, Gilbert's Cove, N.S.
141048	Marshal Foch	Lunenburg, N.S.	"	Ward Brook, N.S., 1919	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W. C. Smith, M.O., Lunenburg, N.S.
141167	Minas King	Parrsboro, N.S.	"	Bass River, N.S., 1918	[illegible]	36.0	[illegible]	[illegible]	[illegible]	B. L. Tucker, M.O., Parrsboro, N.S.
141168	Northcliffe	"	"	Fox River, N.S., 1918	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	S. J. Soley, M.O., Fox River, N.S.
141139	Russel S. Zinck	La Have, N.S.	"	Dayspring, N.S., 1918	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W. R. Zinck, M.O., Rose Bay, N.S.
138748	T. H. Macdonald	Yarmouth, N.S.	Bktn	Meteghan, N.S., 1918	136.0	31.0	[illegible]	[illegible]	[illegible]	T. H. Macdonald, Meteghan, N.S.
134210	Victory Chimes	Charlottetown, P.E.I.	Schr	Cardigan, P.E.I., 1918	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	J. A. McDonald, et al., Cardigan, P.E.I.
138810	Westway	Weymouth, N.S.	"	Plympton, N.S., 1918	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	S. St. C. Jones, Weymouth, N.S.

trade between Canada and Rumania. Galatz is about 140 miles up the River Danube, which debouches into the Black Sea.

The steamship service between Montreal and the River Plate, which the Houston Line of Liverpool, Eng., was to inaugurate during May, as mentioned in our last issue, under the Canadian management of McLean, Kennedy & Co., Montreal, has been postponed, owing to labor conditions in South America. It is announced that until conditions improve on the River Plate no further steps will be taken to establish the service.

The 100th anniversary of the sailing of the s.s. Savannah from Savannah, Ga., to Liverpool, Eng., was celebrated May 22. The Savannah is claimed to be the first steamship to cross the Atlantic Ocean. She was built in New York and launched Aug. 22, 1818. Her dimensions were, length 98½ ft., beam 26 ft., depth of hold 14½ ft., 319 tons. She was equipped with an inclined, direct connecting, low pressure engine of 98 h.p. with a single cylinder 40 in. diameter. Her bunker capacity was 25 tons of coal and 25 cords of wood. It is told of the trip that while at sea, June 17 of that year, she was stopped by a British cutter, whose captain thought she was on fire. The voyage took 20 days, during which steam was utilized for 80 hours.

Maritime Provinces and Newfoundland.

Lightship 15, after having been overhauled and repaired, has been replaced on her station on the Sambro Island outer bank, off the south coast of the Halifax, N.S., harbor entrance.

A St. John, N.B., press dispatch of May 15, stated that arrangements had been made with the Minister of Marine for the taking over of St. John harbor by the Dominion Government.

The Dominion Steel Corporation has acquired the s.s. Hochelaga from Furness, Withy & Co., for the coal and ore trade. The Hochelaga, during the war, was attacked by a German submarine, which she was successful in sinking, and she is stated to be the only vessel now in Canada with this honor.

The Newfoundland Government has awarded contracts to Bowring Bros., Ltd., for 2 steamship services, one to northern and the other to southern and western Newfoundland ports for a total of $100,000 a year. The steamships Portia and Prospero will be operated for 19 fortnightly trips to the north, and 26 fortnightly trips to the south and west, respectively, for 10 years from May 1. These vessels have been performing similar services during the past 15 years.

The Marine Department received tenders to May 31, for the purchase of the s.s. Lansdowne, lying at Dartmouth, N.S. She will be sold as she now lies, without any warranty as to condition of hull, boiler, machinery or equipment, and no additional equipment will be supplied by the department. She was built at Maccan, N.S. in 1884, and is screw driven by engine of 80 n.h.p. Her dimensions are, length, [illegible] ft.; breadth, 32.1 ft.; depth, 15.8 ft.; tonnage, 680 gross; 463 net. The engine is of the compound, surface condensing type with cylinders, 24 x 43 x 36 ins., supplied with steam by a tubular boiler, 13 x 10 ft.

Province of Quebec Marine.

Cie. de la Navigation Montreal-Valleyfield-Soulanges, has been granted a winding up order.

The Dominion Public Works Department received tenders May 30, for rebuilding the wharf at Magog.

The Dominion Public Works Department is receiving tenders to June 4, for rebuilding the lower entrance pier at lock 25, Galops Canal.

The Louise Docks, Quebec, which were considerably damaged by the storms and high tides of last autumn, were repaired by the Quebec Harbor Commissioners during May.

The House of Commons has voted $25,000 to the Quebec Salvage and Wrecking Co., to aid it in maintaining a plant for the assistance of vessels requiring salvage service in the St. Lawrence.

The ferry service between Montreal and St. Helen Island opened May 24. The contract has been given to J. O. Normand & Co., and covers the privilege of operating amusements, etc., on the island, until Sept. 1, 1921.

The Quebec Harbor Commission intends to complete the building of the grain conveyors from the elevators to the steamship piers and to lay railway track on the back lines along the river front, as well as raise sheds 26 and 27 by 2 ft. and also the railway tracks there.

Ontario and the Great Lakes.

The s.s. Avon, which has been purchased from foreigners by the Montreal Transportation Co., has had its name changed to Stormount.

The Public Works Department will receive tenders to June 25, for the construction of an extension to the breakwater at Bare Point, Port Arthur.

The Massey Steamship Co.'s s.s. Schlesinger, Superior, Wis., sprang a leak and sank near Passage Island, near Port Arthur, May 26. The crew were taken off by the C.P.R. s.s. Assiniboia and landed at Fort William.

The steam tug Michipicoten, operated formerly by the Owen Sound Tug Line, Owen Sound, Ont., is now operated by the North American Bent Chair Co., Owen Sound. Capt. G. T. Dunn is master and J. N. Bellmore is chief engineer.

The Chats Falls Navigation Co., Ottawa, has appointed Capt. John Chartier, Aylmer, Que., as master, and H. E. Shaver, Ottawa, Ont., as chief engineer of the steamboat which it has under construction at Hull, Que., for operation between Britannia on the Bay and Fitzroy Harbor, Ont.

The s.s. D. R. Hanna, owned in Cleveland, Ohio, downbound with wheat, was sunk in collision with the s.s. Quincy A. Shaw near Thunder Bay Island, Lake Huron, May 16, and she lies in 140 feet of water. She was built in 1906, and with her cargo was valued at $1,800,000. The crew of 31 were saved.

The Public Works Department received tenders, May 26, for the purchase of the steamboat Cingalee as she lies at Midland, Ont. She was built at Toronto in 1905, her dimensions being, length, 65.5 ft., breadth, 13 ft., depth, 5ft., tonnage, 59 gross, 23 net, and she is screw driven by engine of 10 n.h.p.

The Collingwood Steamship Co.'s s.s. City of Meaford, was burnt in Collingwood harbor, May 17. She was valued at $12,000, and was partly insured. The fire is reported to have been incendiary. She was built at Meaford, Ont., in 1906, her dimensions being, length, 111 ft; breadth, 24 ft.; depth, 8.5 ft.; tonnage, 328 gross; 223 net. She was screw driven by engine of 28 n.h.p.

Canada Steamship Lines opened its Toronto-Niagara service May 17, with the s.s. Cayuga. The s.s. Chippewa will be added to the service June 14, when two trips a day will be run. The Thousand Islands service will be opened June 14, the steamship Kingston and Toronto, running from Toronto, making three trips a week until the end of June, when a daily service will be started.

The Minister of Public Works stated in the House of Commons recently, that it is the intention to start the extension of the breakwater on the Port Arthur side of Thunder Bay, and to continue the construction of a revetment wall near the G.T.P.R. terminals on the Fort William side. About $300,000 will be spent during this season. Tenders will be received to June 5, for the construction of the breakwater extension.

A motion was made in the House of Commons recently for the resumption of the work of improving the French River waterway connecting Georgian Bay kith Lake Nipissing. The Minister of Public Works stated that he had received deputations from North Bay and district and pointed out to them that although they did not put forward claims for the carrying on of this work as a part of the Georgian Bay Canal cheme, but more as a claim by itself, he felt that if the government made up its mind to start on constructing the French

Vessels Added to and Deducted From the Canadian Register During January and February, 1919.

	Steam.			Sailing.		
		– Tonnage			– Tonnage--	
	No.	Gross.	Registered.	No.	Gross.	Registered.
Added.						
Built in Canada	46	15,202	13,506	20	14,589	10,196
Purchased from foreigners	...	......	......	2	36	23
Transferred from British possessions	1	88	88	.	......	....
New registers	1	250	250	2	112	17
Totals	48	15,540	13,844	24	14,737	10,236
Deducted.						
Wrecked or otherwise lost	11	1,657	1,533	4	1,975	1,146
Broken up or unfit for use	31	1,669	1,626	11	756	496
Sold to foreigners	2	165	165	4	851	440
Transferred to United Kingdom		......	......	2	5,125	3,033
Transferred to British possessions	3	673	584	...	......	....
New registers	1	11	11	2	93	45
Totals	48	4,175	4,219	23	8,800	5,162

River end, it would be adopting the policy of constructing the Georgian Bay Canal, it being the first link in the chain. He did not feel like asking parliament to start out on an expenditure on work of this nature during this year.

British Columbia and Pacific Coast

Navigation was opened on the Yukon River between Lake Labarge and Dawson, May 13.

The White Pass and Yukon Ry. and Navigation Co. expects to put its river steamers in operation between White Horse and Dawson, Yukon, June 2.

The Grand Trunk Pacific Coast Steamship Co.'s s.s. Prince Rupert had the blades stripped from her propeller, May 15, and was docked at Victoria, for repairs.

Frank Waterhouse & Co., shipping agents, Vancouver, B.C., and Seattle, Wash., are reported to have given all employes a bonus equal to 100% of their salary for 1918.

The British Columbia Salvage Co., Esquimalt, will receive $10,000 as a subsidy from the Dominion Government, for this year. This subsidy is granted annually to aid the company in maintaining a service for vessels which may require assistance along the coast.

Admiral Sir Charles Kingsmill inspected the s.s. Stadacona recently, prior to her sailing for the Pacific coast, and which with the steamships Armentieres, Thiepval and Givenchy have left the Atlantic coast for Esquimalt, B.C., via the Panama Canal. On arriving on the Pacific coast they will be employed on fisheries protection duties.

Copies of a resolution passed recently at Victoria, B.C., urging the Dominion Government to build a dry dock at Esquimalt, have been sent to the acting premier, and other political leaders, with the view of having the matter brought before the House of Commons on the discussion of the Marine Department estimates. The resolution calls attention to the advantages of the port's location, and to the fact that the Dominion Government already owns land there, which was acquired for such a purpose.

Compagnie Canadienne Transatlantique Ltee., has been incorporated under the Dominion Companies Act, with $1,000,000 authorized capital and office at Montreal, to carry on a general navigation business for the transportation of passengers, mail and general merchandise. Those chiefly interested in the matter are Canada Steamship Lines Ltd., Montreal, and Cie. Generale Transatlantique, of France. Details of the organization are not complete at the time of writing, but arrangements have been made for the sailing of the steamships Bilbster, May 25, and Honduras, June 15, both from Montreal, for Havre, France.

Dominion Towing and Wrecking Co. Ltd., has been incorporated under the Dominion Companies Act, with $250,000 authorized capital and office at Midland, Ont., to carry on a general towing and wrecking business, and to build, own and operate steam and other vessels, wharves, docks, etc. J. Playfair, President and Managing Director, Great Lakes Transportation Co., D. L. White, President, and D. S. Pratt, Vice President, Midland Shipbuilding Co., all of Midland, are among the provisional directors.

St. John, N.B., Harbor Development and Dry Dock.

In connection with the vote for $750,000 for improvements in the St. John harbor, the Minister of Public Works stated in the House of Commons recently, that the work which is under contract involves also the construction of a dry dock. The harbor improvements and the dry dock are both under contract to the St. John Drydock and Shipbuilding Co., really the Canada Dredging Co., which has carried out works at Port Arthur, Fort William and other places. The dry dock is being built under the Dry Dock Subsidies Act to cost at least $5,500,000 and the contractors are to receive, not a subsidy of 4½%, but interest on an amount up to $5,500,000 at 4½% for 35 years. The principal of the bonds, of course, has to be taken care of by the contractors. When the work is completed the harbor improvements will belong to the government and the dry dock will belong to the company, so that two distinct propositions are incorporated in the same contract.

The contract calls for the construction of a dry dock and ship repairing plant, which latter comes under the Dry Dock Subsidy Act, but the money will be furnished by the company and not by the government. The expenditure on this will be about $3,250,000. The company is also laying out a large shipyard, but that is entirely its own affair with which the government has nothing to do. Under the contract the dry dock is to be ready for operation in 1922, but from the progress being made and from the engineer's report, it will probably be ready a year ahead of time. The dry dock will be one of the largest in existence, the dimensions being, length, 1,150 ft.; width, 125 ft.; width on sill, 100 ft. with 40 ft of water at high tide. There are only three other dry docks on this continent to compare with it, the Champlain dry dock at Levis, Que., one at Boston, Mass., and one at the Panama Canal's Atlantic entrance.

The Naval Service Department's drifter no. 35, has been sold to A. N. Smith & Co., Halifax, N.S. Her dimensions are, length, b.p., 84 ft.; breadth extreme, 18¼ ft.; depth moulded, 10 ft. 11½ in. She is built of wood, to equal Lloyd's 100 A1 class, for a speed of 9 knots an hour, on a consumption of 4½ tons of coal a day, and has bunker capacity of 25 tons. The propelling machinery consists of compound surface condensing engine, with cylinders 12 x 24 x 16 in. stroke and 24 n.h.p., supplied with steam by a Scotch boiler, with two plain furnaces equipped for natural draft. The boiler dimensions are, length, 9 ft., diameter, 9½ ft.; working pressure, 140 lb a sq. in She has large circulating feed and bilge pumps working from main engine, duplex tank pump, injector and bilge syphon.

Quebec Towing and Transportation Co. Ltd. has been incorporated under the Quebec Companies Act, with $140,000 authorized capital and office at Quebec, Que., to carry on a general transportation, towing and wrecking business, and in connection therewith, to own and operate steam and other vessels. J. S. Thom, H. L. Thom, R. Guay, C. Fremont and A. Boivin, Quebec, Que., are the incorporators.

General Shipbuilding Matters Throughout Canada.

Cholberg Ship Co., Victoria, B.C., launched, May 8, the first of several auxiliary powered schooners to be built for Norwegian interests. She was named Gunn, by Mrs. Hansen of Porsgrund, Norway. To mark the occasion of the first launch at the yard, the employes presented the manager, C. Cholberg, with a case of silver, and the owners of the first vessel presented Mrs. Hansen with a gold ring set with five pearls. The Gunn is owned by the Porsgrund Damp and Seil Co., Porsgrund, Norway, and is built of wood, and equipped with Diesel auxiliary power. It was expected that she would be completed and ready to take her cargo of 1,200,000 ft. of lumber from Hastings Mills, by the end of May. A second vessel for the same owners is under way.

Foundation Co., Victoria, B.C.—Of the 20 full powered wooden steamships which this company is building for the French Government, details of which have been given in previous issues, seven have been launched and named, respectively, Strasbourg, Metz, Mulhouse, Canada, Montcalm, Winnipeg and Ontario. Names have been selected for the remaining 13 as follows:—Wilfrid Laurier, Trois Rivieres, Vancouver, Victoria, Quebec, Montreal, Ottawa, Frontenac, Le Salle, Acadie, Montmagny, Alberta and Nouvelle Ecosse.

Grant & Horne Ltd., St. John, N.B., are building a 4-masted schooner of 650 tons for trans-Atlantic and South American trade. She is expected to be ready for service about September.

C. T. White and Sons, Alma, N.B., launched a four masted schooner, Bessie A. White, May 3. Her dimensions are, keel, 151 ft.; beam, 36 ft.; depth of hold, 12½ ft.; cargo capacity, 600 tons. She is equipped with auxiliary power supplied by a Wolverine gas engine. She took on a cargo of lumber at St. John, during May, for Great Britain. A similar ship is in frame at the same yard, and is expected to be ready for launching in August.

Sale of Trawlers and Drifters—Canadian Railway and Marine World for May gives some information as to the purchase by the Anderson Co. of Canada, Montreal, of a large number of trawlers and drifters built in Canada during the war. We are advised that there are 60 of these steel steam trawlers and 89 wooden steam drifters. The majority of these vessels are at the Halifax dockyard and in the northwest arm of the harbor. Twenty-two drifters are at Liverpool, N.S. There are 7 steam trawlers still under construction, 5 of which are expected to be completed in June, 4 are being built at Port Arthur; 2 at Quebec and 1 at Kingston

Canals Expenditures and Revenues—The Railways and Canals Department report for the year ended Mar 31, 1918, issued recently, shows that the expenditure on canals for the year was $3,327,556.55 of which $1,781,957.07 was on capital account, $111,552.28 on income account, and $1,434,047.20 on revenue account The revenue from the canals for the year was $414,868.22, made up of rents, harbor dues, etc., $163,164.82, and receipts from Port Colborne elevator, $414,868.22. No tolls have been collected for the use of the canals since 1903.

Canadian Government Merchant Marine, Ltd., Shipbuilding, Operation, Etc.

Keels Laid.—Since the publication of the full page table in Canadian Railway and Marine World for May, and which is repeated in this issue with additions up to date, we have been advised of the laying of keels for steamships for Canadian Government Merchant Marine Ltd., as follows:

Marine Department contract 6, builder's yard no. 101, Wallace Shipyards Ltd., Vancouver, B.C., s.s. Canadian Aviator, 5,100 tons, Apr. 5, 1919.

Marine Department contract 27, builder's yard no. 71, Canadian Vickers, Ltd., Montreal; s.s. Canadian Spinner, 8,100 tons, Apr. 23, 1919.

Marine Department contract 28, builder's yard no. 72, Canadian Vickers, Ltd., Montreal; s.s. Canadian Planter, 8,100 tons, May 10, 1919.

Marine Department contract 31, builder's yard no. 15, Collingwood Shipbuilding Co., Kingston, Ont.; s.s. Canadian Beaver, 3,750 tons, Apr. 7, 1919.

Marine Department contract 34, builder's yard no. 11, J. Coughlan & Sons, Vancouver, B.C.; s.s. Canadian Importer, 8,100 tons, Apr. 26, 1919.

Marine Department contract 35, builder's yard no. 12, J. Coughlan & Sons, Vancouver, B.C., 8,100 tons, May 3, 1919.

Names of Vessels—Since Canadian Railway and Marine World for May was published, we have been advised of the following additional names having been chosen for steamships, ordered for Canadian Government Merchant Marine Ltd.

Marine Department contract 13; builder's yard no. 5; Tidewater Shipbuilders Ltd., 5,100 tons; s.s. Canadian Settler.

Marine Department contract 14; builder's yard no. 6; Tidewater Shipbuilders Ltd., 5,100 tons d.w.; s.s. Canadian Rancher.

Marine Department contract 15; builder's yard no. 7; Tidewater Shipbuilders Ltd.; 5,100 tons d.w.; s.s. Canadian Fisher.

Marine Department contract 16; builder's yard no. 8; Tidewater Shipbuilders Ltd.; 5,100 tons d.w.; s.s. Canadian Forester.

Marine Department contract 17; builder's yard no. 459; Davie Shipbuilding & Repairing Co., 5,100 tons d.w.; s.s. Canadian Trapper.

Marine Department contract 18; builder's yard no. 460; Davie Shipbuilding & Repairing Co.; 5,100 tons, s.s. Canadian Hunter.

Marine Department contract 19a; builder's yard no. 41; Port Arthur Shipbuilding Co., 3,400 tons d.w.; s.s. Canadian Adventurer.

Marine Department contract 20a; builder's yard no. 42; Port Arthur Shipbuilding Co.; 3,400 tons d.w.; s.s. Canadian Cadet.

Marine Department contract 21; builder's yard no. 1; Halifax Shipyards Ltd.; 8,100 tons d.w; s.s. Canadian Mariner.

Marine Department contract 22; builder's yard no. 2; Halifax Shipyards Ltd.; 8,100 tons d.w.; s.s. Canadian Explorer.

Marine Department contract 34; builder's yard no. 11; 8,100 tons d.w.; J. Coughlan & Sons; s.s. Canadian Importer.

Marine Department contract 35; builder's yard no. 12; J. Coughlan & Sons; 8,100 tons d.w.; s.s. Canadian Exporter.

Marine Department contract 36; builder's yard no. 13; J. Coughlan & Sons; 8,100 tons d.w.; s.s. Canadian Inventor.

Marine Department contract 37; builder's yard no. 14; J. Coughlan & Sons; 8,100 tons d.w.; s.s. Canadian Prospector.

Launchings of Steamships—Since Canadian Railway and Marine World for May was published, we have been advised of the following additional launchings:—

Marine Department contract 10, builder's yard no. 62, Collingwood Shipbuilding Co., Collingwood, Ont.; s.s. Canadian Recruit, 3,750 tons, d.w., May 3, 1919.

Marine Department contract 19, builder's yard no. 39, Port Arthur Shipbuilding Co., Port Arthur, Ont., s.s. Canadian Trader, 3,400 tons, d.w., May 5, 1919.

Tonnages of Ships—Three of the steamships built have had their respective tonnages obtained by actual measurement as follows:

Marine Department contract 1; builder's yard no. 66; Canadian Vickers Ltd.; s.s. Canadian Voyageur; 4,300 tons d.w.; 3,099 tons gross, 1868 tons net.

Marine Department contract 2; builder's yard no. 67; Canadian Vickers Ltd.; s.s. Canadian Pioneer; 8,100 tons d.w.; 5,758 tons gross, 3,548 tons net.

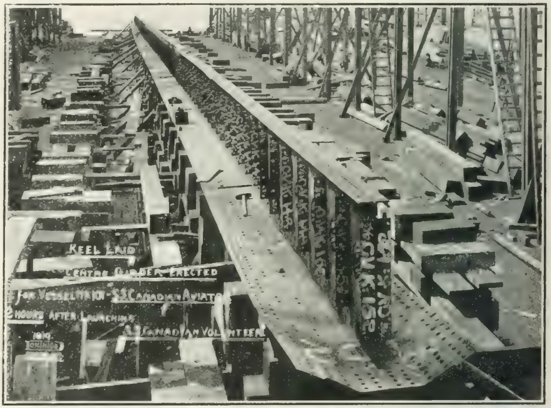
Marine Department contract 3; builder's yard no. 61; Collingwood Shipbuilding Co., Collingwood; s.s. Canadian Warrior; 3,750 tons d.w., 2,409 tons gross, 1,452 tons net.

Prices for Building Steamships—Ottawa press dispatch, May 19:—As the price of steel plates which the Dominion Government contracted for with United States firms has gone down from $3,25 a hundredweight to $2.75; the government will, on that account, get its ships a little cheaper than it had anticipated. The government's contract with the Pittsburg firms called for a maximum of $3.25 and for anything less if the price goes lower. It is possible that the price will go still lower. The government will buy the steel at the Pittsburg price and sell to shipbuilders throughout Canada at $3.25 a hundredweight. This will mean a profit of $10 a ton, which the government can apply to reducing the cost of its ships. For one of the standard 8,100-ton ships 2,800 tons of steel plates will be used, so that on each ship the government will save $28,000. As many of the Pittsburg furnaces have been closed down for lack of orders to keep them running there will be no difficulty for some time in the governmen tsecuring any steel it may need, for shipbuilding steel is the only material used in shipbuilding on which a drop in price has been reported.

Ships for Pulp and Paper Trade—Ottawa press dispatch, May 26.—The Dominion Government has been approached by pulp and paper manufacturers with a view to having the government turn over to them two of the government steamships built during the war. These steamships would supply a bi-monthly service and would pick up most of their cargoes at the various pulp and paper mills on the St. Lawrence.

The s.s. Canadian Pioneer, 8,100 tons, d.w., the second ship built by Canadian Vickers Ltd., at Montreal, under the Dominion Government's programme, and which was launched Dec. 3, 1918 and afterwards taken to Quebec, was finally completed at the Canadian Vickers' works, Montreal, May 9 and proceeded up the harbor to take on cargo for Buenos Aires, and sailed from Montreal, May 22. After discharging cargo at Buenos Aires she will load a general cargo from South America for a return trip to Montreal.

The s.s. Canadian Ranger, 8,100 tons d.w., was delivered to Canadian Government Merchant Marine Ltd. at Canadian Vickers Ltd. yard at Montreal, May 23, and at once went up the harbor and commenced loading general cargo for Liverpool, for which port she was expected to sail May 29. She is to bring back a general cargo from Liverpool to



Keel and Center Girder for Steel Cargo Steamship, Canadian Aviator, 5,100 tons d.w., for Canadian Government Merchant Marine Ltd., under construction by Wallace Shipyards Ltd., North

Montreal.

The s.s. **Canadian Warrior**, 3,750 tons d.w., built by Collingwood Shipbuilding Co., Collingwood, Ont., was delivered to Canadian Government Merchant Marine Ltd., Apr. 26, and left Collingwood, Apr. 30, for Port Huron, Mich., where she loaded coal for Montreal. After discharging the coal at Montreal, she loaded a general cargo for Barbadoes, Trinidad, and Havana, and sailed May 20. After discharging her cargo she will load a full cargo of sugar at Havana for Montreal.

British American Shipbuilding Co., Welland, Ont., which has contracts from the Marine Department for 2 steel cargo steamships of 4,350 tons d.w., each, laid the keel for Department contract 44, builder's yard no. 4, Mar. 29, as previously stated in Canadian Railway and Marine World. The company advised us May 14 that it expects to launch its builder's yard no. 3, the s.s. War Racoon, 3,500 tons d.w., for the British Government, between May 26 and 31, and as soon as possible thereafter it will lay the keel for Marine Department contract 45, builder's yard no. 5, 4,350 tons for Canadian Government Merchant Marine Ltd.

Canadian Vickers Ltd., Montreal, finally completed the s.s. Canadian Pioneer, 8,100 tons, d.w., May 9, and delivered her to the Marine Department at Montreal.

Canadian Vickers Ltd. has laid keels for 2 more 8,100 ton steamships for Canadian Government Merchant Marine Ltd., viz.: Marine Department contract 27, builder's yard no. 71, s.s. Canadian Spinner, Apr. 23, and Marine Department contract 28, builder's yard no. 72, Canadian Planter, May 10. The latter is the last contract placed with this builder by the Marine Department.

Collingwood Shipbuilding Co., Kingston, Ont., laid the keel of the s.s. Canadian Beaver, Marine Department contract 31; builder's yard no 15; 3,750 tons d.w.; Apr. 7, and expects to have her ready for launching in September.

The trial runs of the s.s. Canadian Warrior; 3,750 tons d.w.; Marine Department contract 3; builder's yard no. 61, were made on Apr. 23, and the ship was accepted by the Marine Department, Apr. 26. The company launched the s.s. Canadian Recruit; 3,750 tons d.w.; Marine Department contract 10; builder's yard no. 62, May 3.

J. Coughlan & Sons, Vancouver, B.C., who have contracts from the Marine Department for 4 steel cargo steamships, 8,100 tons d.w., each, laid the keel for Marine Department contract 34, builder's yard no. 11, Apr. 26, and the keel for Marine Department contract 35, builder's yard no. 12, May 3. They advised us May 8 that the keel for Marine Department contract 36, builder's yard no. 13, will probably be laid during the first week in June, and the keel for Marine Department contract 37, builder's yard no. 14, about the end of June or early in July.

Port Arthur Shipbuilding Co., Port Arthur, Ont., launched the s.s. Canadian Trader, Marine Department contract 19, builders' yard no. 39, 3,400 tons d.w., May 5, the ship being christened by Mrs. A. W. Roberts, wife of the President, Port Arthur Board of Trade. This ship is a full canal sized ocean freighter of 3,400 d.w. tons, steel, screw, single deck type, with a straight stem and semi-elliptical stern, built on the transverse system with poop, bridge and forecastle. The principal dimensions: Length over all, 260 ft.; length, between perpendiculars, 251 ft.; breadth, moulded, 40½ ft.; depth, moulded, 23 ft. The ship is built to British Lloyds 100 A1 classification, fit-out in accordance with British Board of Trade rules. The propelling machinery is placed amidships. The main engine is of the triple expansion vertical inverted type, with cylinders 20½, 34, 56 x 40 in. stroke, developing about 1,500 i.h.p. The auxiliary machinery includes a feed pump evaporator of 15 tons capacity per 24 hours; auxiliary condenser, with attached air and circulating pumps, vertical duplex ballast pump and auxiliary feed pump. A steam ash hoist is located in boiler room. Steam is to be supplied by two Scotch boilers, 15 x 11 ft.; construction, according to Lloyds and Canadian rules, having working pressure of 190 lbs. The 3,400 ton type is very similar to the 3,750 ton type ordered by the Marine Department, a full description of which was published in Canadian Railway and Marine World for Sept., 1918.

Prince Rupert Dry Dock and Engineering Co., Prince Rupert, B.C., which has contracts from the Marine Department for 2 steel cargo steamships, 8,100 tons each, has been delayed in getting started, owing to the non delivery of steel, but we were officially advised May 9 that the company expects to lay the keel for one between June 15 and July 1, and for the other about a month later.

Tidewater Shipbuilders Ltd., Three Rivers, Que., which has orders from the Marine Department for 4 steel cargo steamships, 5,100 tons d.w. each, and which, as already announced in Canadian Railway and Marine World, has laid keels for 2, viz.: Marine Department contract 13, builder's yard no. 5, Jan. 8, 1919, and Marine Department contract 14, builder's yard no. 6, Jan. 10, 1919; it expects to lay the keel for the other two as follows: Marine Department contract 15, builder's yard no. 7, about Sept. 1; Marine Department contract 16, builder's yard no. 8, about Oct. 1.

Victoria Machinery Depot Co., Victoria, B.C., has contracts from the Marine Department for 2 steel cargo steamships, 8,100 tons d.w. each, the approximate delivery dates being Jan. 31 and Nov. 30, 1920. We were officially advised by the department May 22, that the keels had not then been laid. As stated in Canadian Railway and Marine World for April, the Harbor and Marine Co. Ltd. is reported to have been organized as a subsidiary company to carry out the contracts.

Wallace Shipyards Ltd., North Vancouver, B.C., which is building four steel cargo steamships for Canadian Government Merchant Marine Ltd., 2 of 4,300 tons d.w. each and 2 of 5,100 tons d.w. each, launched the first one, the s.s. Canadian Volunteer, of 4,300 tons, Marine Department contract 4, builder's yard no. 100, on Apr. 5, as stated in Canadian Railway and Marine World for May, the keel having been laid Oct. 1, 1918. Within two hours after the Canadian Volunteer's launching, the keel for the s.s. Canadian Aviator, Marine Department contract 6, builder's yard no. 101, of 5,100 tons d.w., was laid complete with center girder in the same berth.

We were advised May 1 that the builders expected to launch the s.s. Canadian Trooper, Marine Department contract 5, builder's yard no. 106, of 4,300 tons, about May 20, and that immediately thereafter the keel would be laid for the s.s. Canadian Scout, Marine Department contract 7, builder's yard no. 102, of 5,100 tons d.w.

Details of the Different Types of Steamships for Canadian Government Merchant Marine Ltd.

The following are comparative details of the six different types of steamship being built for Canadian Government Merchant Marine Ltd.:

	2,800 ton	3,400 ton	3,750	4,300 ton.	5,100 ton.	8,100 ton.	10,500 ton
Length, overall	—	260 ft	260½ ft	333 ft. 7 ins.	344½ ft	413 ft. 1 in	
Length, bet. perpendiculars	270 ft	251 ft	251 ft	320 ft.	331 ft.	400 ft	430 ft
Breadth, moulded	[illegible] ft	43½ ft	43½ ft.	44 ft.	46½ ft.	52 ft	56 ft
Depth, moulded	[illegible] ft	23 ft	26 ft.	25 ft.	25½ ft.	31 ft	38 ft
Draft, loaded	17¾ ft	20 ft 1½ in.	22 ft 2 in	21 ft. 2 ins	21 ft 8 ins	25 ft. [illegible]	[illegible]
Type	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	Lake, s.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le
Engines—Type	[illegible]	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion
Cylinders, diam.	17½ x 28¾ x 47 ins.	20½ x 34 x 56 ins	18 x 30 x 50 ins	25 x 41 x 67 ins.	25 x 41 x 68 ins.	27 x 44 x 73 ins	29½ x 50 x 80 ins
Stroke	[illegible]	40 ins.	36 ins.	45 ins	45 ins.	48 ins	54 ins
I.h.p.	[illegible]	1,500	1,200	1,800	2,500	3,000	
Boilers—Type	Single ended	Single ended	Single ended	Single ended	Single ended	Single ended	Single ended
No.	2	2	2	2	3	3	4
Diam. and length	[illegible] ft	15 x 11 ft	14 x 10¾ ft.	15½ x 11½ ft	14 x 11½ ft.	15½ x 11½ ft.	
Working pressure	[illegible]	190 lbs	180 lbs	180 lbs	180 lbs.	180 lbs	180 lbs
Furnaces—No.	[illegible]	6		6	9	9	
Grate surface	[illegible] sq. ft.	135 sq. ft	100 sq. ft	132 sq. ft	156 sq. ft	198 sq. ft	
Heating surface	[illegible] sq. ft.	4,570 sq. ft	3,900 sq. ft	5,162 sq. ft	7,2[illegible] sq. ft	7,743 sq. ft	
Speed	[illegible] knots	9 knots	9 knots	11 knots	11 knots	11 knots	12 knots
Classification	Lloyd's	Lloyd's	Brit. Corp.	Lloyd's	Lloyd's	Lloyd's	Lloyd's

Orders for Steel Cargo Steamships for Canadian Government Merchant Marine Ltd.

The following is a complete list of steel cargo steamships which the Dominion Marine Department has been authorized, by order in council, to place orders for, and which orders are to be carried out
The following contractions are used in the column giving the type of the vessel to be built: s.d., single deck; 2 d., two deck; 3 d., three deck; lake, lake type; p., poop; b., bridge; f'c's'le, forecastl

Contract	Contract date	Builder	Yard no.	Tons d.w.	Price per ton d.w.	Total price	Type	Classification	Speed, knots	Approximate delivery date	Keel laid	Launched	Name
1	Mar. 1, 1918	Canadian Vickers Ltd., Montreal	66	4,300	$207.	$ 890,100	S.d., p., b. and f'c's'le	Lloyd's	11	Dec. 31, 1918	June 11, 1918	Nov. 23, 1918	Canadian Voyageur
2	May 22, 1918	"	67	8,100	180.	1,458,000	2 d., p., b. and f'c's'le	"	11	Jan. 31, 1918	July 17, 1918	Dec. 3, 1918	Canadian Pioneer
3	May 18, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	61	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	May 1, 1919		Dec. 21, 1918	Canadian Warrior
4	Mar. 15, 1918	Wallace Shipyards Ltd., Vancouver, B.C.	100	4,300	207.	890,100	S.d., p., b. and f'c's'le	Lloyd's	11	Mar. 31, 1919	Oct. 1, 1918	Apr. 5, 1919	Canadian Volunteer
5	Nov. 25, 1918	" "	106	4,300	217.	933,100	S.d., p., b. and f'c's'le	"	11	May 31, 1919	Nov. 15, 1918		Canadian Trooper
6	Nov. 25, 1918	" "	101	5,100	210.	1,071,000	S.d., p., b. and f'c's'le	"	11	July 31, 1919	Apr. 5, 1919		Canadian Aviator
7	Nov. 25, 1918	" "	102	5,100	210.	1,071,000	S.d., p., b. and f'c's'le	"	11	Sept. 30, 1919			Canadian Scout
10	July 5, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	62	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	May 15, 1919	June 3, 1918	May 3, 1919	Canadian Recruit
11	Oct. 17, 1918	" "	63	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 15, 1919	Jan. 16, 1919		Canadian Signaller
12	Oct. 17, 1918	" "	64	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	Feb. 10, 1919		Canadian Gunner
13	Aug. 9, 1918	Tidewater Shipbuilders Ltd., Three Rivers, Que.	5	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	Lloyd's	11	Aug. 1, 1919	Jan. 8, 1919		Canadian Settler
14	Aug. 9, 1918	" "	6	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Sept. 1, 1919	Jan. 10, 1919		Canadian Rancher
15	Jan. 24, 1919	" "	7	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 15, 1919			Canadian Fisher
16	Jan. 24, 1919	" "	8	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	May 15, 1920			Canadian Forester
17	Sept. 4, 1918	Davie Shipbuilding & Repairing Co., Lauzon, Que.	459	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 1, 1919	Mar. 11, 1919		Canadian Trapper
18	Sept. 4, 1918	" "	460	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 8, 1919	Mar. 28, 1919		Canadian Hunter
19	Sept. 4, 1918	Port Arthur Shipbuilding Co., Port Arthur, Ont.	39	3,400	205.	697,000	Lake, s.d., p., b. and f'c's'le	"	9	June 1, 1919	Dec. 9, 1918	May 5, 1919	Canadian Trader
19a	Mar. 1, 1919	" "	41	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Sept. 30, 1919	Mar. 31, 1919		Canadian Adventurer
20	Sept. 4, 1918	" "	40	3,400	205.	697,000	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	Dec. 10, 1918		Canadian Sailor
20a	Mar. 1, 1919	" "	42	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Oct. 31, 1919	Mar. 31, 1919		Canadian Cadet
21	Sept. 13, 1918	Halifax Shipyards, Ltd., Halifax, N.S.	1	8,100	195.	1,579,500	2.d., p., b. and f'c's'le	"	10	Dec. 19, 1919	Feb. 21, 1919		Canadian Mariner
22	Sept. 13, 1918	" "	2	8,100	195.	1,579,500	2.d., p., b. and f'c's'le	"	10	Apr. 1920	Mar. 15, 1919		Canadian Explorer
23	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	73	4,300	215.	924,500	S.d., p., b. and f'c's'le	"	11	May 27, 1919	Jan. 22, 1919		Canadian Navigator
24	Oct. 11, 1918	" "	68	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	May 1, 1919	Aug. 26, 1918	Apr. 19, 1919	Canadian Ranger
25	Oct. 11, 1918	" "	69	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	June 1, 1919	Nov. 30, 1918		Canadian Seigneur
26	Oct. 11, 1918	" "	70	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	July 1, 1919	Dec. 2, 1918		Canadian Miller
27	Oct. 11, 1918	" "	71	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	Aug. 1, 1919	Apr. 23, 1919		Canadian Spinner
28	Oct. 11, 1918	" "	72	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	Sept. 1, 1919	May 10, 1919		Canadian Planter
29	Jan. 24, 1918	Victoria Machinery Depot Co., Victoria, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Jan. 31, 1920			
30	Jan. 24, 1919	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Nov. 30, 1920			
31	Dec. 11, 1918	Collingwood Shipbuilding Co., Kingston, Ont.	15	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	Nov. 1, 1919	Apr. 7, 1919		Canadian Beaver
32	Mar. 1, 1919	Port Arthur Shipbuilding Co., Port Arthur, Ont.	43	4,300	215.	935,250	S.d., p., b. and f'c's'le	Lloyd's	10½	Nov. 1, 1919			
33	Mar. 1, 1919	" "	44	4,300	215.	935,250	S.d., p., b. and f'c's'le	"	10½	Nov. 15, 1919			
34	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	11	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	July 31, 1919	Apr. 26, 1919		Canadian Importer
35	Nov. 22, 1918	" "	12	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Aug. 31, 1919	May 3, 1919		Canadian Exporter
36	Nov. 22, 1918	" "	13	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Sept. 30, 1919			Canadian Inventor
37	Nov. 22, 1918	" "	14	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Oct. 31, 1919			Canadian Prospector
38	Dec. 10, 1918	Halifax Shipyards Ltd., Halifax, N.S.	3	10,500	197½	2,073,750	3.d., p., and f'c's'le	"	12	Aug. 1, 1920			
39	Dec. 10, 1918	" "	4	10,500	197½	2,073,750	3.d., p., and f'c's'le	"	12	Nov. 1, 1920			
40	Mar. 31, 1919	Nova Scotia Steel & Coal Co., New Glasgow, N.S.	5	2,800	210.	588,000	S.d., p., b. and f'c's'le	"	8½	Oct. 1919	Mar. 27, 1919		
41	Mar. 31, 1919	" "	6	2,800	210.	588,000	S.d., p., b. and f'c's'le	"	8½	Nov. 1919	Mar. 31, 1919		
42	Feb. 21, 1919	Prince Rupert Dry Dock and Engineering Co., Prince Rupert, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Feb. 1920			
43	Feb. 21, 1919	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	June 1920			
44	Jan. 23, 1919	British American Shipbuilding Co., Welland, Ont.	4	4,350	215.	935,250	S.d., p., b. and f'c's'le	Brit. Corp.	10	Nov. 1919	Mar. 29, 1919		
45	Jan. 23, 1919	" "	5	4,350	215.	935,250	S.d., p., b. and f'c's'le	"	10	June 1920			
				263,850		$52,691,450							

Cargo Steamship Building in Canada for British Government.

Steamships Launched and Under Construction—Since the information given in our last issue, covering launchings of steamships under construction in Canada for the British Government was published, 2 steel steamships have been launched as follows: May 1, War Magic, Midland Shipbuilding Co., Midland, Ont.; 3,400 tons d.w.; May 3, War Column, J. Coughlan & Sons, Vancouver, B.C., 8,800 tons. This makes a total of 34 steel steamships of 169,300 tons, and 45 wooden steamships of 138,600 tons launched, an aggregate of 79 vessels and 307,900 tons.

Following is a list of the vessels under construction:

Steel Steamships.

Builder.		**Tons d.w.**
British American Shipbuilding Co. Welland, Ont.	War Racoon	3,500
Canadian Allis-Chalmers, Ltd., Bridgeburg, Ont.—	War Vixen	3,500
"	War Wallaby	3,500
"	War Wombat	3,500
J. Coughlan & Sons, Vancouver, B.C.—	War Chariot	8,800
"	War Company	8,800
Midland Shipbuilding Co., Midland, Ont.—	War Fury	3,400
Polson Iron Works, Ltd., Toronto, Ont.—	War Algoma	3,500
"	War Halton	3,500
	9 steel steamships	53,000

Wooden Steamships.

Grand & Horne, St. John, N.B.—	War Moncton	3,080

Total—9 steel steamships, 1 wooden steamship, 56,080 tons.

Names of Ships Changed—As stated in Canadian Railway and Marine World for April, Canadian Allis-Chalmers Ltd., Bridgeburg, Ont., launched on March 3 a steel cargo steamship of 3,500 tons d.w., for the British Government, under order from the Imperial Munitions Board, and she was christened War Leveret. Subsequently by order of the I.M.B. the name was changed to War Magic. On May 1 the Midland Shipbuilding Co., Midland, Ont., launched another steel cargo steamship of 3,400 tons d.w., also for the British Government, which was christened War Magic. Subsequently this name was changed to War Leveret.

J. Coughlan & Sons, Vancouver, B.C. Work on vessels under construction for the British Government in this yard was reported May 9, to have been temporarily suspended owing to steel shortage. The vessels under construction affected by this are War Chariot and War Company. The steamships War Convoy and War Cavalry, built at this yard for the British Government, are reported sold to New York interests. The War Convoy sailed from Vancouver early in May for New York, where it is said she is to take on cargo for Greece. The War Cavalry will also go to New York, both vessels taking the Panama route.

Grant & Horne Ltd., St. John, N.B.—The s.s. War Moncton, the last of the wooden steamships to be built in Canada for the British Government under order from the Imperial Munitions Board, was expected to be launched May 29 with boilers installed, and after launching, to be towed to Sandy Point where the engines are to be installed. The launching of this vessel completes the wooden shipbuilding in Canada for the British Government through the Imperial Munitions Board.

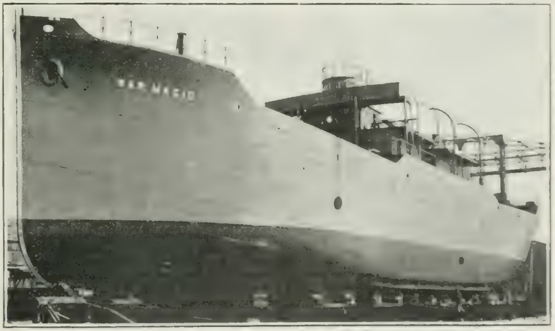
The Midland Shipbuilding Co., Midland Ont., launched, May 1, War Magic, the second of three steel cargo steamships cook and assistant, 2 mess rooms, wash of 3,400 tons each d.w., ordered of it by the Imperial Munitions Board for the British Government. The first ship, War Fiend, was launched Oct. 24, 1918, and the third one, War Fury, is being built. The following are the principal dimensions:

Length over all	261 ft.
Length between perpendiculars	251 ft.
Depth moulded to main deck	23 ft.
Load draft	19½ ft.

The vessels are built to Lloyd's highest class and are of the ocean going type, with raised forecastle, bridge and poop decks, the propelling machinery being placed amidships. The deckhouse containing the officers' quarters is on the bridge deck, accommodation being provided for the chief officer, second and third mates, chief engineer and assistants, wireless operators and steward. The saloon, dining room, pantry, storeroom, galley and other offices are also contained in this house. Above these quarters are the captain's cabin and chart room, which are surmounted in turn by the pilot house and the navigating bridge. The layout of accommodations under the poop deck provide for 6 seamen, 6 firemen, room and shower, while the boatswain and the donkey-man are located in the forecastle, as is also the hospital. Coal bunkers are fitted along side the engines and boilers, with coal chute above, and three coaling hatches each side on main deck; the space in 'tween decks can also be utilized for bunker coal.

A complete double bottom of the cellular type, 42 in. deep, runs for the entire length of the ship, constructed with solid floors on every frame, and one longitudinal girder on each side of the center line. Four watertight bulkheads, all extending to the main deck, divide the peaks and machinery space from the cargo holds of which there are two. There are 4 main cargo hatches, two 26 x 18 ft., one 22 x 18 ft., and one 18 ft. square. The hatch coamings are 42 in. high, with extra stiffening to withstand heavy water; the web beams are spaced about 4½ ft apart, and fitted 'thwartship with fore and aft hatch covers. For loading and discharging cargo, the whole of the working gear is of the most modern type. Four steel derrick posts, 30 ft. high, are provided, each with 2 cargo booms, having a lifting capacity of 4 tons to each boom. Eight 7 x 10 in. steam winches, of the latest type are supplied.

The steering engine is on the main deck at the aft end of bridge erection, and is of the usual type for ocean freighters; the control shafting being run alongside the casing top on boat deck to the engine, with rods and chain to the quadrant. There are 2 metallic lifeboats 24 ft. x 3¼ ft. deep, each boat being capable of accommodating the entire crew; one 16 ft. working boat is also provided for. The propelling machinery consists of triple expansion engines with cylinders 20½, 33, 54 x 40 in. stroke, steam being supplied by 2 single-ended Scotch boilers 15¾ ft. diameter by 11 ft. long, built by John Inglis Co., Toronto. The War Magic will be fitted out in accordance with the latest Board of Trade requirements. Her construction has been under the personal supervision of Capt. E. E. Tedford, representing the British Government.



Steel cargo steamship, War Magic, 3,400 tons d.w., for British Government just before launching by Midland Shipbuilding Co., Midland, Ont., May 1, 1919.
(The name of this vessel was subsequently changed to War Leveret).

Victoria Machinery Depot Co., Victoria, B.C. Work is progressing satisfactorily on the laying out of the shipbuilding yard for the Harbor Marine Co. Ltd., on the south side of the Songhees Reserve, where 2 steel steamships of 8,100 tons each will be built for Canadian Government Merchant Marine Ltd. It was expected that the plant would be ready for the laying of the first keel by the end of May, when delivery of steel was expected. The outbuildings are nearly completed, but have been somewhat delayed owing to non delivery of lumber, the first shipway is completed with the exception of the keel blocks and considerable progress has been made on the second shipway.

Spier Ship Co., has been incorporated under the Dominion Companies Act, with $30,000 authorized capital and office at Montreal, to carry on a general steamship and navigation business and to own and operate steam and other vessels.

Canadian Ocean Steamship Subsidies, Cargoes, Etc.

Of the total amount of $2,467,120.67 provided in the Dominion Government estimates for mail subsidies and steamship subventions for the year ending Mar. 31, 1920, the greater part, or $1,716,666.66, is for services operating to and from Canada on the Atlantic Ocean; $492,142.34 for Pacific Ocean services, and the rest for local services. For most of the Atlantic services the votes are double those for 1918, they remain the same for the Pacific services and also for the individual local services, although some extra allowances are made for encouraging services on the St. Lawrence River, from Quebec to points on the north and south shores, and to local services from Sydney, Cape Breton. The increase in Atlantic subsidies is a cheering sign that this year the government expects something like a normal service to be restored.

The subsidy for the New Zealand Shipping Co. to make a monthly sailing from Montreal in the summer and St. John and Halifax in the winter to New Zealand and Australian ports, is $140,000, and is paid at the rate of $11,666.66 a voyage, if an average cargo of 5,000 tons is maintained. Deductions at the rate of $2 a ton are made at the end of the year for anything short of this. The principal articles of Canadian origin exported are: lumber automobile and parts thereof, calcium carbide, chair stock, paper, sole leather, agricultural implements, rubbers, iron pipe, hardware, cattle, clothes pins, seed, fruit jars, corsets, cereal foods, wire, steel rails and organs. About 15% of the cargoes carried were of U.S. origin, including, besides the above products, cereal foods, machinery, roofing paper, shoe polish, wire and sewing machines. They also carried from our ports coffee, cocoa, pimento, ginger and cassava, products of West Indian origin.

The $400,000 subsidy in 1918-19 for the ocean and mail service between Canada and Great Britain by the White Star-Dominion Line, the Canadian Pacific Ocean Services, Ltd., and the Cunard Line is increased to $1,000,000, for the year ending Mar. 31, 1920. These services in 1918 carried 11,268 jassengers, 36,305 tons of freight, 60,937 locked bags of mail and 45,912 tied sacks of mail into Canadian ports, in 49 round trips; and 39,309 passengers, 293,538 tons freight, 138 head of live stock, 214,079 locked bags of mail and 86,923 tied sacks of mail, out of Canadian ports to Great Britain, the total subsidy paid being $574,928.61. Of this $408,992.88 went to the C.P.O.S. Eighty-five per cent. of the cargo exported was of Canadian origin, consisting of asbestos, copper-nickel matte, silver ore, silver ingots, aluminum ingots, lumber, meats, leather, cheese, wheat, flour, oatmeal, apples, zinc dross, salammoniac skimmings, raw furs, scrap brass, pulpboard, wool, salmon, rags, bacon, hay, organs and parts thereof, agricultural implements, acetate of lime and linseed cake.

As an indicator of Canada's export trade and the possibilities for further expansion by the way of these various subsidized steamship services, the following additional particulars may be helpful with regard to the various services:

Canada and Newfoundland boats of the Reid Newfoundland Co., Ltd., subsidized $70,000 a year, carried flour, oats, oatmeal, hay, bran, feed, potatoes, leather, furniture, oil, cattle, pigs, sheep, beef, pork, iron and steel bars, stoneware, wire mats, fresh meal, condensed milk, trunks, machinery, pulpboard, stoves and felt of Canadian origin, valued at $2,392,697 in 1918, and flour, cornmeal, oats, dried fruits, pork, beef, leather, feathers, broom corn, glue and machinery of U.S. origin, valued at $2,182,497.

Canada, West Indies and South America.—The Royal Mail Steam Packet Co.'s subsidy has been raised from $250,666.66 to $340,666.66. The vessels employed carried in 1918 no goods of U.S., but carried fish, canned salmon, canned salmon, canned goods, flour, feed, meal, oilmeal, hay, oats, cheese, butter, eggs, apples, potatoes, split peas, vegetables, groceries, beef, live stock, mineral water, tea, soap, sulphate of ammonia, fertilizer, lumber, shingles, shooks, laths, furniture, chairs, brooms, brushes, stoves, trunks, rope, cordage, nails, paper and biscuits, of Canadian origin, valued at $6,259,594.

Canada and South Africa—The Elder-Dempster Co. is having its subsidy raised from $73,000 to $146,000 a year, for monthly sailings, the goods of Canadian origin carried in 1918 being flour, agricultural machinery, calcium carbide, binder twine, automobiles, paper, cattle, lumber, wax, carriageware, cereal foods, eggfillers, chairs, woodenware, wheat and furniture, valued at $2,714,870 in 1918, goods of U.S. origin carried being valued only $74,670, and consisting of automobiles, mining machinery, fruit jars, lumber, mules, wax, condensed milk, chairs and wheelbarrows.

Halifax, N.S.; St. John's, Nfld., and Liverpool—Furness, Withy & Co. Ltd., steamships, with a subsidy of $20,000 and none last year when no service was given, carried goods of Canadian origin valued at $848,535 in 1917, taking to St. John's, Nfld., apples, fruits, peas, canned vegetables, hay, flour, cheese, condensed milk, confectionery, meats, fish, medicines, tea, dry goods, rubbers, paper, stoves, smallwares, roofing, bricks, paint, nails, cordage, sacks, tripoli and naphtha, and on to Liverpool lumber, boxboards, wood tops, wood shanks, apples, cider, canned apples, canned lobsters, canned beef, fish, seal oil, cod oil, tallow, oats, cheese, furs, machinery, lawn mowers, wire fencing, scrap brass, metals, lead ashes, leather, flour, wheat, sacks and bone black, and carrying in 1917, also goods of U.S. and West Indian origin, valued at $41,615,602, those taken to St. John's consisting of boots and shoes, shoe manufacturing material, furniture, hardware, canned and pickled meats, lard, provisions, groceries, flour, feed, corn, rolled oats, meal, seeds, earthenware and bottled beer, and those taken on to Liverpool being flour, pork, shoes, lamp chimneys, brass discs, motor cars, meats, lard, oak timber; the goods of West Indian origin going to St. John's being greenheart, mahogany, rum, bay rum, sugar and molasses, and on to Liverpool lignum - vitae, satinwood dye extract, oranges, rum, sugar, cocoanuts and lime juice.

Canada and Australia or New Zealand.—The Union Steamships Co. of New Zealand, Ltd., is being subsidized at $180,509 yearly for a monthly service to Honolulu, H.I., Suva, Fiji, Auckland, N.Z., and Sydney, N.S.W. In 1918 it carried canned salmon, fresh fruit (in cold storage), potatoes, onions, leather and rubber goods, lumber, codfish, whisky, bicycles and parts thereof, chairs, corsets, suspenders, sewing machines, hardware and machinery of Canadian origin, valued at $3,913,672 and drugs, sewing machines, automobiles, gas engines and other machinery, soap and scouring powders, leather and rubber goods, cash registers and scales, cereal foods, telephone material, adding machines, vacuum cleaners, motor cycles and corsets of U.S. origin, valued at $2,615,177.

Canada, China and Japan.—The Canadian Pacific Ocean Services Ltd., is getting a subsidy of $375,000 or $12,000 a round voyage. It carried in 1918 automobiles, aluminum, durgs and chemicals, provisions, spelter and hardware of Canadian origin, valued at $1,431,233; and automobiles, aluminum, dry goods, boots and shoes, hardware, machinery, provisions, tabacco, drugs, leather, tin plate, iron and steel, electrical goods and rubber goods of U.S. origin, valued at $12,620,537.

Victoria B.C., and San Francisco.—The Pacific Steamship Co., is getting a subsidy of $3,000, and carries liquors, automobiles, household goods coal tar, rice meal, plants and bulbs of Canadian origin, the export value being only $28,948 in 1918, and empty cylinders of U.S. origin, whose value last year only reached $4,475. Ottawa correspondence, Toronto Globe.

Pilotage to Be Controlled From Ottawa.

Ottawa press dispatch, May 26:—The Minister of Marine, in the House of Commons today moved a resolution, preceding a bill, authorizing the government to appoint the Minister of Marine to be the pilotage authority for any pilotage district. Mr. Ballantyne said that the Montreal and Quebec districts were already under the Marine Department. The administration had been so successful that it was proposed to place the other pilotage districts likewise under the authority of the department. A royal commission had recommended such a course and Mr. Ballantyne thought it would mean increased efficiency in the pilotage systems.

J. H. Sinclair, M.P., for Antigonish and Guysborough, N.S., doubted whether placing the other pilotage districts under the Marine Department would lead to increased efficiency. Ottawa was too far from the sea coast and he would hesitate to take the authority out of the hands of the local commissioners. The resolution carried and a bill based upon it was introduced.

Control of Navigation Rates—The amendments to the Railway Act to place the control of freight rates on inland and coastwise waters under the Board of Railway Commissioners, details of which were given in our last issue, were defeated in the commons special committee, May 14, by five votes. When the bill was under consideration by the committee of the whole house, Mr. Armstrong again moved the amendments which were defeated by 61 to 36.

U.S. Government Requisitions Steel—A press dispatch by the U.S. Navy Department has decided to exercise its authority under war emergency legislation and requisition steel for battleship construction, the price to be paid to be fixed later on a basis of market conditions and quotations, rather than on an examination of the steelmakers' books.

Mainly About Marine People.

Sir Montagu Allan, formerly of the Allan Steamship Line, and Miss Allan, returned to Montreal, May 13, after having been in England since early in the war. Lady Allan, who is Staff Commandant at the Canadian Red Cross Officers' Rest Home at Moor Court, Sidmouth, Eng., has been appointed an Honorary Serving Sister of the Society of St. John of Jerusalum, and will not return to Canada until the home closes at the end of August.

Sir Alfred Booth, Chairman, Cunard Steamship Co., is visiting North America and is expected to spend some time in Canada.

G. J. Desbarats, C.M.G., Deputy Minister of the Naval Service, had V. Stefansson, the Arctic explorer, staying with him in Ottawa, recently.

Herbert George Dring, who has been appointed European Passenger Manager, Canadian Pacific Ocean Services, Ltd., London, Eng., was born at Easton, Northamptonshire, Eng., Mar. 8, 1881 and entered C.P.R. Passenger Department service in London, Mar. 1, 1897, since when he has been, to Sept. 30, 1897, junior clerk; Oct. 1, 1897 to Dec. 31, 1898, clerk; Jan. 1, to Dec. 31 1899, shorthand clerk; Jan. 1, 1900 to June 30, 1901, general and correspondence clerk; July 1, 1901 to Mar. 31, 1904, booking and correspondence clerk; Apr. 1, 1904 to Aug. 31, 1905, chief booking and correspondence clerk; Sept. 1, 1905 to Mar. 31, 1907, chief clerk to General Passenger Agent; Apr. 1, 1908 to Dec. 31, 1915, Assistant General Passenger Agent; Jan. 1, 1916 to Mar. 1, 1919, General Passenger Agent, C.P.R., London, Eng.

James T. Duke, an assistant engineer, Public Works Department, engaged on the harbor improvement works at Courtenay Bay, St. John, N.B., died as the result of an injury sustained in the course of a heavy dynamite blast, in the course of his work, May 23. He was a graduate of New Brunswick University in civil engineering.

John Eadie, Vancouver, manager for Dingwall, Cotts & Co., steamship owners of Great Britain, died at Vancouver, B.C., May 5, following an operation for appendicitis. He went to Vancouver a few years ago to represent his company in the handling of the steamships of the War series, which were built on the Pacific coast for the British Government through the Imperial Munitions Board.

Mrs. C. Gardner Johnson, wife of Lloyd's Agent for British Columbia, left Vancouver recently for a visit to England.

J. W. Greiner, Marine Superintendent, Canada Steamship Lines Ltd., Montreal, was laid up with typhoid fever, at Buffalo, N.Y., during May.

Capt. P. L. Lachance, heretofore Superintendent of Pilots for Quebec and Montreal District, has been appointed harbor master for the port of Quebec, succeeding Capt. Jas. Murray, who lost his life in the Halifax disaster, Dec. 6, 1917. He has been associated with sea life since the age of 14, received his pilot's certificate when 21, and was for some time in the Quebec Steamship Co.'s service. Subsequently he became Examiner of Masters and Mates, and during the war was Superintendent of Pilotage for Quebec and Montreal District.

James T. Mathews, Vice President, Mathews Steamship Co., Toronto, died there, May 19, aged 69, after a long illness, of Brights disease. He was born at Niagara-on-the-Lake, Ont., and was at one time station agent, G.T.R., London, Ont. With his father he formed the firm of J. & J. T. Mathews, and operated the schooner Heather Bell, in the lakes trade. On his father's death in 1900, he and his brother, A. E. Mathews, established the Mathews Steamship Co. The funeral was attended by representatives of several lake steamship companies.

H. Milburne, Superintendent, Canadian Government Merchant Marine Ltd., left Montreal May 30, on a business trip to Vancouver.

W. Grant Morden, M.P., one of the members of the Canada Steamship Lines, London, Eng., advisory committee, arrived in Montreal, from England, in May.

Capt. W. Murphy, who died at Kingston, Ont., May 4, was in Montreal Transportation Co.'s service for the last 15 years, latterly as master of the tug Laura Grace, which was wrecked Dec., 1918.

J. W. Troup, Manager, British Columbia Coast Steamship Service, C.P.R., has returned to Victoria from California, where he has been recuperating after an illness.

James T. Walsh, who has been appointed Manager, Canadian Pacific Ocean Services Ltd., Montreal, has had a variety of seagoing experiences. He was, for some time, Superintendent, Elder Dempster & Co., Liverpool, Eng., and when the C.P.R. acquired the Beaver Line from that firm, he transferred to C.P.R. service, and was, successively, Superintendent, C.P.R. steamships, Chief Marine Superintendent, C.P.R., and Assistant Manager, Canadian Pacific Ocean Services Ltd., all at Montreal. He has served in the Royal Naval Reserve, and for special services in embarkation work with the Ashantee Expedition he was mentioned in dispatches. He holds the rank of Commander, R.N.R., is a Fellow of the Royal Geographical Society, and during the recent war, conducted considerable responsible work in shipping under the British Ministry of Shipping (Canada), and the Admiralty.

Canada's Naval Policy.

Ottawa press dispatch, May 26: The Minister of Marine, in speaking in the House of Commons today, incidentally announced that when parliament is summoned next year the government will submit a naval policy for the Dominion which will meet with unanimous approval. The Niobe and the Rainbow had given efficient service, steaming 80,000 miles between them and convoying vessels laden with passengers, troops and rich cargoes.

A bit of news hitherto kept secret was given by Mr. Ballantyne when he told the house that on the outbreak of war, and again in 1915, the Canadian Government inquired of the British Admiralty whether in its judgment steps should be taken to increase Canada's naval forces and enlarge the service. The reply was in the negative, the imperial authorities adding that Canada's effort should be concentrated on recruiting and equipping troops for the battlefields.

Wreck Commissioners' Enquiries and Judgments.

Enquiries have been held and judgments delivered, respecting casualties, as follows:—

Stranding of s.s. War Toronto.

Held at Quebec, May 9, into the cause which led to the stranding of the s.s. War Toronto, May 1, near Cape St. Michel, River St. Lawrence, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capt. C. Lapierre and C. Koenig, as nautical assessors. The s.s. War Toronto is one of the wooden steamships built at Toronto for the British Government under order of the Imperial Munitions Board. The master, Capt. A. J. Low, in his evidence, stated that from Toronto to Montreal, he found the steering gear worked stiffly, but not unusually so. A pilot was taken on at Montreal, the master being a stranger in those waters, and subsequently his attention was called to a defect in the steering gear. The telegraph was rung for full speed astern, and immediately after, the ship grounded while going full speed ahead, the order full speed astern having no effect on the vessel, which had canted to port before grounding. She was refloated May 6, and proceeded to Quebec, where a small leak was discovered. The court, after a thorough examination of the pin, which was stated to be the direct cause of the defective steering, came to the conclusion that the grounding was not due to any lack of examination of the steering gear, but to an unforeseen happening, and therefore exonerated the pilot and officers of the vessel from blame for the casualty.

Loss of the s.s. Princess Sophia.

Held at Victoria, B.C., before Mr. Justice Morrison, assisted by Capt. E. Martin, C.M.G., R.N., and Capt. J. D. Macpherson, Wreck Commissioner for British Columbia, as nautical assessors, into the causes of the loss of the C.P.R. s.s. Princess Sophia in the Lynn Canal, Oct. 24, 1918, with all passengers and crew. The report of the commission, which was somewhat delayed, was laid on the table of the House of Commons recently. Owing to the fact that the vessel was lost in Alaskan waters, outside Dominion jurisdiction, and that all the witnesses who were in a position to describe the conditions existing in the vicinity of the wreck at the tmes material to the enquiry, were residents of Alaska, difficulty was experienced in making progress at the various sittings at Victoria and Vancouver, where all the evidence of witness who voluntarily came within the jurisdiction, was exhausted, and two sittings were held at Juneau, Alaska.

The evidence disclosed that the vessel was seaworthy and well found in every respect, and at the time of her departure, from Skaway, the weather was fine. From the lighthouse records it would appear that heavy squalls of snow were met about 30 miles from Skagway with strong northerly winds, which continued until some hours after she struck on the Vanderbilt Reef, about 54 miles from Skagway. The weather subsequently moderated and remained so until the afternoon of the same day, during which, passengers could have been transhipped to the several craft standing by, and landed without much, if any, risk to life. During the afternoon the wind freshened, and the master wired to one of the vessels that it was impossible to get passengers off owing to the high seas running but that they could probably be taken off on the following morning. After this, and during the following day, it appears that vessels which were standing by were unable to render any assistance. In the meantime, J. W. Troup, Manager, C.P.R. British Columbia Coast Service, was endeavoring to ascertain the exact conditions prevailing, and wired the master enquiring what assistance he was getting and asking what disposition he had made of the passengers. This wire was not delivered until the day following the grounding.

During the time the Princess Sophia was visible, she appeared to be resting firmly on an even keel, and considering the wireless messages as a guide, she must have been forced off the reef in the late afternoon of the day following the grounding, the snowstorm then being at its reight, when she apparently founered, leaving no survivors. It is entirely a matter of conjecture as to how she came to leave the reef after holding firmly during two periods of high water, with decreasing tides, but it was ascertained tha at the time there was an abnormally high tide from various causes.

As to why passengers were not landed, there is room for conjecture, and the commission submitted that from he evidence of the surrounding circumstances, such as the vessel being staunch and well officered, other craft being in the vicinity and approaching, the inhospitable shore and lack of shelter sufficiently near, the time of year and the weather conditions, it is not prepared to find that it was unreasonable for the master not to land his passengers, and it therefore arrives at the conclusion that the vessel was lost through peril of the sea.

The commission notes, in securing witnesses and affording facilities in the course of the investigation, the untiring and effective services rendered by Hon. Thos. Riggs, Jr., Governor of Alaska, and his staff, and W. C. Dibrell, Superintendent of U.S. Lighthouse Service, Bremerton Navy Yard, Washington, as well as Juneau, Seward and Fairbanks citizens.

Report on Pilotage for Maritime and Quebec and Montreal Districts.

A commission was appointed by the Dominion Government, Feb. 1, 1918 to enquire into and report on the pilotage system and its administration in the pilotage districts of Miramichi, Sydney, Louisburg, Halifax, St. John, Montreal and Quebec, the commissioners being Thos. Robb, Manager, Shipping Federation of Canada, Chairman; Capt. J. N. Bales, Port Warden, Montreal; and Capt. J. W. Harrison, Marine Superintendent, Furness, Withy & So., Halifax, N.S. Sittings were held at Halifax during Feb., 1918, and pending a final disposition, it was recommended that the Halifax Pilotage Commission be abolished, and the pilotage for that district placed under the administration of the Marine Department. Sittings were held at other points concerned during the year, and the report was presented, Sept. 10, 1918, and laid on the table of the House of Commons during the current session.

The commission reported that the commissions administering the pilotage service at Miramichi, Sydney, Louisburg and St. John, had outrun their usefulness, and recommended that the Minister of Marine be appointed the pilotage authority. It also recommended that a superintendent, having seagoing experience, be placed in full charge of the Sydney and Louisburg districts combined, and a similar superintendent for St. John, with a qualified assistant for the Miramichi district, the assistant being responsible to the superintendent, and the superintendents being directly responsible to the Minister; that the testing of eyesight be standardized, and tests for pilots under 65 be made annually, and semi-annually for pilots between 65 and 70; licenses for pilots to be at the discretion of the Minister, and all pilots to be compulsorily retired at 70; that the use of intoxicating liquors by pilots be prohibited, any infraction to be punishable by fine or suspension, and for a second offence by dismissal; that no intoxicating liquors be permitted at any pilot station, or on any pilot vessel, any infraction to entail instant dismissal; that solicitation of gratuities by and from pilots be prohibited; that no pilot be allowed to perform any pilotage duties outside his own district; that the apprentice system as in force in the Maritime Provinces pilotage districts, not having proved satisfactory, be discontinued, when the present apprentices shall have had sujcient training, and have received their certificates as branch pilots, any vacancies subsequently arising to be advertised and examinations held, this system to apply to the Maritime Province and Quebec Pilotage District, but not to the Montreal District, as it is felt that apprentices are necessary for the last named; that the Minister take over the pension funds; that the pooling of earnings be abolished, that pilots be placed on salary to be adjusted to meet the requirements of the local districts, and that pilots be permitted to draw a certain amount each month, adjustments to be made quarterly after deducting expenses, and not less than 5% to go to the pension fund, the busier districts aiding the poorer ones; and that all pilotage earnings be collected by and paid to the Marine Department.

In regard to the Montreal District, which was dealt with entirely separately, the commission came to the conclusion that the administration was carried out efficiently. One of the questions at issue was the pilots' demand for an increased charge for moving vessels in the harbor. The present rate of $5 was made when Longue Pointe was outside the harbor limits, and this charge has been maintained since the extension of the limits as far down as Bout de l'Isle. Increases on the following graduated scale were recommended: For moving vessel from Lachine Canal to Victoria pier, $5; for moving any inland or lake vessel from Lachine Canal to sec. 50, $5; for moving any inland or lake vessel from sec. 50 to the eastern limits, $10; for moving any seagoing vessel from any place above Victoria pier to sec. 50, $10; for moving any seagoing vessel from above sec. 50 to Canadian Vickers' dry dock, $15; for moving any seagoing vessel from above sec. 50 to the explosives ground, $15; and should any pilot be detained on board more than 24 hours, an additional $10 a day, these charges to be over and above the ordinary pilotage charge between Montreal and Quebec.

It is also recommended that the Quebec harbor tariff be increased to allow for a charge of $5 for each moving on the Quebec or Levis side of the river, and $10 for each moving entailing crossing the river from either side, and that the pilotage tariff on outward bound vessels from Quebec to Father Point, between May 1 and Nov. 10, be inoreased from $3.40 to $3.65 a ft. draft, and that pilots provide their own board while waiting at Father Point or Chicoutimi, and that other rates remain as at present.

The Kirkwood Steamship Co., a recently organized concern, is reported to have purchased the s.s. Glen Allen from the Ottawa Transportation Co., for operation in freight service between Montreal, Quebec and Chicoutimi. The Glen Allen was built at Kingston, Ont., in 1912, and is screw driven by engine of 22 n.h.p. Her dimensions are length, 112.8 ft.; breadth, 26.4 ft.; depth, 8.5 ft.; tonnage, 276 gross; 113 net. T. M. Kirkwood, formerly of Toronto, who started the Three Rivers Shipbuilding Co. and who has been associated with several shipbuilding proposals, is chiefly concerned in the company.

Canadian National Railways Steamships—The Canadian Government Rys., when placed under the Canadian National Rys. management, were operating the steamships Drummond, McKee and Sheba, which have been used largely in carrying coal for the C.G.R. and have been under the jurisdiction of the General Superintendent of the C.G.R. at Moncton, N.B. It is probable that they will be operated in the near future under the direction of the Canadian National Rys. Marine Superintendent, M. Milburne, Montreal.

The Montreal Transportation Co. Ltd. has closed its Kingston, Ont., office. The Superintendent, Capt. H. N. McMaster, and the Superintending Engineer, H. McClymont, have been removed to Montreal. E. A. Turner, heretofore agent at Kingston, has left the company's service to enter business for himself in Montreal.

Richelieu Transportation Co. Ltd., which has been incorporated under the Dominion Companies Act, with $50,000 authorized capital and office at Montreal, is in process of organization, and proposes to purchase a number of barges for the transportation of lumber between Montreal and New York.

Acadia Shipping Co. Ltd., the incorporation of which was announced in a recent issue, with $128,000 authorized capital and head office at Sussex, N.B., is controlled by C. T. White & Sons Ltd., lumber merchants, which has built a number of sailing vessels and intends continuing in that business.

The Lights in Hudson Strait and Hudson Bay, on Button Islands, Hatton headland Wales Island, Ashe Island, Nottingham Island, Digges Island, Mansell Island, Coats inlet, Charles Island and Cape Tatnam, will not be operated during this navigation season.

Tower Ship Co. Ltd., has been incorporated under the Dominion Companies Act, with $30,000 authorized capital and office at Montreal, to carry on a general steamship and navigation business and to own and operate steam and other vessels.

Cancellations of Shipbuilding Orders in United States.

In addition to 2,000,000 tons of steel ships the contracts for which have been cancelled since last November by the U.S. Shipping Board, 2,000,000 tons more are being cancelled, according to a statement by Edward N. Hurley, chairman of the board. No details are given as to the sizes of ships and the yards affected. The statement refers to the necessity of balancing the fleet and also to the war prices of the contracts. Chairman Hurley says, "We feel that we should now be building only at peace prices," and states that the cancellation of all existing contracts is under contemplation, where keels have not acutally been laid. This statement, issued from the shipping board's office Apr. 25, is amplified and somewhat changed by a statement issued May 5. According to the latter, the type of vessel that will be most largely needed for post-war ocean carriage is a combined freight and passenger vessel of at least 12,000 to 15,000 tons d.w. carrying capacity, and the cancellations are to be made with a view to preparing for placing orders for this type of ship.

Among the Express Companies.

E. A. Williams has been appointed agent Canadian Northern Ex. Co., Prince Albert, Sask., vice N. W. Storie, transferred.

R. A. Mitchell has been appointed General Agent, Canadian Ex. Co., Toronto, vice R. G. Wilkins, who has retired after 50 years service.

The American Railway Ex. Co., is applying to the Interstate Commerce Commission for authority to increase express rates between U.S. and Canadian points.

N. W. Storie, heretofore agent Canadian Northern Ex. Co., Prince Albert, Sask., has been appointed agent at Edmonton, Alta., vice H. J. Morrison, transferred.

Edward Todd, of Owen Sound, Ont., who died in Florida, May 21, at one time conducted a telegraph, express and ticket office business in Owen Sound, and is said to have introduced the first telegraph instrument there in 1866. He retired from business in 1896.

Telegraph, Telephone and Cable Matters.

W. H. Doyle has been appointed acting local manager, Western Union Telegraph Co., Moncton, N.B., during the illness of W. H. Crandall.

G. C. Baudrin has been appointed local manager, Great North Western Telegraph Co., Quebec, Que., vice W. T. Leslie, transferred to other duties at Ottawa, Ont.

R. F. Errington, heretofore operator at Sault Ste. Marie, Ont., has been appointed local manager, Great North Western Telegraph Co., Regina, Sask., vice R. T. Dawson, resigned.

The Great North Western Telegraph Co. has opened offices at Beaumaris, Helderleigh and Rosseau, Ont., and Beatty, Sask., and has closed its offices at Fort Coulonge and Milnikek, Que., and Pass Lake, Ont.

An Ottawa press report states that the Dominion Government is likely to abandon the direct operation of its telegraph lines, and to merge its eastern lines with the Great North Western Telegraph Co.'s system and the western lines with the Grand Trunk Pacific Telegraph Co.'s system. It is also stated that powerful wireless telegraph stations are to be erected in Yukon territory.

The Marconi Wireless Telegraph Co. was reported recently to have decided to build a wireless telegraph station at Montreal, working direct with Paris, France. We are advised that the report is at least premature. The company is making experiments in regard to long distance reception in Montreal, and the possible erection of a wireless station there will depend on the result of these experiments.

An order in council has been passed authorizing a fee of $5 for candidates for emergency certificates of proficiency in radiotelegraphy. These certificates have hitherto been issued, valid only until the next regular examination, without fee, and there has been a tendency to abuse the privilege. The order in council, which cancelled all licenses for amateur and other non-essential radiotelegraph stations throughout Canada, has been rescinded, and the pre-war regulations have been resumed.

In reply to question in the House of Commons May 5, re the operations of the Commercial Cable Co. in Canada, the following information was given: The company, which is a U.S. incorporation, has its head office in New York, and F. G. Burstall, Hazel Hill, N.S., is the superintendent in Canada. So far as the government is aware no employe of the company was refused permission to enlist for overseas military service. After the passing of the Military Service Act, exemptions were applied for by the company on behalf of cable operators and these were granted. The government control of the cable station and the staff was limited to censorship and was not extended to the relations between the company and its employes.

Trade and Supply Notes.

The matter which appears under this heading is compiled, in most cases, from information supplied by he manufacturers of, or dealers in the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers distinctly to understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

Whiting Foundry Equipment Co., Harvey, Ill., has issued a folder on Whiting bucket cranes, describing and illustrating different types of cranes used by railways, etc.

Armstrong Whitworth of Canada Ltd. At the recent annual meeting the following directors were elected. President, Sir Percy Girouard, K.C., M.G.; Vice President, M. J. Butler, C.M.G.; other directors, Right Hon. G. H. Murray, G.C.B.; Hon. G. G. Foster, K.C.; F. B. T. Trevelyan, H. B. Walker, H. H. Vaughan, Lawrence Russell. Messrs. Vaughan and Russell are now directors. With M. J. Butler, they comprise the executive committee in charge of the company's works in Canada.

Steel Company of Canada.—At the recent annual meeting several changes were made in the directorate. Robt. Hobson was re-elected President. C. A. Birge retired from the Vice Presidency, but remains on the executive. F. H. Whitton, heretofore General Manager, and R. H. McMaster, heretofore Assistant General Manager, were elected Vice Presidents. G. H. Duggan, President, Dominion Bridge Co., Montreal, was elected a director, succeeding C. Alexander, of Providence, R.I., who retired.

Safety Car Heating & Lighting Co., New York. The directorate for this year has been constituted as follows: President, W. L. Conwell; Vice Presidents, J. A. Dixon, R. Parmly and J. P. Soper, President, Soper Lumber Co.; other directors, C. A. Austin, President, Mercantile Trust Co.; R. Barbour, President, Barbour Flax Spinning Co.; E. M. Bulk-

Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marie canals during April, 1919:

ARTICLES.		Can. Canal.	U.S. Canal	Total.
		Eastbound.		
Lumber	m. ft. b. m.		2,650	2,650
Flour	Barrels			
Wheat	Bushels	1,896,073	14,832,927	16,729,000
Grain, other than wheat	Bushels	791,941	3,384,100	4,176,041
Copper	Short tons			
Iron Ore	Short tons	198,736	940,790	[illegible]
Pig Iron	Short tons			
Stone	Short tons	750	1,150	1,900
General Merchandise	Short tons	5	6	11
Passengers	Number		3	3
		Westbound.		
Coal, soft	Short tons		115,824	115,824
Coal, hard	Short tons		112,861	112,861
Iron Ore	Short tons			
Mfd. Iron and Steel	Short tons	2		[illegible]
Salt	Short tons		5,000	5,000
Oil	Short tons		16,656	16,656
Stone	Short tons			
General Merchandise	Short tons	5,299	[illegible]	[illegible]
Passengers	Number	9	4	13
		Summary.		
Vessel passages	Number	167	[illegible]	716
Registered tonnage	Net	326,682	1,764,087	[illegible]
Freight—				
Eastbound	Short tons	[illegible]	[illegible]	[illegible]
Westbound	Short tons	[illegible]	[illegible]	[illegible]
Total Freight	Short tons	283,198	[illegible]	[illegible]

The Canadian canal opened Apr. 12, and the U.S. canal Apr. 10.

ley, Spencer Trask & Co.; H. R. Carse, President, Submarine Boat Corporation; [illegible], President, Railway Steel Spring Co.; E. LeB. Gardner, President, New Jersey General Security Co.; A. B. Hepburn, Chairman, Advisory Board, Chase National Bank; G. D. Pope, A. C. Soper, H. H. Wehrhane, Hallgarten & Co. W. L. Conwell entered the company's service Jan. 1, 1916, as Assistant to the President. On the death of R. M. Dixon, the President, on Oct., 1918, Mr. Conwell was elected acting President.

Transportation Conventions in 1919

June 11.—Railway Accounting Officers' Association, New York.

June 17-20.—American Train Despatchers' Association, Chicago, Ill.

June 18-21.—Master Car Builders' Association, Atlantic City, N.J.

June [illegible].—American Railway Master Mechanics' Association, Atlantic City, N.J.

September.—Master Car and Locomotive Painters' Association of the United States and Canada, Chicago, Ill.

September.—Traveling Engineers' Association, Chicago, Ill.

Sept. 16-18.—Roadmasters' and Maintenance of Way Association, Chicago, Ill.

October.—American Railway Electric Engineers' Association, Chicago, Ill.

Oct. 21-23.—American Railway Bridge and Building Association, Cleveland, Ohio.

Oct. 21-23.—Maintenance of Way and Master Painters' Association, St. Louis, Mo.

Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries unless otherwise stated:

Belleville Railway Men's Educational Club. Meets each Tuesday, 7.30 p.m. F. A. Pingston, Belleville, Ont.

Canadian Car Service Bureau—W. J. Collins, Manager, 401 St. Nicholas Building, Montreal.

Canadian Electric Railway Association—Acton Burrows, 70 Bond Street, Toronto.

Canadian Freight Association (Eastern lines)—G. C. Ransom, Canadian Express Building, Montreal.

Canadian Freight Association (Western lines)—W. E. Campbell, 305 Boyd Block, Winnipeg.

Canadian Railway Club—J. Powell, St. Lambert, Que. Meetings at Montreal 2nd Tuesday, each month, 8.30 p.m., except June, July and August.

Canadian Railway War Board—W. M. Neal, Montreal.

Dominion Marine Association—F. King, Counsel, Kingston, Ont.

Canadian Ticket Agents' Association—E. de la Hooke, London, Ont.

Eastern Canadian Passenger Association—G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Montreal—R. W. H. Smith, 9 Beaver Hall Square, Montreal.

Engineers' Club of Toronto—R. B. Wolsey, 94 King Street West, Toronto.

Engineering Institute of Canada—F. S. Keith, 176 Mansfield St., Montreal.

Express Traffic Association of Canada—C. N. Ham, Montreal.

Great Lakes and St. Lawrence River Rate Committee—James Morrison, Montreal.

Hydro-Electric Railway Association of Ontario—T. J. Hannigan, Guelph, Ont.

International Water Lines Passenger Association—M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee—James Morrison, Montreal.

Quebec Transportation Club—A. F. Dion, Quebec.

Shipping Federation of Canada—Thos. Robb, Manager, 42 St. Sacrament Street, Montreal.

Toronto Transportation Club—W. A. Gray, 143 Yonge Street, Toronto.

Transportation Club of Vancouver—H. W. Schofield, 556 Church Street, Vancouver, B.C.

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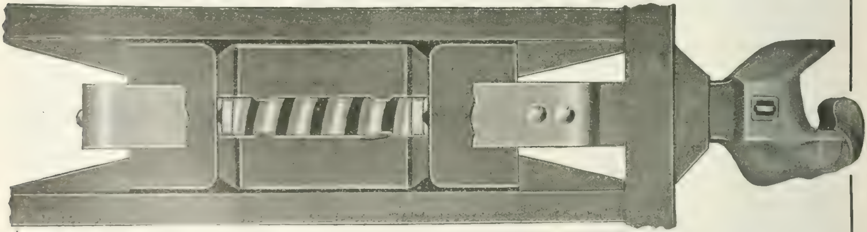

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Chicago, Ill.
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Canadian Railway and Marine World

July, 1919

The June Mechanical Conventions at Atlantic City.

The two great annual railway mechanical conventions of the American Railway Master Mechanics' Association and the Master Car Builders' Association, held principally at Atlantic City, N.J., for many years, were suspended after 1916, in consequence of the United States having entered the war, but meetings of th eexecutive committees were held in Chicago in 1917 and 1917, at which reports of various committees were presented.

As announced in Canadian Railway and Marine World for April, the Director General of the U.S. Railroads decided to provide, during the period of federal control, a responsible channel through which he might obtain recommendations for the advancement of railway practice. The American Railway Association revised its organization, changed its name to the American Railroad Association, and enlarged its scope by covering the former activities of a number of other railway associations, etc., including among others, the American Railway Master Mechanics' Association, and the aster Car Builders' Association. The new American Railroad Association is divided into five sections, viz.: operating, engineering, mechanical, traffic and transportation, respectively.

The mechanical section took over the former activities of the American Railway Master Mechanics' Association, and the Master Car Builders' Association, the committee consisting of three representatives of the U.S. Railroad Administration, two representatives of each of the operating regions into which the U.S. has been divided and two representatives of Canadian railways. The chairman is C. E. Chambers, Mechanical Assistant to Regional Director, Allegheny Region, U.S. Railroad Administration, and the Canadian representatives on the committee are: W. H. Winterrowd, Chief Mechanical Engineer, C.P.R., and James Coleman, Superintendent, Car Department, G.T.R. The names of the other members of the committee were given in Canadian Railway and Marine World for Apr., pg. 187.

Under the mechanical section's management a convention was held at Atlantic City, June 18 to 25, master car builders' matters being dealt with from June 18 to 20,; election of officers and committee being held June 21, and master mechanics' matters being dealt with from June 23 to 25. The most important features of the convention were, as usual, reports of the standing and special committees, and individual papers presented. The principal ones are given on this and following pages, either in full or in abstract.

Prices for Car Labor and Material.

An American Railroad Association's mechanical section committee, P. F. Smith, Jr., General Superintendent, Motive Power, Pennsylvania Lines, chairman, reported as follows: Your committee, after the 1915 M.C.B. convention took up the work of analyzing prices for labor and material (as outlined by the committee on compensation for freight car repairs in their report to the 1915 convention) as instructed by the association. For the 1916 convention the report presented gave a general outline of the method being followed in carrying on the work, and included a list of items for rules 101, 107, 108, 111, 116 and passenger car rules to be added and changed. This report was adopted and the revised 1916 M.C.B. rules included the change in items and prices as suggested.

For the 1917 convention the report presented covered all items for labor and material for freight and passenger car repairs, and specified that during the ensuing year the studies of the committee would include the direct and overhead charge for yard repair work as compared with shop track work; center, intermediate and side sill renewals; tank car repair studies; items per rule 111; also give further consideration to material prices and make recommendations for alterations in such prices as may be found necessary. This report was adopted, subject to the modifications which the price committee had in mind and that were reported upon at the meeting held in Chicago instead of the convention generally held at Atlantic City; but, the items for labor and material, as reported on were not introduced in the M.C.B. Rules of Interchange, and the proceedings do not give any reasons therefor; further, the price committee were not informed or given any instructions how to proceed in the future.

For the 1918 meeting at Chicago, the report presented, due to abnormal conditions existing at that time, was to the effect that the items for labor and material as printed in the 1917 revised M.C.B. Rules, should stand, but the percentage to be added should be increased to 50%. On this report apparently no action was taken, as proceedings make no mention of such a report, further; price details were taken care of by arbitration committee. In view of the above, your committee ask for further instructions.

If it is decided to continue this committee, we suggest that the work left unfinished in our 1917 report be continued, and the entire price schedule be revised to date and submitted to the 1920 convention. We further recommend in the revision of time allowances that time basis be used and the hours divided on the decimal plan in multiples of tenths.

Report of Committee on Train Lighting and Equipment.

An American Railroad Association's mechanical section committee, J. R. Sloane, Engineer Electric Car Lighting, Pennsylvania Rd., chairman, reported, outlining an exhaustive series of road and shop tests made on train lighting equipment on the Pennsylvania Rd. From observations made on the tests, the following recommendations were made:

That the method of testing to determine the rating of an axle generator be as follows: That the generator, together with the generator and lamp regulator, if used, shall be connected in a normal manner to dead load resistance in the battery and lamp circuit; and shall be operated continuously for 5 hours, with commutator hand-hole covers removed, at the minimum r.p.m. that will generate rated volts at the load side of the generator regulator and carry the current; and that the net current output shall be the armature current less all current consumed in the generator fields, generator regulator, and lamp regulator, if used.

That the rating of an axle generator when connected and operated as above, shall be the maximum net current that the generator will carry without exceeding the following values:

	Maximum Observable Temperature	Maximum Observable Rise in Temperature
Any part of generator or regulators, except commutator, brushes, brush rigging and bare copper solenoids	110 deg. C	70 deg. C
Commutator, brushes, brush and bare copper solenoids	130 deg. C	90 deg. C

That the rating test shall be made at or above 15 deg. C. ambient temperature.

That a badge plate be securely attached to each axle generator which shall show the manufacturer's name, type number; nominal voltage of generator (40 v. for 30 v. system and 80 v. for 60 v. system); rating in amperes as above determined, and minimum speed in r.p.m. at which generator will deliver rated volts and amperes.

That the above recommendations be submitted to letter ballot as recommended practice.

The final meeting of the committee was attended by representatives of all the axle generator manufacturers in the U.S., but one, and the above recommendations were unanimously approved by the representatives attending.

A method of rating axle generators is one of the essential portions of an axle generator specification. The committee, which they realize that it is impossible to draw complete detailed specifications that would be applicable to all types of axle generator equipment as now commercially manufactured, nevertheless believe that there are a number of essential characteristics that are common to all types of axle generators and which would be included in complete specifications. The committee therefore recommended that they be instructed to investigate this matter with a view to drawing up a partial specification which will include the features common to all axle generator equipment.

Depreciation of Freight Cars Committee's Report.

An American Railroad Association's mechanical section committee, M. K. Barnum, Mechanical Engineer, assistant to General Superintendent Maintenance of Equipment, Baltimore and Ohio Rd., chairman, and of which L. K. Sillcox, Master Car Builder, Chicago, Milwaukee and St. Paul Rd., formerly Mechanical Engineer, Canadian Northern Ry., was a member, reported as follows:

In order that your committee's conclusions might be based on representative factors as to average life and residue values, circular 35 was issued requesting data on equipment dismantled during the 3 years, ended Dec. 31, 1917. This period was taken because it represented normal conditions more nearly than those existing during 1918, the first year of Federal control. This information was requested by classes, in three groups—wooden cars, wooden cars with steel underframes and cars of all-steel construction.

Replies were received from 55 railways and 7 private lines, representing ownership of 2,023,783 cars and covering 106,010 cars dismantled during the 3-year period. A summary of the latter is given below; cars retired in connection with rebuilding are not included:

All Wood Cars.

Class	Number	Average life of cars in years	Scrap value.
Box	17,672	22.3	12.2
Stock	5,201	20.1	12.1
Flat	6,800	22.3	17.1
Gondola	24,630	18.0	14.7
Hopper	16,082	20.3	14.4
Refrigerator	4,591	21.7	12.3
Tank	81	21.6	31.5
Weight average	105,057	20.9	13.5

Wooden cars with steel underframe, none.

All Steel Cars.

Class	Number	Average life of cars in years	Scrap value.
Gondola	817	13	11.7
Hopper	136	14.7	17.2
Weighted average	953	13.1	12

The information furnished regarding wood cars with steel underframes was very limited and not representative of average conditions, and your committee did not feel justified in using it.

The average life of railway owned wooden refrigerator cars dismantled was 17.1 years, and of private line wooden refrigerator cars dismantled was 21.9 years, making the average life for all wooden refrigerator cars dismantled 19.4 years. However, it is only fair to state that the average life of railway owned wooden refrigerator cars is very largely affected by two lines reporting the dismantling of a large number of cars of an average life of only 15 years, which is much lower than the general average for all railway owned wooden refrigerator cars, and by excluding these two lots of cars the results are as follows:

Railway owned	21.3 years
Private line owned	21.9 years
[illegible]	21.7 years

which your committee feels should be taken as the average life of wooden refrigerator cars and which has been shown in above table.

In order that the information would be obtained on a uniform basis, your committee asked that the scrap value be expressed in per cent of M.C.B. price of scrap as shown in rule 112 in the 1918 M.C.B. Rules, using the 1918 price for scrap. From the information secured, we obtained a weighted average percentage of scrap of the M.C.B. value new, on all wooden cars, of 13.5%. It is your committee's opinion that ¾c. a lb. is more nearly representative of the average current market price for scrap than the ½c. a lb. as quoted in the present M.C.B. Rules, which would increase the weighted average percentage from 13.5% to 20.25%.

In settling for destroyed cars, recognition should be given to the fact that the car has a value to the owner above that of the actual value of the scrap to the line destroying the car, and further, that there is considerable serviceable material on which the line destroying the car can obtain the secondhand instead of the scrap value, and that if 20.25% represents the value of the scrap to the line destroying the car, your committee does not feel justified, in the absence of any other figures, in recommending any change in the provision of rule 112 which provides that in no case shall the depreciation exceed 60% of the value new.

The weighted average life of all classes of wooden cars was found to be 20.9 years, as indicated in the above table. We have no information as to the average life of cars of steel underframe or all-steel construction, in the absence of which we would suggest that on such cars, other than gondola or hopper cars, the same rate of depreciation be used as on wooden cars, until such time as experience may warrant a different rate.

The weighted average life of all classes of open top steel cars was found to be 13.1 years, but on account of your committee having knowledge that the cars reported as being dismantled during the period did not represent the present standard for this type of car we are inclined to believe that the information does not represent the average life of this class of equipment and, pending the time when experience will warrant a revision, your committee recommends considering 17½ years as the average life for open top steel cars.

Based on the average life as indicated in the above table for wooden gondola cars, your committee suggests that wooden and steel underframe gondolas and hopper cars, for the purpose of depreciation, be included with similar cars of all-steel construction.

Opinions were requested as to whether depreciation should be applied on air brake values at the same rate as for car bodies and, on a car-owned basis, the majority of the replies favored depreciating both 8-in. and 10-in. air brakes at the same rate as the car body, which is recommended by your committee.

The majority of replies to the question about depreciation of trucks, considered on a car-owned basis, favored having the trucks carry their own rate of depreciation and having that rate less for all-metal trucks than for composite trucks. However, your committee finds that the rate of depreciation of car bodies should be reduced to 3% and 3½%, according to construction, and we do not feel that a rate less than 3% for trucks is justified; therefore we recommend that the trucks be depreciated at the same rate as the car body to which they belong.

In view of the information at hand, your committee submits the following recommendations for a straight depreciation basis for freight cars.

	1918 Rules of interchange, %	Proposed rate %
Wooden car bodies, except gondolas and hoppers	[illegible]	[illegible]
Wooden car bodies, gondolas and hoppers	5.5	3.5
Wooden car bodies with steel underframes, except gondolas and hoppers with steel underframes	4.5	3
Wooden car bodies, gondolas and hoppers	4.5	8.5
Steel underframe flat cars	5	3
All-steel car bodies or those with steel underframes and steel superstructure frames, except gondolas and hoppers	4	3
All-steel car bodies or those with steel underframes and steel superstructure frames, gondolas or hoppers	4	3.5
Tanks for non-corrosive material	4	3
Tanks for corrosive material	5	3.5
Air brakes	None	Same rate as carbody
Trucks	Same rate as carbody	Same rate as carbody

The age of the car body shall govern in figuring depreciation on air brakes and trucks. The depreciation rate for the class of car shall govern in figuring depreciation on such betterments as are listed in rule 112 and shall be figured from date of application.

In its study of the subject of depreciation, your committee was confronted with the question of rebuilt cars and believes that this should be referred to a committee for consideration, and suggests this committee, if appointed, be requested to take up the part of rule 112 which provides that in no case shall the depreciation exceed 60% of the value new.

Report of Committee on Powdered Fuel.

An American Railroad Association's mechanical section committee, C. H. Hogan, Assistant Superintendent Motive Power, New York Central Rd., chairman, reported as follows: At the time of the last report of your committee in 1916 there were several experimental installations for burning powdered fuel on locomotives in the U.S., but the increasing demands for ransportation, due to the great war, and finally the entrance of the U.S. into the conflict, made the setting aside of even a single locomotive for such experimental purposes an impossibility. Accordingly all locomotives that had been equipped for the burning of powdered fuel were stripped of the special appliances intended for that purpose and returned to their regular service.

The general principles involved in the burning of powdered fuel were set forth in our last report in 1916, when the experiments were progressing so satisfactorily that they seemed about to spell success. That the principles were correct has been demonstrated, and it remained to work out the practical details to meet the varying requirements that locomotive service demanded, as has been done for stationary plants. But this sudden stoppage of the work, immediately after the presentation of our last report, leaves matters almost exactly as they were at that time.

It is probable that, as soon as the affairs of the railways are settled and normal conditions have been resumed, the experiments with and development of the devices for burning powdered fuel will be taken up again, which it will then be the pleasure of your committee to present to you. And, with conditions as they are, your committee is asking to be relieved from the necessity of making a report at this time and to be continued pending the resumption of the experimental work which they were appointed to watch and lay before the association.

Welding Truck Side Frames, Bolsters and Arch Bars.

An American Railroad Association's mechanical section committee, W. O. Thompson, Superintendent Rolling Stock, New York Central Rd., chairman, reported in part as follows: The fact that so many cast steel side frames and cast steel bolsters are failing in the tension members is conclusive evidence of weakness in design, and the welding of the fractures will not add to the strength, but is likely to introduce a factor of further weakness by improper workmanship and change in the structure of the metal. It is, therefore, necessary to confine autogenous welding within specified limits on structures, subject to alternating stresses, and prescribe definite instructions to govern such welding. Other metal car parts subject to compression only, or compression and low tension strains, may be welded. Worn surfaces of any nature, and on any parts, may be built up, provided that the material remaining in parts subject to tension before welding, is equal to at least 80% of the original section area, and in parts such as bolster guides, column castings, center plate rings, etc., the material remaining must be equal to 60% of the original section area. It is recommended that the following general rules for autogenous welding be observed carefully:

1, Welding cracks or fractures will not be permitted on axles, arch bars, car wheels or tires, truck equalizers, spring or bolster hangers, brake staffs, brake wheels, coupler bodies, knuckles, knuckle pins, locks, lifters and throwers, parts made of alloy steel, and top chert angles of all open-top all-steel cars, if the fracture is located at a point between the bolsters more than 5 ft. from the center line of either body bolster.

2, Building up worn surfaces will be permitted on the following: Parts subject to compression only; *spring or bolster hangers; *holes in levers; **center plates; **truck sides, bolsters and column castings, journal boxes, coupler bodies, knuckles, locks, lifters and throwers, which must be dressed and checked for interchangeability; flat spots on rolled steel wheels and tires, if the thickness of the tread is 1 in. or more above the limit of wear groove.

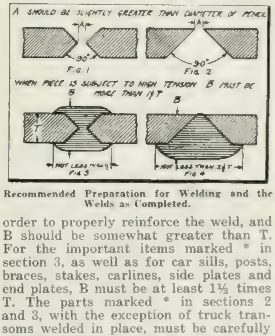
*Provided that the material remaining in the part is equal to at least 80% of the original section, and **, 60% of the section.

3, Welding cracks or fractures will be permitted on the following: Car and roof sheets; *cast steel truck sides; *pressed and structural steel truck sides, bolsters and transoms; *cast steel bolsters; draft castings; *brake beams; *cast steel coupler yokes; car sills, posts, braces, stakes, carlines, side plates and end plates.

*Welding is permitted only when the area of the crack is less than 40% of the total area through the section at the point of fracture, but it is not permitted to weld any crack located within 6 in. of an old weld.

4, All parts marked ** in section 3, except truck transoms, must not be welded unless removed from car or truck. Truck transoms may be welded in place by removing the truck from under car body. The edges of pieces for welding must be prepared as show in figs. 1 and 2. If both sides of the fractured member can be worked upon, the fracture should be prepared as in fig. 1, and where only one side of the fractured member is accessible, fig. 2 should be followed. The entire crack should be burned or chipped out far enough back so that there will be no portion of the crack in the metal. Failure to do this permits the check or crack to work its way across the metal to the farther side, due to the constant vibration, even after the weld has been made. A hole may be drilled at the end of crack or check and chip or burn towards the hole. The surfaces where new material is to be deposited must be clean and bright and reasonably smooth and, therefore, if the surfaces are prepared by the burning process the surfaces must be finished by chipping before welding. The portion of the part adjacent to the fracture should be heated before the welding is begun. In welding, the operator should begin to weld at the point farthest away from the outside edge and work the weld towards the edge. All efforts must be made to prevent oxidizations, and to accomplish this the work should be placed at angle that will allow the blowing out of all slag or impurities in the fused metal, and by giving the torch a rotary movement it will assist in their removal.

The new material must be deposited to the form shown in figs. 3 or 4 in order to properly reinforce the weld, and B should be somewhat greater than T. For the important items marked * in section 3, as well as for car sills, posts, braces, stakes, carlines, side plates and end plates, B must be at least 1½ times T. The parts marked * in sections 2 and 3, with the exception of truck transoms welded in place, must be carefully annealed by uniformly heating to approximately 1,400 or 1,500 deg. F. and allowed to cool slowly in the atmosphere. Worn surfaces permitted to be built up to the original section by depositing of new metal thereon must first be made clean, bright and fairly smooth, and after the metal is deposited must be dressed to the required dimensions and gauged where necessary. When truck side frames and bolsters are welded the weld must be made smooth and the following record legibly stamped on the weld by at least ⅜-in. steel stencils, in the following form.


A SHOULD BE SLIGHTLY GREATER THAN DIAMETER OF PENCIL
A
90°
FIG 1
A
90°
FIG 2
WHEN PIECE IS SUBJECT TO HIGH TENSION B MUST BE MORE THAN 1½ T
B
T
NOT LESS THAN 2½ T
FIG 3
B
NOT LESS THAN 2½ T
FIG 4

Recommended Preparation for Welding and the Welds as Completed.

(Mo. Day Yr.)	(Railway)
0 00 00	A B C
XY	(X)
(Shop abbreviation mark)	(Welder's identification number or mark)

5, It is also recommended that reference be made in the Rules of Interchange to the effect that autogenous welding, by either gas or electric process, when performed, must be strictly in accordance with these limits and regulations. The present price in the Rules of Interchange, rule 107, item 432, will not properly compensate the party performing the welding according to these regulations, and should be revised. A penalty should also be prescribed in the Rules of Interchange providing for the rejection of any car on which a truck side frame or truck bolster is welded, after the adoption of these regulations, when not conforming to same.

Car Trucks Committee's Report.

An American Railroad Association's mechanical section committee, J. T. Wallis, General Superintendent Motive Power, Pennsylvania Rd., chairman, and of which J. Coleman, Superintendent Car Department, G.T.R., and W. J. Robider, General Master Car Builder, C.P.R., were members, presented a report, the principal feature of which is the marking of freight equipment cars to show the load limit. The points considered in this connection are the failure of axles in service due to be overloaded in accordance with the marked capacity of the cars, particularly the 60,000 lb. capacity cars; and the difficulty and confusion in determining the allowable lading that may be placed on the car from the weight markings stencilled on the cars, as well as from the provisions of the M.C.B. Rules of Interchange governing the amount of load that may be carried. The committee recommended that cars be marked with the maximum load, light weight and total weight, and include the cubical capacity under inside dimensions.

The Norfolk and Western Ry.'s request to have its special 5¼ x 9 in. journal approved, as having a capacity for a total weight of 152,000 lb., was not recommended, as the committee considers it no stronger than the standard 5 x 9 in. axles, with a capacity of 132,000 lb.

The question of remuneration for light weighing cars, spring plates, and the dust guard well for the 5 x 9 in. passenger journal box, was also considered, and minor changes in the last two were recommended.

Report of Committee on Couplers.

An American Railroad Association's mechanical section committee, R. L. Kleine, Chief Car Inspector, Pennsylvania Rd., chairman, reported in part as follows: With the adoption, last year, of the details such as contour line, design of 6 x 8 in. shank, etc., for the M.C.B. standard D coupler, the duty assigned to the committee to present to the association a one standard coupler has been completed. To realize the benefits of this work it is essential that the coupler be placed into general use as soon as practicable. The design has passed the experimental stage and has been proved in service and the manufacture of the coupler has progressed to the end that the coupler manufacturers who have worked jointly with your committee in adopting the standard D coupler are in position to furnish the coupler in any quantities desired.

To accomplish the universal use of the standard coupler, your committee recommends the following program: Make it mandatory that all new cars built after a certain date be equipped with the M.C.B. standard D coupler with 6 x 8 in. shank. Make it mandatory that after the present stock of 5 x 7 in. couplers is used, all future renewals will be made with the M.C.B. standard coupler with 5 x 7 in. shank.

In order to carry out this program, the cars built after June 1, 1920, will not be accepted in interchange unless equipped with 6 x 8 in. shank M.C.B. standard couplers. Existing cars, equipped with 5 x 7 in. shank couplers of the present types, when requiring coupler renewals, shall have 5 x 7 in. shank M.C.B. standard couplers applied, this rule to be effective when present stock of new and secondhand 5 x 7 in. shank couplers have been exhausted. Existing cars equipped with 5 x 5 in. shank couplers shall have the existing type of couplers maintained in repairs. Where changes are made in the design of the draft arrangement, provision should be made for the application of either the 5 x 7 in. or 6 x 8 in. shank M.C.B. standard coupler.

A revision of standards for uncoupling attachments is recommended, and the committee also recommends submitting to letter ballot the following: Coupler operating device for new freight cars and application of new design coupler operating device to existing freight cars must be of a type directly connected to coupler knuckle locking-block or locking-block lifter, without the use of clevises, links, chain or pin and must conform to the detailed specifications prescribed in the U.S. Safety Appliance Standards.

Superheater Locomotives Committee's Report.

At American Railroad Association's mechanical section, committee, W. J. Tollerton, General Mechanical Superintendent, Chicago, Rock Island and Pacific Ry., chairman, reported as follows:

The superheat schedule was somewhat delayed during the past few years, due to the shortage of labor and material caused by the war. Of the railways reporting, practically all are going to the piston valve when superheating, either by changing to piston valve cylinders or applying a piston valve steam chest. One railway, in superheating cross-compound locomotives, retained the slide valve on the low pressure side, using a double ported slide valve. Those reporting as retaining slide valves used bronze valves. In applying new cylinders new modern valve gears were applied to the locomotives. Considerable trouble was experienced in using the piston valve steam chest due to leaks and rapid wear. These defects have been overcome in the later designs. When superheat valve stem packing is used the life of the packing is about the same as that of a saturated locomotive.

Lubrication—On the railways using slide valves no change was made in the oiling or lubricating devices when bronze valves were used, but where the original cast iron valves were used some trouble with cutting the seats was experienced and the application of an additional system of graphite lubrication stopped the trouble. The hydrostatic lubricator is still the standard for all locomotives and reports from same are satisfactory in every case.

A number of railways have taken up force feed lubrication, using a plunger type of lubricator. As the practice of lubrication is very recent, and data as to the performance limited, the committee does not feel justified in making any recommendation, but it is the opinion of the railways using it that the force feed lubricator when in good condition will distribute oil more economically, possibly more regularly than the hydrostatic lubricator. It has the advantage of being outside of the cab and requiring no special attention of the locomotiveman, as the feeds are set and the lubricator stops feeding when the locomotive stops.

Sufficient information is not at hand to report on the life of packing rings and bushings; it is the committee's opinion that the life will be increased, but is unable to say to what extent.

[illegible] [illegible] are not extensively used and your committee is of the opinion that they are unnecessary and should be discontinued, as it is doubtful if any benefits are derived from their use.

The use of superheat valve oil is recommended by the majority of railways reporting, but a large percentage use the ordinary valve oil and claim satisfactory results for same. Carbonization is caused by the manner of operation.

Considerable trouble has been experienced with cylinder and valve packing. Much of this trouble has been overcome by changing the design of the rings, which in most cases consisted of going from a ring, with a square cross-section, to a narrow faced ring, by using a better grade of material, and by admitting steam to the cylinders while drifting. It is your committee's opinion that 2 cylinder packing rings are ample for good service.

The majority of railways report satisfactory results from 50% lead, 50% copper mixture for piston rod packing. Very good results have been obtained from 74% lead, 20% copper and 6% nickel, and 80% lead and 20% antimony, especially when equipped with a hard grease piston rod lubricator, which adds greatly to the life of the softer packing. Some railways are using tandem piston rod packing, but it is the committee's opinion that single packing will give satisfactory results.

When automatic or manually operated drifting valves or drifting throttles are not used, instructions have been issued to locomotivemen to drift with what is called a cracked or drifting throttle. It is essential that steam be supplied to the cylinders while drifting. Drifting valves are not essential, but desirable, especially in a mountainous country, as the steam can be supplied by cracking the throttle. Automatic drifting valves of a good design are valuable as they eliminate the human element in furnishing steam for drifting. A number of roads are using a manually operated drifting throttle, others are using and experimenting with automatic valves of different makes. Fifty per cent of the roads reporting do not use steam chest relief valves, and 50% do when locomotives are not equipped with drifting valves or vacuum breakers. It is the committee's opinion that relief valves should be used on large power if it is not equipped with drifting valves or vacuum breakers. It is the committee's opinion that a properly designed drifting valve will eliminate carbon deposit, aid in lubrication, and increase the life of packing.

Maintenance—The superheater units have failed mostly at the rear return bend, the welded type giving the most trouble. The application of cast steel return bends has reduced this trouble. Some failures have occurred at the front end under the ball joint. This failure is due mainly to cinder wear, as the unit lies in the path of the cinders drawn through the tubes at a high velocity. To protect against this wear, a shield of thin steel is spot welded to the unit. Failures at this point are repaired by cutting off the worn part and welding on a new piece. No particular difference has been noted in the cinder wear of a stoker fired and hand fired locomotive. The abrasive effect of the cinders varies greatly with different coals.

The tools used to repair and maintain the units are those recommended by the Locomotive Superheater Co. When units are removed, the joints should be reground and individually tested before being replaced, and collectively after being replaced. A periodical test might be desirable, but the committee feels that it is not essential.

The majority of railways purchase the header bolts. One uses 0.988% carbon steel heated, to between 1400° and 1500°, and plunged into an oil bath, then reheated and allowed to cool naturally. Another specifies that the material shall have a tensile strength of 90,000 lb. a sq. in., elastic limit not less than 65,000 lb. a sq. in., an elongation in 2 in. not less than 18%. The metal should have the following chemical properties: carbon, 0.45 to 0.60 per cent; manganese, not over 0.70%; sulphur, not over 0.05%; phosphorus, not over 0.05%. Some use a high grade iron without any heat treatment.

The investigation shows that in most cases a limit percentage of weight for scrapping of superheater flues has not been established. Some give the limit percentage as from 10 to 25 per cent in reduction. Some gives flues the hammer test. Superheater flues are reclaimed by welding up pits and holes worn in by steam leaks. It is a good practice to weld the large superheater flues to the back flue sheet. Good results have been obtained from same, and the committee recommends this practice.

All boiler tubes should be blown out each time the fire is drawn and, at least, at each wahsout period all tubes should be cleaned thoroughly from end to end, and all accumulation removed; special attention should be given to the superheater flues. The flues should be blown with a ¼ in. or ⅜ in. pipe and 100 lb. of air.

The method employed in testing packing for leaks around the outside steam pipes where they enter the smoke box is by applying a lighted torch to all surface joints, while the blower is on. Much trouble is experienced in keeping these joints tight. Different kinds of packing have been used with varied results. Cement and ground magnesia have been used with some success. A mixture of ground magnesia and asphaltum, applied while hot, gives promise of better results; this is due to the heat keeping the mixture in a semi-plastic state. The design of construction used on the U.S. standard locomotives gives promise of a high efficiency.

Most railways have issued, through bulletins, or personally by the road foreman, instructions not to carry over 2 gauges of water; this, of course, depends on the water conditions of the locality in which the locomotive is operating. The use of a pyrometer will show the men the low temperature of the steam resulting from carrying high water; it will also show the effect the position of the throttle and reverse lever has on the superheat obtained. The majority of the roads prefer a wide open throttle, with as short a cut-off as possible, under the operating conditions. Some roads claim better results by using a loger cut-off and a lighter throttle, claiming better superheat.

Light, frequent and regular firing proves to be the best practice, and produces the best degree of superheat, but it is essential that at all times the flues be kept clean. The method of firing depends on the quality of fuel used.

Car Wheels Committee's Report.

An American Railroad Association's mechanical section committee, W. C. A. Henry, Superintendent Motive Power, Pennsylvania Lines, chairman, and of which W. H. Winterrowd, Chief Mechanical Engineer, C.P.R., was a member, reported as follows: Certain recommendations have been made by manufacturers of wrought-steel wheels and referred to your committee. Among them is one, that the 38 in. diameter wrought-steel wheel be eliminated from our standards, it being stated that the number of wheels manufactured of this diameter is small and that in many cases the 36-in. wheel could be used. Your committee does not have sufficient information to justify making definite recommendations now, but arrangements will be made to obtain this information, and, in the meantime, the use of the 38-in. wheel should be discouraged, as it is advantageous to reduce the number of standards as far as can be done without causing undue hardship.

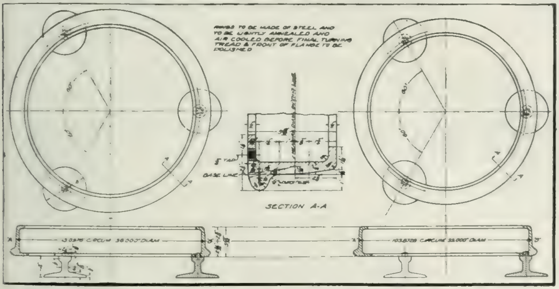

RINGS TO BE MADE OF STEEL AND TO BE LIGHTLY ANNEALED AND AIR COOLED BEFORE FINAL TURNING TREAD & FRONT OF FLANGE TO BE POLISHED
BASE LINE
SECTION A-A

Fig. 1. Wheel Circumference Measure Test Rings for 33 and 36 in. Wheels.

It has been recommended that the limit of wear groove for wrought-steel wheels be located ½ in. from inside of rim of wheel instead of ¾ in. as at present, it being felt that the thickness of metal would be sufficient to afford the necessary strength. Other questions than the strength of the wheel are involved, viz.: maintenance of draw bar height, truck clearance, effectiveness of brakes with increased range in diameter of wheels. Your committee, therefore, requests that members give this subject consideration in order to reply to a circular of inquiry that will be sent out.

The question has been raised as to whether the standard wheel circumference measure, sheet M.C.B.-16B, should have the points indicating the normal circumference of the 33-in. and 36-in. wheels located on the tape when laid out flat, or whether correction should be made for the tape thickness; there being a difference of 2-10 in., or more than one tape size, depending upon which way the tape is laid off. In laying out the wheel circumference measure, due correction should be made for the tape thickness and in order that absolute uniformity may be obtained the executive committee has decided that the association obtain standard rings of 33-in. and 36-in. diameter; these rings to be certified by the Bureau of Standards and be used in cases of dispute to check wheel tapes. Your committee was instructed to prepare design and mounting for these rings and same are submitted herewith, fig. 1.

The specifications for wrought-steel wheels permit a variation of 5 tape sizes under and 9 tape sizes over the size called for. It is felt desirable to provide for these additional tape sizes for 33, 36 and 38-in. wheels, by adding to the spaces now provided for taping cast-iron wheels. The continuous markings on the upper side of the tape would then be used for mating worn wheels. Fig. 2 shows recommendations of your committee as to how this could be carried out.

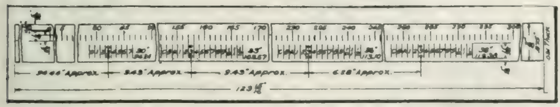


Fig. 2. Additional Spaces to be added to Standard Wheel Circumference Measure Tape for Taping Wrought Steel Wheels.

The following note should be inserted on sheet M.C.B.-16B: "Linear dimensions shown represent measurements of actual circumference of the wheel and not straight length of the tape. Graduations to be spaced ⅛ in. apart with tape laid flat, and space between lines 157 and 158 on the upper side of tape to coincide with space representing tape size 3 for the 33-in. diameter cast-iron wheels."

Rule 76 of the Rules of Interchange reads as follows: "Tread worn hollow; if the tread is worn sufficiently hollow to render the flange or rim liable to breakage." It is your committee's opinion that the meaning of this rule is not clear and is subject to wide variation in actual application; it having been found that many wheels are being withdrawn on account of tread wear without the wear being sufficient to injure the wheel. Your committee recommends that a gauge, as shown in fig. 3, be used in determining whether or not a wheel should be condemned on account of tread worn hollow; a wheel not to be condemned on this account unless the projection on underside of gauge does not come in contact with the tread of the wheel.

It has been recommended that a clause be inserted in our specifications, requiring that in case of cast-iron wheels failing to pass the M.C.B. test, the first letter of the initials of the purchasing road be chipped off with the idea of stopping the practice claimed to exist to a certain extent of roads purchasing rejected wheels. It is felt that action of this sort is desirable, but the letter C in the legend M.C.B. be chipped off, for the reason that being located on the outside of the wheel it can be more readily seen than if a letter on the inside, where purchaser's name is placed, were chipped off. Furthermore, wheels not coming up to M.C.B. requirements cannot be considered M.C.B. wheels. Your committee, therefore, recommends that the following clause be added to specifications for cast-iron wheels under the heading "Rejection," par. 16: (d) In all cases where wheels are rejected the letter C must be chipped out of the legend M.C.B. on the outside face of each wheel." Your committee further recommends that a rule be inserted in the Rules of Interchange prohibiting acceptance in interchange of a car, any of the wheels of which have the letter C chipped out of the legend M.C.B.

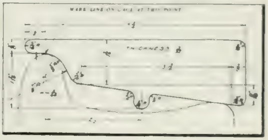
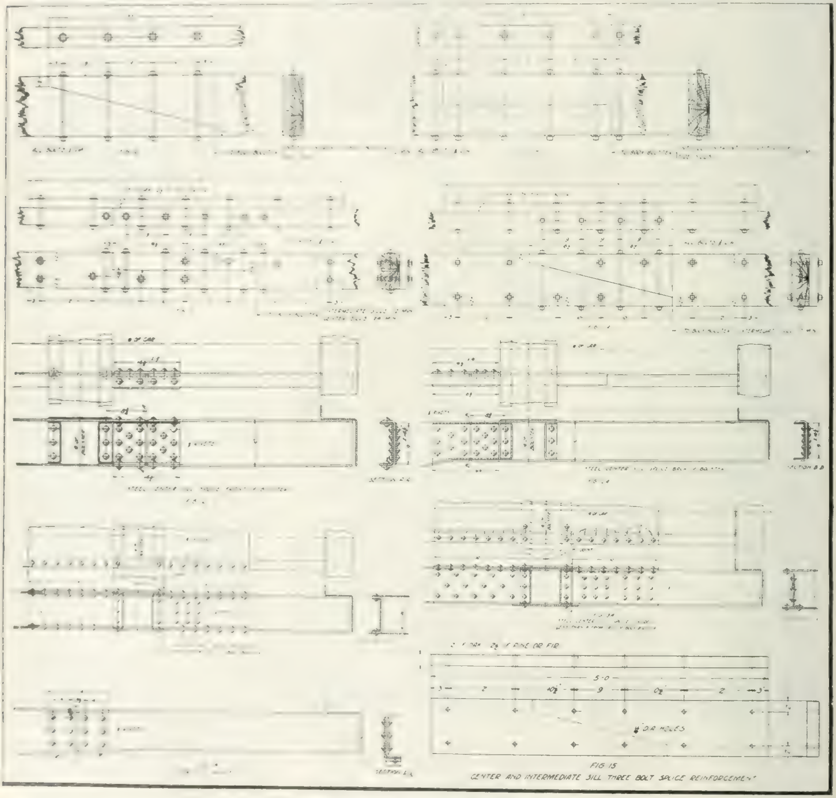


Fig. 3, Wheel Tread Worn Hollow Gage.

The Association of Manufacturers of Chilled Car Wheels advises us that all information thus far available indicates superiority of the arch design of plate, adopted in 1917, for the 700 and 850 lb. wheels over what has been considered our standard design of plate. It is our feeling, however, that another year should be allowed to elapse in order to accumulate more information before considering the re-design of the 625 and 725 lb. wheels.

Calgary and Fernie Ry.—The Dominion Parliament has extended for five years the time within which the company may build its projected railway from Calgary, Alta., via the Kananaskis Pass to the headquarters of the Elk River in British Columbia, thence by the valley of the Elk River to Fernie, B.C. The company was incorporated in 1906, and has been granted several extensions of time for construction, the last being in 1917. (Jan., pg. 26).

Car Construction Committee's Report.


SECTION B-B
5-0
3
2
10½
9
0½
⅞ DIA HOLES
FIG 15
CENTER AND INTERMEDIATE SILL THREE BOLT SPLICE REINFORCEMENT

Diagrams of Car Construction Recommendation.

The American Railroad Association's mechanical section committee, W. F. Kiesel, Jr., acting Mechanical Engineer, Pennsylvania Rd., chairman, reported as follows:

In the past year, the subjects referred to your committee were: 1, Revision of rule 22, 1917, Code of Rules of Interchange; and 2, Suggested provision for side door openings 10 ft. wide in all box cars, the side door proper to be 6 ft. wide, with a removable door post, and an auxiliary door 4 ft. wide.

M.C.B. enquiry circular 19 was sent out to all members, asking for suggestions and recommendations for change in rule 22 of Code of Interchange, and the replies thereto were carefully considered by your committee, based on which the following rule has been formulated, and is offered herewith as a substitute for present rule 22.

"Cars having wooden sills—Draft timbers must not be spliced. Longtudinal sills must not be spliced between or over cross-bearers. Longitudinal sills (intermediate or side sills) may be spliced at both ends, on either side of body bolster. The nearest part of the splice must not be less than 12 in. from edge of body bolster. Intermediate sills, spliced between body bolster and cross-bearer, the reinforcement shall be applied in accordance with fig. 15. Center sills shall be spliced only between body bolster and cross-tie timber. The nearest part of the splice must not be less than 24 in. from edge of body bolster. Center sill splices shall be in accordance with fig. 11. The diameter of horizontal or vertical splice bolts shall be ⅝ in.

"Cars having steel center sill splices must be reinforced as per figs. 11 or 11-A. Intermediate sills, spliced between bolster and end of cars, and side sill, spliced on either side of bolster, must be in accordance with figs. 10 or 10-A. When splicing or renewing any longitudinal sill, reinforcement shall be applied to all existing non-reinforced splices, in all sills except side sills. If the old splice is a 4-bolt splice, it shall be reinforced in accordance with figs. 11 or 11-A. If the old splice is a 3-bolt splice, located at least 7 in. from face of bolster. Adjacent sills may be spliced. All splices shall be of the butt-joint type, reinforced on both sides by plates of not over 24 in. in length, and not less than twice the length of the protruding end when the projection is less than 12 in. The reinforcing plates shall be at least as thick as the web of the sill. The splice plate on the flange side of the sill shall be U-shaped, to include flanges, while the plate on the opposite side shall cover the web only. Rivets to be spaced as shown in figs. 12 and 12-A. Where autogenous welding is available, the sills may be welded after riveting the U-shaped plate on the flange side, omitting the flat plate on web side.

"Cars having steel center sill splices located between body bolster and end sill, and less than 8 in. from face of bolster. All splices shall be of the butt-joint type, with the addition of a cover plate. The splice plates shall be at least as thick as the web of the sill. They may be located on either side of the sill, extending forward and back of the center line of bolster 30 in., as shown in figs. 13 or 13-A. The rivets shall be spaced as shown.

"Side sill splices. All splices must be of the butt-joint type, reinforced on both sides by plates 14 in. long. The reinforcing plates shall be at least as thick as the web of the sill. The splice plate on the flange side of the sill shall cover the web only, while the plate on the opposite side shall be flanged over the bottom leg of the side sill, and riveted to the same, as shown in fig. 14. The splice may be located on either side of the body bolster. The rivets shall be spaced as shown. Side sills may also be welded by the autogenous process, making the thickness of the metal through weld one and one-half times the thickness of the metal in the sill, in which case the reinforcing plates and rivets shown in fig. 14 may be omitted."

Box Car Side Doors—The General Motors Corporation's Traffic Manager suggests the following: "It has long been my contention that a 6-ft. wide side door, with a movable post, and a 4-ft. extension beyond, is the proper kind of door to be used on either 36, 40 or 50-ft. cars. This kind of door enables everyone to use a box car. In other words, with only a 6-ft. door it confines the use of this box car to certain commodities, and certain other commodities, such as light bulky articles, are excluded from the use of these cars, as it is impossible to get a light and bulky commodity in anything less than an 8-ft. wide side door—10 ft. wide preferred. If all box cars in future were equipped with the kind of door above described, it would mean that on a car coming into our factory, loaded with any kind of commodity, when it was unloaded we could immediately use the car for loading automobiles or trucks, by removing the post and taking advantage of the 4-ft. additional extension. This gives a load to the car in both directions, and means that there would be practically no empty movement of a box car in any direction, as the same could be used for all classes and kinds of commodities from merchandise to grain."

The point raised in the above is a matter of policy, for adoption or rejection by the railway managements. It, however, raises the question of providing a satisfactory design of door openings, wider than 6 ft., as a basis of construction. Special automobile cars, with side door openings varying in width from 8 to 12 ft., and some with end doors 8 ft. and more in width, are in existence. If so directed, your committee will take up the task of providing such side door design.

Design and Maintenance of Locomotive Boilers.

An American Railroad Association's mechanical section committee, C. E. Fuller, Superintendent Motive Power, Union Pacific Rd., chairman, reported as follows:

On Feb. 8, 1919, the committee issued a circular containing 6 questions and a request that all replies be in the chairman's office by Feb. 28. Up to Mar. 20 only 19 roads responded, and from their reports we derive the following general conclusions:

None of the 19 report introducing any new or special designs of locomotive boilers during the last two years; 9 roads use electric welding in fire boxes for patches, partial side sheets, cracks and fire door patches; 8 report no electric welding at all, and 2 report use of oxy-acetylene. Only 3 report making a common practice of using electric welding as a substitute for riveted seams in fire box and only to a limited extent in repair work. One road uses riveted seams strengthened by electric welding. In some cases seams between crown sheet and side sheets are welded the full length without rivets, and also fire door hole flanges, without giving any further trouble. One road reports that all cross seams, and, to some extent, the fire door sheets, are either electric or acetylene welded. Mud ring corners are being successfully repaired by cutting off 18 in. each way and welding in a new corner, but the report does not specify whether this operation is done by electric or acetylene process.

One road claims to have a successful method of reclaiming enlarged staybolt holes, by tapping out from 2 to 3 in. diam. and screwing in plugs the same thickness as sheet, with both plug and sheet chamfered off ⅛ in. and the electric weld built up in the gutter thus formed, with a slight mound for strength, and cracks between staybolt holes repaired by cutting out crack to a 45 deg. bevel on each side—3-16 in. apart, and building in the electric weld.

One road furnishes sketch of a sectional flue expander, with the parts which, in the standard expander, would have a bearing against the bead of the flue, ground off. This is to be used on flues which are electric welded in the back sheet when they show leakage, the idea being that they will be able with this expander to knock the scale off on the water side next to the sheet and prevent overheating and cracking, and at the same time avoid crowding the bead of the flue against the weld and breaking it. Grinding the expander off this way does not impair its efficiency for locomotive house work on flues which have not been welded. Some of its large superheater flue expanders have been changed also, and it claims that up to date this seems to be the most efficient tool for keeping scale away from ferrule on the water side. This road finds it necessary to work the flues which have been welded in the sheet about every 60 days, and in bad water districts it does it oftener. A discussion of this process of removing scale and its effect upon welded flues is invited.

One road reports electric welding smoke box studs, the inference being that the studs are butt welded to the ring to save drilling and tapping. Another road electric welds arch brick studs in a similar manner.

The most approved methods of performing the various welding operations were included in last year's report and need not be repeated. Among the roads reporting last year, 25% used electric welding for entire new fire boxes, which does not agree perfectly, nor conflict radically, with the fact that none of the roads reporting this year mention such a practice, although one road uses oxy-acetylene welding in place of riveted seams, except in mud ring, for all new fire boxes.

Of the 19 roads reporting, only 10 have had experience with combustion chambers, and all that have had them any length of time report favorably, on account of improved combustion and less trouble with leaky flues. If there has been any notable change in locomotive boiler practice during the past year, it has been the re-introduction of the combustion chamber. These range all the way from the D-shaped tube sheet up to a combustion chamber reported on the new Pennsylvania Mallet as 10 ft. long. One member says his view of the combustion chamber is that its main function is not so much to increase the fire box surface as it is to shorten the tubes and give increased length of flameway, to allow combustion to be more nearly completed before it is extinguished by admission to the tubes. Combustion once completed, it is immaterial whether the heat be absorbed by the fire box or by the tubes, and the more heat extracted by the fire box, the less will be the evaporation of the tubes. The introduction of large combustion chambers naturally brings up the question of bridge walls between combustion chamber and fire box proper; possibly, also the desirability of some form of discharge for the bank of sparks carried over the bridge. While the committee has received no data on bridge walls, we have no doubt that a discussion will develop this feature.

A member has suggested as worthy of consideration the best method of determining the water level in the extremely long boilers of today. This refers particularly to the long boilers on Mallet locomotives, which operate over heavy humps and dips.

Eleven roads have experienced trouble from cracks in boiler where guide and waist sheet angle is fastened to the boiler shell. To overcome this, 6 roads have removed the rivets or studs, leaving a loose bearing. One road uses 2 small waist sheets instead of the one-piece design, which it finds permits greater flexibility, and one road is experimenting with flexible braces between guide yoke and boiler, but these have not been on the road long enough to produce results. One important road continues to rivet angle or T to the boiler with a ¾-in. liner inside of the boiler, which distributes the strain over a greater area with successful results. Another important road uses studs in some locomotives and rivets in others, but finds that the counterbalance has some effect in causing cracks at that point.

Thirteen of the 19 roads have no government locomotives, while the remaining 6 have nothing to say except one reference to the 2 water glasses and water column, which is believed by some to be superfluous.

The committee's attention has been directed to detail description and reports of the performance of a locomotive equipped with new type of fire box on the C.M. & St. P. Rd., known as the Nicholson thermic syphon. The principal fea-

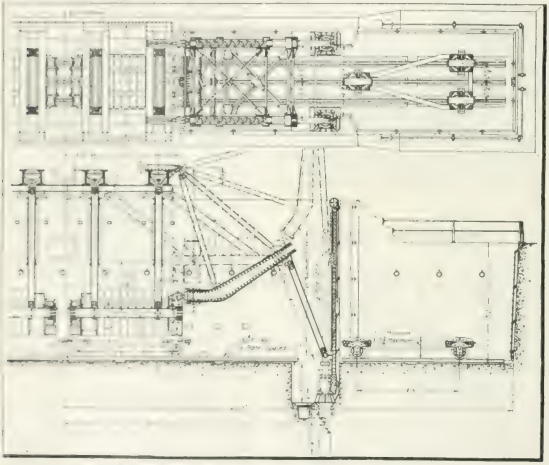
[illegible] of design consist of 2 water legs extending longitudinally from the throat to the [illegible] sheet, thus dividing the front part of the fire box into practically 3 compartments. These syphons are triangular in form from the side elevation, and constitute a water space about 4 in. wide transversely, the 2 parallel surfaces being staybolted in the usual manner. The heating surface of this fire box in direct contact with the fire is materially increased, due to the area of these syphons. It is stated that the speed of the water through these syphons is such that all the water in the boiler passes through them in 5 minutes. According to published test data, the locomotive equipped with these syphons appears to have produced some very economical results.

The limited response to this year's circular of inquiry, and consequent meagerness of your committee's report, may be due to war and other abnormal conditions that have existed, making it difficult for the railways to pursue the usual development of mechanical processes and new ideas.

Report of Committee on Draft Gears.

An American Railroad Association's mechanical section committee, R. L. Kleine, General Car Inspector, Pennsylvania Rd., chairman, reported as follows: On Sept. 27, 1916, your committee addressed a circular of inquiry to the railways to ascertain the kind and capacity of draft gears in service, travel, performance, sustained capacity in service and repairs, also sill spacing, coupler attachments, rivetted versus key connections between coupler and attachments, draft lug spacing, overall length of yoke, coupler horn clearance, etc. Replies were received covering a total of [illegible] cars owned. The data received gives a very fair idea of the gears in service, forms of attachments used, spacing of sills, etc., but the information is very meagre, generally, as to the efficiency of the gears in service, cost of maintenance, practicability of repairs and capacity of repaired gears, although valuable data is reflected on tests of two types of draft gear taken from service before repairs were made, as well as tests of these gears after repairs.

It was felt necessary that gears should be thoroughly tested not only when new, but after they had seen service, as well as after repairs had been made to gears taken from service, also that such tests should be made approximating as closely as possible actual service conditions, eliminating variables as far as possible. The static machine gives a certain comparison as determined by its diagram and absorption of work, but does not measure the capacity of the gear as a shock absorber. The 9000-lb. drop test machine will measure the height of drop at which various gears will close, and, therefore, can be considered a relative measure of shock-absorbing capacity in different gears. However, the weight used is so much less than actual service that the question arises whether the weight and height of drop of the test machine is comparable to the weight and speed of loaded car in service, and if a gear so tested in a 9000-lb. drop test machine will have the same relative efficiency in service under the heavier weight car and slower speed. The 15,000-lb. single pendulum machine in conjunction with the 30,000-lb. car on level track, as used by the Union Draft Gear Co., is another form of drop testing and is comparable with the drop weight. The Symington test plant, at Rochester, N.Y., consists of testing draft gears in full-sized freight cars. One car is dropped down an incline and strikes another car standing on a level track. Facilities are provided for measuring the speed of moving car, tendency of lading to shift under impact and recoil, closing of gears and distance the standing car travels as a result of the impact. This testing arrangement represents more nearly actual service conditions than any of the tests previously referred to. It, however, necessarily includes a number of variables, but is, no doubt, valuable for check testing and action under service conditions.



Pendulum Draft Gear Test Machine on Pennsylvania Rd.

In order to reduce to a minimum all variables and for the purpose of accurately measuring impact blows, recoil, etc., the Pennsylvania., under the direction of J. T. Wallis, General Superintendent Motive Power, designed a pendulum draft gear testing apparatus (illustrated herewith), consisting of 2 weights, 200,000 lb. each, suspended from a suitable framework, with provision for applying different draft gears. The weights may be varied up to 200,000 lb. as found desirable. It was the purpose of the draft gear committee to use this machine in tests conducted by it, but on account of the war, the machine has not been built.

On June 7, 1918, C. B. Young, Manager, Inspection and Test Section, Division of Operation, U.S. Railroad Administration, advised it was the desire and intention of that section to make an extensive test of draft gears, to determine what a draft gear should be, and also the value of the draft gears now on the market measured by the ideal standard, and invited suggestions and recommendations of the draft gear committee, draft gear manufacturers and railway officers. Your committee acted upon this invitation and placed at the government's disposal all the data and tests that had been collected, as well as their views in connection with the tests to be conducted. After outlining their plan of procedure, the Inspection and Test Section of the U.S. Railroad Administration conducted tests of draft gears on the static and drop test machines, for the purpose of calibrating the gears that will be used in the cars at the Symington testing plant, which latter tests were started Apr. 10, 1919, and to which your committee was invited.

In order to avoid duplication of work and entailed expense, your committee has suspended making any tests of draft gears, but will work in close harmony with the U.S. Railroad Administration, Inspection and Test Section, and thus have available the results of these tests for the committee work.

St. John and Quebec Ry. Construction Financing—Judgment was given in the New Brunswick Supreme Court of Appeal, June 6, in an action brought by the N.B. Government to recover from J. K. Flemming, the former premier, $100,000, alleged to have been illegally obtained from A. R. Gould, former President of the St. John and Quebec Ry., in connection with contracts entered into in 1911 and 1912, between the N.B. Government and the company. The company's financing formed the subject of an investigation by a royal commission, and upon the findings of that commission this and other actions were instituted b, each the Government for the recovery of moneys alleged to have been illegally handled. Objection was taken by Mr. Flemming to the statement of claim, and the matter was argued through to the Supreme Court of Appeal which has decided in favor of the N.B. Government.

Report of Committee on Locomotive Headlights.

An American Railroad Association's mechanical section committee, H. T. Bentley, Superintendent Motive Power and Machinery, Chicago and North Western Rd., chairman, reported in part as follows:

Heretofore, reports of the headlight committee have been more in the nature of results obtained by tests of electric headlights and at the time they were made and conclusions reached, most railwaymen, especially in thickly congested territory, and where high-powered lights had not been tried, were satisfied that such a device was a menace to the safe operation of a busy railway and should not be used. Now that the electric headlight is with us to stay, it may be in order, to refresh our memories, to give a brief history of its evolution, and after that, see what is still further needed to make the apparatus as reliable and free from failure as any other part of the locomotive.

The first arc light was operated in the early eighties by an oscillating engine, which later was changed into a turbine for furnishing the power, and this method, with modifications and improvements, is still in use. Objections to the arc light were many, among them being the necessity for continually changing carbons, the tremendous heat generated, the unreliability and variety in the intensity and direction of illumination, the burning out of carbon holders and other parts of the apparatus; there was no way of dimming or softening the light, and on account of its brilliancy it was very objectionable at stations or when passing trains on double track, etc. As an advertising medium and on single-track roads, particularly in the west, it was fairly successful, except for failures, some of which are mentioned above.

After much experimentation it was decided in 1915 to substitute the incandescent carbon filament lamp for the arc light and a remarkable improvement in cost and operation was shown, the light being steady, uniform and more reliable; it was also possible to have a smaller lamp in the same headlight casing, so that by use of a switch it could be used when the larger lamp was objectionable at stations or on double track. Improvements in electric lamp construction gave us the tungsten filament with its increased efficiency, so that for the same amount of current, very much greater illumination was furnished, but the frailty of this filament caused considerable trouble and failures, the lamp manufacturers were appealed to and later furnished a type of lamp with a short, stiff filament that was very rugged and thus annoyance of failures from this cause was overcome.

On account of the lack of effciency in the carbon lamp, it was necessary to use a comparatively large generator with an accompanying high steam consumption, and trouble was still experienced with the governor, and bearings had to be frequently lubricated or the machine was out of commission. The greater efficiency of the lamps enabled a very much smaller unit, with decreased steam consumption, to be used, and at about this time the lubricating devices were improved so that instead of having to oil the bearings about every 8 hours, they would run for several months without attention.

A dimming device was later designed, so that instead of using 2 lamps, one of which had to be out of focus, the 250-watt lamp in focus could be used for road work, or, through the medium of a resistance of 3.12 ohms, could be reduced by the movement of a switch, so that it was not objectionable to a locomotiveman opposing it. The difficulty of properly focusing lamp was taken care of by a device which enabled this to be done quickly and properly.

In the earlier recommendations of the A.R.M.M.A. committee, a 6-volt system was suggested, but on account of train-lighting systems being 32 voles, this voltage is now generally used for headlighting equipment, and on several roads, suburban trains' cars are lighted from the headlight equipment and to take care of this work a 2½ or 3 k.w. machine is used.

Towards the end of 1915 experiments were made with storage batteries to furnish current for the headlight. This equipment gave good results, except for lamp trouble, which difficulty was later overcome, but its first cost was so high and the length of time consumed charging batteries so great, where facilities were provided for that purpose, that its use was abandoned.

The headlight reflector, 18 in. diameter, 9 in. deep, silver plated, gives considerable trouble with tarnishing, and a glass reflector that can be readily kept clean is very desirable. Several makers have put such reflectors on the market and hope before long the use of silver-plated reflectors will be a thing of the past.

Acetylene gas was tried for headlights on a number of roads, some using a generator apparatus on the locomotive while others used acetylene stored in tanks. With the former practice serious accidents occurred, due to men with open torches cleaning out the spent carbide before all of the gas had been dissipated; while the storage tanks, it required considerable work to replace them when discharged. The light furnished was of good quality, but due to breakage of piping, clogging of burners, and troubles mentioned above, the use of acetylene for headlight purposes was discontinued.

The amount of light necessary on a switch locomotive must be considered not only from the locomotiveman's requirements, but also from the switchman's safety standpoint, and complaints are continually being made by the former that the light is not bright enough, and from the latter that it is too strong, but by using a 40-watt lamp in a clean reflector, ample light is furnished to comply with the 300-ft. requirement of the law and not be objectionable to the switchmen.

There appears to be a demand in some quarters for an enclosed type of switch of more rugged construction and conveniently located within reach of the locomotiveman as complaints are made that the single-pole double-throw switch as generally used is not very satisfactory.

Failures frequently occur from broken steam pipes, broken field lead, excessive voltage, grounded brush holders, loose connections, worn bearings and excessive valve travel, but the manufacturers and repair men are making much progress in the correction of these difficulties and we soon will have the headlight equipment as free from troubles as any properly designed machine.

The American Railway Electrical Engineers' Association has been the committee with its report on this subject, and by permission, it is presented by us as we believe it gives a great deal of technical information from men well qualified to handle the subject, so that by a thorough discussion of this valuable addition to the literature on the subject, we will be in very much better position to know what is the best practice and be governed accordingly.

The A.R.E.E.A. report referred to gave full details of all recommended standard practice for electric headlights, fully illustrated with plans.

Report of Committee on Mechanical Stokers.

An American Railroad Association's mechanical section committee, A. Kearney, Superintendent Motive Power, Norfolk and Western Rd., chairman, reported as follows: Your committee has been reporting to this association since the 1913 convention. In each successive report, it has been the purpose to acquaint the association with the developments of the various locomotive mechanical stokers up to that time, and to give consideration to the performance of stokers as experienced by the roads that have them in service. With each successive report, it became a greater burden for your committee to introduce additional features of interest and importance not already given consideration in previous reports, until it has now become extremely difficult to compile any additional data that might be received with interest and appreciation. During the last two years, the railways have done very little research or experimental work, as all interests have worked with the one purpose in view of producing transportation, and other interests have been put aside for this end. Consequently, there has been practically no information established relative to the performance of locomotive stokers in service, such as is obtained from specially conducted tests.

This two-year's war period, from a manufacturer's standpoint, however, has been extremely active, and there have been a large number of stokers applied. Inquiry was made of the different stoker manufacturers as to the number of stokers they had actually applied and were in service at Jan. 1, 1919. The following table indicates the number of different representative stokers then in service and the type of locomotives to which they have been applied:

Kind	Mikado	Mallet	Santa Fe	Centipede	12-wheel	Decapod	Consolidation	Mt. Type & Mohawk	Pacific	Total
Street	424	638	580	4	14		20	3	37	1522
Duplex	240	804	195			53	1	1		1294
Standard	150	338	56		33		23	162	21	781
Hanna	70	6	7		16			4		169
Elvin			1							1
Total	884	1786	885	4	63	53	44	170	58	3717

There was a total of 3,717 stokers of the above types in service Jan. 1, 1919.

The stoker report of 1917 shows a total of 1,611 stokers (exclusive of Crawford) in service at Apr. 1, 1917. There were placed in service 2,106 stokers between Apr. 1, 1917, and Jan. 1, 1919, which indicates the rapid rate at which locomotive stokers are being applied. The types of locomotives to which the stokers are largely being applied are the mallet, Mikado and Santa Fe, which represent the locomotives of large capacity. The question as to the size of locomotives upon which stoker installations are justified is one that is frequently referred to and is yet unsettled. It is your committee's opinion that the conditions surrounding individual conditions are so varied that no fixed rule can be recommended for guidance in this connection.

Suggestions have been made involving certain limits in the weight and tractive effort of locomotives, the character of fuel used and the rate at which it must be fired. Limitations on the basis of weight and tractive effort of locomotives may be feasible where the locomotives operate under uniformly heavy conditions, but even then there are certain local and physical conditions to be considered that prevent any general recommendation being laid down even on such basis as this. Locomotives operating in districts where the demand for maximum power is intermittent and for short duration could not be considered on the same basis as locomotives of the same weight and capacity operating where the maximum power is demanded for extended periods. The character of fuel available for firing may also be considered one of the controlling factors in consideration of the application of locomotive stokers to comparatively small locomotives. In view of these governing factors, your committee does not feel justified in attempting to suggest a ruling which might be followed in the consideration of this phase of the subject, as it is believed that this question will have to be settled based upon the surrounding conditions under which the locomotive is required to operate.

There were some questions of general interest in connection with stoker operation concerning which it was thought well to secure an expression from the roads using mechanical stokers. These questions were sent out to such roads and replies to this inquiry have been received from 32 roads; representing a total of 1777 of the stokers now in service. Inquiry was made relative to the kind and character of fuel used, and it is noticed that on all of the roads, bituminous fuel is used; the fuel reported varies in heat units from 9,212 to 14,250 btu.

In answer to the inquiry as to whether the same size exhaust nozzles are used on stoker-fired locomotives as on hand-fired locomotives, it seems that the general practice is to use the same size exhaust nozzle, although a few roads vary from this general practice. Three roads report smaller nozzles on the stoker-fired locomotives, ranging from ⅛ to ¼ in. smaller in diameter. Two roads report that they are using nozzles from ⅛ to ¼ in. larger in diameter than are employed on their hand-fired locomotives.

The consensus of opinion is that the stoker-fired locomotives burn more fuel than the hand-fired. Where percentages of difference have been expressed they range from [illegible] to 41% in favor of hand-firing. This difference, however, is expressed in terms of coal as fired and does not recognize the advantages that have been gained by improvement in the performance of the locomotive resulting in uniform steam pressure and more active and uniform performance over the division. These increases in fuel consumption may, in some instances, be considered as the price of firing locomotives of capacity beyond the range of successful hand-firing.

In referring to the continuous performance of stokers over a division, the record indicates that in the majority of cases the stokers are doing about 100% of the firing of the locomotive.

The failures occurring on the stoker equipment are the same old offenders and are classified as "failure of stoker parts," "foreign matter in fuel" and "wet coal." The record tabulated from the information received as to the percentage of failures that may be classified under these three headings is quite interesting in the variety it presented. On some roads the highest percentage of failures is due to broken stoker parts; on others, foreign matter in the fuel seems o be the chief offender, while on others the question of wet coal is apparently causing the most concern and delays to stoker-fired locomotives.

An effort was made to obtain information relative to the cost of stoker maintenance upon a 1000-mile basis. It develops that very few roads keep such a record, and those that have reported on this item, when grouped together, show a very wide range of costs. One road with 92 stokers in service reports a cost of $1.77 per 1000 miles, while another with 54 stokers in service shows a cost of $40 per 1000 miles. These are the maximum and minimum cost figures presented, and indicate the extent of the variation in cost, and if closely analyzed it would, no doubt, be found that local conditions were possibly largely responsible for the variation.

In the circular sent to the users of mechanical stokers, suggestions relating to features of mechanical stokers to which attention should be directed by the manufacturers were solicited, and for the benefit of the manufacturers it might be well to incorporate some of these suggestions in this record.

A simpler and more accessible lubricating system has been suggested by several roads. Provision for the better handling of wet coal comes as a suggestion from roads that are experiencing trouble in this respect. Recommendations for more accessible conveyor screws are presented, which might be considered in conjunction with one road which suggests that the stoker be constructed so that it will be less susceptible to failure when foreign material gets into the stoker mechanism with the coal. Provision for overcoming the loss of fuel from the conveyor system may well be considered by the manufacturers as this feature has been suggested as a stoker deficiency. Improvement in the arrangement for the positive adjustments of conveyor adjusting plates is recommended, and it has also been suggested that consideration be given to the design of a system of conveyance of the fuel from the tender to the fire box that will provide against puverizing the fuel in conveyance. Better protection from dust for the bearings and gears of the stokers is referred to as desirable.

In the 1917 report, additional reference was made to the Elvin stoker then undergoing development on the Erie Rd. This stoker has passed through its experimental stage and it is understood that it is now in condition to be presented as a commercial proposition. Your committee has learned from reliable sources that the Elvin stoker now in operation on the Erie Rd., is giving very satisfactory service, and that it embodies several individual features which may mean greater economy in mechanical firing. The opinion has been expressed by disinterested parties who have come in contact with this type of stoker and have seen it in operation that, while it may not have reached its final stage of development, there are, nevertheless, marked possibilities in a stoker of this type.

Your committee wishes to recognize the unceasing efforts and activity of the stoker manufacturers in the development of their respective devices, and is of the opinion that with continued effort in the light of service experience, a more perfect stoker may be developed in which objectionable features, such as those outlined, will have been eliminated.

Report of Committee on Tank Cars.

An American Railroad Association mechanical section committee, A. W. Gibbs, Chief Mechanical Engineer, Pennsylvania Rd., chairman, reported in part, as follows: With the war came the necessity for the transportation of various products, among them toxic liquids for filling shells, not previously handled in tank cars. Your committee has given considerable time to the development of designs of cars for this purpose, principally in connection with the U.S. Ordnance Dept., engineering division. Some of the toxic liquids had low rates of expansion, so that the question of pressure was not material, the one important requirement being that leakage must not occur. The class III car was adapted to this service by the modification of certain details, such as omitting all opening s in the shell, making the dome capacity about 1%, special arrangement for closing the dome, openings, etc. Another demand was for tank cars for carrying compressed liquefied gases, notably chlorine. The specification for class V cars, with welded tanks, adopted by the association in 1917, with some modifications of details, met the situation very well.

Some difficulties were experienced in welding anchorages to the tanks. This was remedied by avoiding the use of anchorages having great length of welded contact with the shell.

While a design of safety valve was approved for use with a number of these cars, which it was important to get into service, there were some features of the valve which were not entirely satisfactory, and study of the question, in connection with the representatives of the Ordnance Dept., continued up to the time of the armistice, and has since been carried on by the committee.

The seams of these tanks were hammer welded throughout, using water gas as the heating medium. With steel of a proper quality there seems to be no difficulty in securing thoroughly sound welds and containers which are bottle tight.

Your committee is glad to report that the American Society for Testing Materials has prepared a specification for plates for forge welding, which meets the views of those engaged in producing welded containers. If this specification is adopted by the A.S.T.M. this year, your committee recommends that it be substituted for the specification of the A.S.T.M. for boiler plate steel, fire box quality, now prescribed by the tank car specification for tanks of class V cars. To insure getting satisfactory material under this latter specification it has been necessary for the users to make certain restrictions within its limits.

As stated in the committee's report last year, the necessity of keeping in service every car capable of safely handling liquid products made it advisable to suspend until July 1, 1919, the requirement of flange quality steel for class III tanks, and until Jan. 1, 1920, the hydraulic retests of tanks of classes I, II, II, IV and V cars, which in normal times are necessary from both the safety and economic standpoints. As the conditions which led to these suspensions have passed, your committee has recommended to the executive committee that no further extensions of these requirements be granted and that circulars be issued to inform all interested accordingly.

Safety Valves.—Owing to the pressure of other more important matters, the committee has been able to make but little progress during the past year with the experimental work in connection with the safety valve. For use in connection with these tests better springs than are ordinarily used in these valves have been purchased, but even these do not entirely comply with the specifications. It is very evident that for certain products it will be necessary to provide a safety valve in which corrosion is guarded against by the use of non-corrosive material in both the housing seat and the bearing face of the valve proper. It is, of course, desirable that the quantity of non-corrosive metal used shall be as small as possible, to lessen the probability of its being stolen. The committee has made some experiments in electrically welding the non-corrosive metal to the iron parts, but the results so far have not been satisfactory. Further work will be done in this direction. It is not certain that an absolutely tight valve can be secured which will at the same time retain the valuable feature of the present design, viz., very free discharge in case of necessity. A considerable amount of information has been accumulated concerning the behavior of safety valves under pressure, and the committee hopes to be able to push the work to a conclusion during the coming year.

Certain changes are recommended in the safety valve collar, bottom discharge valve, rivetting, calking, hand brake power, application of running boards on tanks covered with jackets, application of dome platform brackets to tank cars covered with jackets, inspection, boards for attaching placards prescribed by the Interstate Commerce Commission, method of testing safety valve in place on the car, transportation requirements and draft attachments.

U.S. Railroad Administration Tank Cars.—On Feb. 7, 1919, the secretary, by direction of the executive committee, referred to the tank car committee the suggestion that they go over the plans and specifications for the U.S. Railroad Administration tank cars (oil cars, 7,000, 8,000 and 10,000 gal. capacity, and acid cars of same capacities), and consider the advisability of adopting them as standards of the M.C.B.A., report to be made at the coming June convention. This involves two questions: 1. As to the wisdom of adopting any particular tank car designs as M.C.B. standards? 2. Whether from all standpoints the government tank car designs meet the requirements of the tank car traffic better than others now being followed? In deciding these questions the interests of the railways, the tank car owners, and the car builders must be properly considered.

Your committee believes that as long as the requirements of the M.C.B. standard specifications covering the essential features of tank car construction are complied with, it would be unwise to restrict the builders and users to certain standard designs, as the many commodities of widely different characteristics, weights and values transported in such cars require for their safe and economic handling various modifications in detail design. The Railroad Administration designs were prepared to meet the M.C.B. specifications, and your committee passed them in conference with the Railroad Administration mechanical people. The tank car equipment of the country, in which the railway ownership is comparatively small, must also be assumed to comply with the M.C.B. requirements, as it is moving in interchange. Specifications and prints have been furnished by the Railroad Administration for its cars, but the time available is entirely too short to permit the proper comparision and consideration of them and of the plans and specifications for other designs which must be gone over to answer the second question.

Fuel Economy and Smoke Prevention.

An American Railroad Association's mechanical section committee, W. Schlafge, General Mechanical Superintendent, Erie Rd., chairman, and of which W. H. Flynn, Superintendent Motive Power, Michigan Central Rd., formerly Master Mechanic, Canada Southern Division, Michigan Central Rd., was a member, reported as follows: Your committee was originally constituted in 1913, during a period when organized effort for the promotion of economy in the use of fuel for locomotive purposes was in its inception. The committee has heretofore aimed to deal with the methods of firing and the means to be adopted for developing the required supervision, rather than with the multitude of details in design and maintenance which, while important in themselves, are subjects that more properly fall within the scope of other committee assignments. However, the situation immediately preceding the report of 1918 was so extraordinary and the need for economy so pressing, that a departure was made from the earlier policy and some consideration given the more general features attending the purchase, transportation and use of railway fuel. The problem was not so much one of cost as of supply and the shortage made economy a patriotic, if not a humanitarian, duty. This situation has been practically relieved so that now the importance of the subject arises from its influence upon operating expenses which have reached a point where they are absorbing the gross rail revenues for many roads.

There has been a steady increase in the total fuel cost to the railways, chiefly caused by two factors—increased cost of production and increased consumption due to the natural expansion of traffic. The accompanying curve no. 1 exhibits the trend of total cost for the past 19 years for which there are available figures. Comparison with curve 2 shows that while the trend of prices at the mines has been steadily upward, the increased total cost is chiefly due to increased consumption. The increase was reasonably uniform for the 10 year period ended with 1919 and subsequently it was more gradual. On a basis of the general trend of increase for the previous few years, a reasonable estimate of cost would have placed the total for 1917 at about $265,000,000, but owing to the circumstances arising through the war, the influence of winter traffic conditions and the scale of mine prices established, the total actually amounted to the stupendous sum of $401,297,300, an increase of 55.9% over the preceding year. In this connection it is significant to note that in 1917 the cost of fuel for yard locomotives alone represented 88% of the total for all locomotives in 1899. The official statistics for 1918 will undoubtedly disclose a total even greater, although there will be a substantial decrease in 1919 due to the greatly reduced tonnage handled and to the influence of a generally organized effort to promote economies in every possible manner. But the total will still be a vast sum, and since it represents approximately 14% of the total operating expense it has assumed a greater importance than ever.

In view of the situation thus briefly presented, your committee is of opinion that its report for this year may be profitably devoted to some consideration of the application of its previous recommendations and to methods for economy in the use of fuel for other than locomotive purposes. In its presentation of these subjects the committee considers itself fortunate in having the advice and counsel of the Fuel Conservation Section of the U.S. Railroad Administration which has had an opportunity not enjoyed by any other agency to judge the benefits of organized measures for locomotive fuel economy. Moreover, the defects of earlier methods have been disclosed and the necessity for general coordinated effort emphasized.

In one of its earlier reports your committee provoked some criticism because of its suggestion that railway fuel should be purchased to specification, but the past few years have furnished convincing evidence that this procedure is highly important if reasonable economies are to be effected. The advantage lies not so much in the purchase of fuel having the high b.t.u. values as in the opportunity for selecting coal that can be economically burned under the peculiar conditions prevailing in locomotive service. A specification which limits the percentage of easily removable non-combustibles produces economies in fuel, labor and transportation and involves

[illegible]

[illegible] reasing coal consumption [illegible] growing importance [illegible] indispensable factor [illegible] prompts your committee to say that in its opinion action should be taken at no distant date to determine the most favorable conditions under which economical combustion may be obtained with various grades of fuel so that plant design and equipment may [illegible] to utilize available supplies to the best advantage. Such an investigation would naturally include the difficult and varied circumstances attending locomotive service.

In the committee's opinion public interest will ultimately require the exercise of reasonable efficiency in the use of fuel, which prompts a brief consideration of the conditions of purchase. Specifications should include the characteristics of the available supply with particular reference to the percentage of ash content, to its clinker forming qualities, and to its liability to spontaneous combustion. The size demanded for best results is also important and should be specified by the road supervision which should be familiar with requirements for the most satisfactory combustion conditions. It should be observed also that where these conditions cannot be obtained with one grade of coal, analysis will frequently develop that a suitable mixture may be secured with another grade. As is well known, the character of the ash content exercises a great influence upon the combustion conditions, since, under certain circumstances, the free burning of the combustible material is prevented and clinker forms over the grate surface, thus interfering with combustion by cutting off the air supply and not infrequently preventing proper operation of the grates to keep the fuel bed open.

There is also a common source of waste through clinkering coal, especially on long divisions where it is often the practice to clean fires between terminals, resulting in the usual cinder pit and accompanying losses, including those involved in handling and disposing of the ash. The ash constituents producing these conditions are not only visible and mechanically separable, but may be intimately mixed with the combustible elements and, therefore, disclosed only by chemical analysis.

[illegible] has been made to the importance of properly grading the sizes of coal to ensure the greatest efficiency. It is [illegible] that existing locomotive [illegible]ing conditions prohibit the use of slack, but not that different grades of lump coal have different evaporation values. This has recently been [illegible]ated at the University of Illinois [illegible] modern mikado [illegible]motive, the results of which are indicated [illegible]

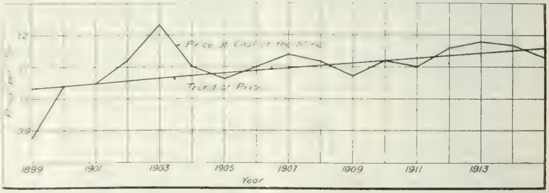
[illegible] Evaporation Per Lb. Dry Coal.

[illegible] coal.	[illegible] tests.	[illegible] tests.
[illegible]	10.21	9.09
[illegible]	10.12	8.66
[illegible]	[illegible]	8.32
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	7.13
[illegible]	[illegible]	7.06

It should be said concerning these results that they are probably not generally [illegible] they were made [illegible] from a single mine with [illegible] it is not impossible that other coals with a locomotive [illegible], grate, fire box [illegible] might develop a different ratio, but the figures are useful in demonstrating the importance of the subject and emphasizing the necessity for ascertaining the conditions applicable to the different coals on each railway.

The foregoing observations are made for the purpose of emphasizing recommendations of your committee made in earlier reports concerning the desirability of creating an organized fuel department which should embrace the services of a chemist and an inspection corps whose attention could be devoted to those problems involving research and experiment and whose co-operation with the purchasing department would ensure selection of those coals promising the greatest service value. Where the purchases are relatively small, a joint arrangement might be effected whereby the cost of this work could be distributed among several consumers. It is believed that the U.S. Fuel Administration and Fuel Conservation Sections have fully demonstrated the advantages of systematic inspection and analysis and a reasonable exercise of control over the supply. The benefits which have thus been received should be made permanent.

It may be well to briefly describe a system in effect for some time on a large railway which has proved satisfactory and which has resulted in co-ordinating the various agencies responsible for the purchase and use of fuel. A chart of the organization appears herewith and its functions are briefly described as follows: The chemist and coal inspectors report to a staff officer of the mechanical department who is responsible for co-ordinating the laboratory and inspection work with that of the road supervision and the purchasing department. In this manner a proper analysis of the varying conditions is ensured and a check maintained upon shop maintenance and upon fuel distribution by the operating department.



Curve 2, Price of Coal at the Mine, Showing Upward Trend.

Whenever purchase from a new mine is proposed analysis is made of a representative mine sample taken in accordance with the method outlined by the interior department in its "Directions for the Sampling of Coal for Shipment or Delivery." From this analysis the general availability of the coal is determined and, if satisfactory, road tests are conducted with the first consignments to determine the service characteristics. As a rule the chemical analysis and physical inspection at the mine are sufficient to justify conclusions, but final acceptance requires favorable report by the road supervision. Following regular shipments, samples from cars at destination are taken from time to time in conformity with the method recommended in the publication mentioned. These analyses are compared with that of the original mine sample in order to determine whether the quality remains uniform and to see that the characteristics do not change. The inspector taking these samples effects contact between the road supervision and headquarters, interviews road supervision, investigates locomotive failures caused by poor coal, to ensure observance of the schedule provisions and to see that the quality of shipments is up to the standard; he checks manifests to ensure proper distribution, and the coal dock records to see that the right grade of fuel is used for the specified service. The other field inspectors are assigned to specific territories and live at a point central to them so that the necessity for travel is minimized.

The duties of the field inspection force comprise not only the preparation and sizing at the mines, but should include all features affecting efficiency, cost of transportation and handling, such as inspection of the empty cars for foreign matter, particularly sandstone, cinders, gravel and similar materials likely to be mixed with the coal and dumped into the pockets. Experience has demonstrated that a quarter of a ton of such refuse is frequently found in empty cars consigned to the mines. The inspection should also cover defects in equipment, such as warped doors, operating mechanism in bad order and all conditions affecting the loading, unloading or loss of lading in transit frequently overlooked in routine car inspection. Another feature of importance is the distribution of equipment to suit unloading conditions. Large losses are incurred in consigning flat bottom cars or cars with flat bottoms having hoppers to points where shipments may be handled in self-unloading cars. The cost of unloading is now a large item and it constitutes a part of the total fuel charge. The field inspection force should be required to maintain a check upon these details and upon the scale and manifest weights to detect discrepancies, and to ensure loading of equipment to the prescribed limit.

If the information collected by the inspection force is to be of value, it must be promptly transmitted to headquarters, consequently, a daily report should be required covering all the features of inspection, so that prompt steps may be taken in connection with any conditions requiring correction. One of the inspectors, designated chief, is held responsible for the work of the others and is expected to be informed on the technical features of the work so that the department will be assuerd of information concerning developments in the entire field of investigation concerning fuels, combustion and other related subjects. Such an organization requires a high order of ability, but the cost involved is readily justified in view of the possibilities for economy presented. While varying circumstances will affect the number of men required in such a force, it is believed that, in general, a thoroughly satisfactory inspection service for a large railway should involve an expense not exceeding 0.1% of the fuel cost.

The problem involved in the inspection, distribution and utilization of fuel is one in which each division of the operating department has some responsibility, and it is, therefore, advisable that the chief operating official should be fully informed as to the requirements, procedures and accomplishments of this branch of the organization. In the opinion of some recognized authorities, notably the Chief of the Fuel Conservation Section, the head of the fuel department should report direct to the chief operating official, but, in view of the wide divergence of opinion on the subject, your committee is not yet prepared to make such a recommendation, because it is thought that co-operation between the various operating branches will produce the required results, especially since fuel is now the second largest item of operating expense and, therefore, of prime importance to the transportation department.

The limitations upon a report of this kind and the subjects remaining for consideration do not permit further discussion of the features of inspection and we will now consider the second subject which relates to the locomotive and the influence of maintenance upon fuel consumption. Various publications have recently pointed out, graphically and otherwise, the sources of heat losses in locomotive service, and these are doubtless well understood, but since a knowledge of the nature of these losses is essential to a proper appreciation of the possibilities for economy, it is desirable that brief reference be made to the avenues through which heat is wastefully dissipated, which are as follows: 1. Steam leaks in fire box, superheater, front end or to the atmosphere. 2. Grate, cinder pit and stack losses. 3. Escaping steam through safety valves, unnecessary operation of auxiliaries, such as headlight generator, air pump, etc. 4. Unconsumed volatile usually denoted by excessive smoke. 5. Heat losses in escaping gases. 6. Radiation. These items are largely influenced by factors independent of operation and maintenance, but it is with the latter that we are now chiefly concerned and to which attention is directed.

Recent observation, confirmed by the Fuel Conservation Section, indicates that steam leaks are not receiving the attention demanded by the extent of losses involved or the inefficiency of operation produced. One remedy for this situation lies in a proper inspection of locomotives while under steam in advance of each boiler wash. This inspection to be followed by a check inspection after the locomotive is ready for service. This practice would ensure reasonable freedom from leaks because excessive leakage rarely develops in the intervals between two boiler wash periods.

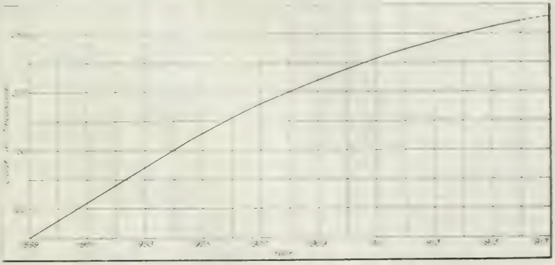
Large losses are sustained through faulty superheater maintenance. Pressure tests should be regularly applied to superheater units and steam pipe joints in order that defects may be located and corrected. Recent inspection on one railway developed that out of 15 locomotives in service, 11 had leaking superheater joints involving loss of fuel and locomotive efficiency. This condition can virtually be eliminated through the observance of standard methods for the maintenance of units. This should include proper assembly, with the required bands and supports in the tubes. Observation on several railways shows that this feature is being neglected, with the result that vibration opens the header joints, causing bad leaks in the smoke box and, frequently, costly damage to adjacent parts.

Faulty combustion, represented by unconsumed hydrocarbons and high combustible in the ash, is most frequently occasioned by improper air supply. For a given furnace and fuel, the excess air is fixed within comparatively small limits. An increase in the air supply reduces efficiency, because of the loss in heating the excess, while on the other hand, a decrease below the required percentage produces less complete combustion. Coals having low percentages of volatile matter require less excess air for nearly complete combustion than those having higher percentages of volatile. This not infrequently accounts for better results with one grade of fuel than with another.

In locomotive service the air supply is controlled by front end, flue, grate and ash pan conditions, which often do not receive proper attention from the designers. Many modern locomotives have grates with insufficient air-inlet openings, or with openings that readily become clogged, thus increasing the resistance to air flow. Attempts are frequently made to overcome this condition by adjusting front ends or reducing the diameter of the exhaust nozzle.

Radiation losses have heretofore received little attention from writers on locomotive fuel economy, and even less from those responsible for locomotive design and maintenance, as a casual inspection of any locomotive will disclose. It is estimated that the radiation from each square foot of surface carrying 200-lb. pressure and surrounded by atmosphere at 70 deg. F. temp. wastes 1000 lb. of coal a year. This loss increases rapidly with decreasing temperatures, certain weather conditions and rapid circulation produced by moving locomotives. The average locomotive has approximately 100 sq. ft. of such exposed boiler and pipe surface, easily representing an annual loss of $150 to $200. This can be substantially reduced if cylinder heads, steam pipes and fire box surfaces are properly insulated and for this purpose it is recommended that magnesia-asbestos or hair felt be used and that it be not less than 1½ in. in thickness except for small pipes where ¾ in. is sufficient. Fire boxes may be covered by removable sections where access to staybolts is required. These practices, once somewhat general, have been neglected because of the maintenance problems introduced with modern power.

A common source of loss of power and combustion efficiency arises from frequent unnecessary changes in [illegible] or adjustment of front end appliances. Standards suited to local conditions for each class of locomotive should be determined and maintained, and periodically checked by the inspection force. The common practice with respect to a poor steaming locomotive, for which the cause is not readily discernible, is to alter some of the front end details, whereas, proper investigation usually discloses a leak in some of the joints, frequently between the front and the ring, or around the outside steam pipe joints. As an over-drafted locomotive produces air, spark and back pressure losses, the importance of maintaining standard front end details may be understood.



Curve 1, Total Cost of Locomotive Fuel for the Last 19 Years.

Many of the older locomotives are still equipped with ash pans having insufficient air openings, a defect readily detected with a U tube draft gauge. There should be no indication of vacuum in the ash pan. Correction of this condition recently permitted an increase of ½ in. in the nozzle diameter of several locomotives and not only effected a substantial saving in fuel, but greatly increased the efficiency of the locomotives.

It is highly important that the flues and tubes be free from obstructions, which not only interfere with the air supply to the fire box, but reduce tube evaporating efficiency and superheater economy. The Fuel Conservation Section has recently pointed out that the fuel loss through drop in super heat with half the tubes stopped up may reach 24%. In order that thorough and efficient cleaning may be assured, standard apparatus and methods should be established and suitable records maintained. The maximum interval in mileage or time between cleanings, consistent with the requirements for different classes of power and service, should be determined, and flues thoroughly cleaned within these limits. Periodical checks by the supervising officers are required, to ensure proper work and continuous records.

In its last report your committee briefly covered these features of maintenance that contribute largely to power and fuel losses, but the work of the Fuel Conservation Section has demonstrated that two other appliances are exerting an appreciable influence upon locomotive fuel losses—the power reverse gear and the pneumatic sander. There are some power reverse gears in use that, not being positive, permit "creeping" while the locomotive is in operation, thus increasing the cut off and decreasing efficiency. It is recommended that all such gears be modified, so as to permanently [illegible] that particular attention be paid to the maintenance of valves and packing to ensure proper operating conditions.

The losses occasioned by poor sand and defective or inoperative sanding appliances, are greater than commonly supposed and arise chiefly through failure at critical points, necessitating stopping, taking slack and doubling hills. Your committee recommends the adoption of suitable specifications governing the purchase of locomotive sand which, by establishing reasonable limits for silicon content, will ensure a suitable quality. Then, to make the material effective, the sand pipes should be firmly held over the rail by substantial clamps not less than [illegible] x 2 in. section, attached to the [illegible] lower end of the pipes. With the adoption of these provisions the prescribed daily or trip inspections should ensure the desired sanding efficiency.

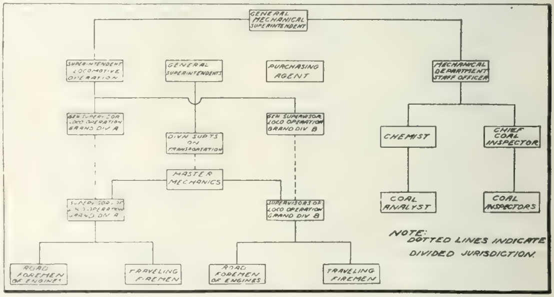
Previous discussion has been confined to the influence of the locomotive and its details of construction, maintenance and operation upon fuel consumption, but it may be well to mention the fact that car equipment also exerts a large influence upon the problem. While any defect contributing to increased resistance produces a corresponding increase in the fuel required, perhaps the most general features are defective brakes and air leakage caused by defective hose and gaskets. The leakage limits for freight trains established by many railways should be generally adopted and consistently maintained. Your committee recommends that they be given official recognition and incorporated in the air brake rules now the standard practice of the section.

While the opportunity for the greatest savings occurs on the road, there is an aggregate annual loss now amounting to millions arising from locomotive fuel consumption that is occasioned through the limitations imposed by service conditions. The fact is that irregular demands upon the locomotive render side track and terminal economies of the utmost importance. A large part of the terminal losses arises from maintaining locomotives under steam when not required for early service, and from unnecessary cleaning or removal of fires. Where locomotives are not likely to be required for service within 20 hours, as frequently occurs on Sundays or holidays, or under special conditions arising from variations in operation incident to reduced business, fires should be drawn. Under all circumstances grates and stacks should be covered to prevent the cooling effect of air circulation through the [illegible] and flues. This suggests the frequent waste observed through faulty methods of firing up, resulting in the loss of green coal through the grates, either because they are defective or the openings are large enough to permit the green coal to fall through. Observations of recently prevailing methods disclose that enough coal is frequently wasted in this manner to haul 1,000 tons [illegible] on the average railway. Grates should be covered with shavings, or wood, before coal is applied, which will not only eliminate the loss mentioned, but reduce the quantity of coal otherwise required in building fires.

Side track losses arise from excessive draft, which should be regulated by means of the fire door. Another factor in this connection is the influence of the superheater damper, which is frequently tied open, a practice that should be discouraged, because of its influence upon maintenance as well as upon fuel consumption.

Cinder pit operation offers much greater opportunity for fuel economy than is generally recognized. Recent investigation developed that the combustible content of locomotive cinders at certain terminals averaged 35% by weight. In other words, every car of cinders contained more than a third of a car of coal. It is at present impossible to avoid large losses here, but they may be minimized through co-operation of locomotive men, firemen, hostlers and ash-pit foremen, by careful firing before locomotives reach the pit and avoiding the application of green coal immediately before fires are cleaned.

This suggests the service that competent supervision may render on the ash pit in cleaning fires promptly, moving locomotives as soon as ready, in careful cleaning of fires to properly remove ash and clinker without waste of fuel, in preventing the excessive use of air pump and steam blower and in maintaining co-operation with the locomotive house in order that no fire shall be dumped unnecessarily and no fire cleaned that will require subsequent dumping. The ash pit foreman should be provided with a copy of the monthly boiler list and see that fires are dumped as the locomotives pass over the pit.


GENERAL MECHANICAL SUPERINTENDENT
SUPERINTENDENT LOCOMOTIVE OPERATION
GENERAL SUPERINTENDENTS
PURCHASING AGENT
MECHANICAL DEPARTMENT STAFF OFFICER
GEN. SUPERVISOR LOCO. OPERATION GRAND DIV. A
GEN. SUPERVISOR LOCO. OPERATION GRAND DIV. B
DIV'N SUPTS ON TRANSPORTATION
CHEMIST
CHIEF COAL INSPECTOR
MASTER MECHANICS
SUPERVISORS OF LOCO. OPERATION GRAND DIV. A
SUPERVISORS OF LOCO. OPERATION GRAND DIV. B
COAL ANALYST
COAL INSPECTORS
NOTE: DOTTED LINES INDICATE DIVIDED JURISDICTION.
ROAD FOREMEN OF ENGINES
TRAVELING FIREMEN
ROAD FOREMEN OF ENGINES
TRAVELING FIREMEN

Fuel Organization for a Trunk Line Railway.

The coal pocket foreman should be furnished with a schedule of coal required by locomotives in each class of service, and should be charged with the responsibility for observance of the schedule. The Fuel Conservation Section estimates that at least 100,000 tons of coal, unnecessarily carried on locomotive tenders, is being transported 100 miles every day, at a total expense for fuel alone equivalent to 1,000 tons a day. The schedule should also indicate the kind of coal required for different classes of locomotives and assignments, so that the better grades may be employed in the heaviest service.

The extent of the possible terminal losses suggests the desirability of an accounting system that will distinguish between the fuel consumption of locomotives in the hands of the mechanical and the transportation departments. Such records would readily disclose uneconomical practices and permit their prompt correction. The road performance should be compared with predetermined figures based on an estimate and trial under average conditions.

While the responsibility for fuel conservation rests in a large measure upon the mechanical department, there are features of operation affecting the problem that are under the immediate control of associated departments, whose interest is essential to many economies that are possible only through improved efficiency in daily routine. This includes prompt dispatching of locomotives and trains, proper adjustment of tonnage, proper make-up of trains, prompt completion of station work and elimination of delays in the movement of ash pit and coal cars.

Maintenance of way and signal department officers can also render effective service, in the cause of fuel economy, by eliminating, as far as possible, the necessity for stopping or reducing the speed of trains because of prolonged slow orders, the unnecessarily prolonged display of caution flags or inoperative signals. This department is also directly responsible for lighting and pumping-plant operation, and should eliminate fuel losses through radiation from exposed surfaces and the steam leaks that are frequently characteristic of these isolated plants.

Locomotive fuel constitutes about 88% of the total railway consumption, and, therefore, offers the greatest opportunity for conservation and economy, but the remaining 12% represents the very substantal sum of $45,000,000 on the 1918 basis, an amount approximating half the total fuel cost for locomotives 10 years ago. Of this total the largest percentage is represented by power plant consumption to which the remainder of the paper will be devoted.

Questions of relative economy in the purchase of power or its generation in privately owned plants are important, but do not fall within the scope of a paper which deals with the problems of operation rather than design, and consideration will, therefore, be given to those details susceptible of correction in existing plants.

The inefficiency in the ordinary railway stationary boiler plant arises from equipment, maintenance and operation. Large losses are frequently encountered because of insufficient or inefficient equipment. Investigation has developed frequent instances of low rates of evaporation in very inefficient plants, caused by an attempt to force boilers above their normal capacity. This is a frequent accompaniment of the discarded locomotive boiler, which is always uneconomical for stationary purposes. In one instance of recent occurrence, a locomotive boiler in stationary service, consuming 7 tons of coal a day, was replaced by a return tubular boiler which effected a saving of 3 tons a day under the same service conditions.

Many stationary boilers are not provided with dampers in the uptake, and yet draft regulation should be obtained with dampers and the draft should be obtained with dampers and the draft should be varied to suit the rate of combustion which is proportional to the load. Maximum efficiency is attained when the proper draft for given rates of combustion under given condition is established by suitable tests. Tests made indicate how an average saving of 9½%.

Feed water heaters are not economically employed and yet the conditions prevailing in practically all railway power plants will permit their use for 8 months in the year. When it is considered that under average conditions an increase of 11 deg. F. in the temperature of feed water effects a saving of about 1% in fuel consumption, the loss from free exhaust steam is plainly evident. There is no more immediate and effective means of economy than through feed-water heating.

One other prime factor is power plant economy lies in the disposition of exhaust steam other than for feed-water heating purposes. This feature would not be lost to view if the enginer portion of the plant were considered, the auxiliary, and mechanical power a by-product. The fact is that under average conditions the heat consumption of stationary engines does not exceed 15% of the total heat generated, the difference being represented by the heat of the exhaust. In practically all railway shops, therefore, the heating requirements should be satisfied with exhaust steam, and in large plants the condensate should be returned through a suitable vacuum system. The outside purchase of power and the use of high pressure steam for heating purposes is an unwarranted extravagance.

Experience has convinced your committee that the largest losses usually encountered in the operation of stationary boilers on railways are included under the following headings, which are enumerated in the order of frequency and importance: 1. Leaky settings and stack connections. 2. Poor firing. 3. Radiation from uncovered surfaces. 4. Dirty flues.

Leaky settings produce excess air in the combustion space, although this may arise from other causes. The importance of this common source of inefficiency will be understood from the fact that boiler efficiency falls off in almost direct proportion to the percentage of excess air, and this not infrequently produces a loss of 40%. Brickwork settings are sure to develop cracks in addition to which the porous character of the brick permits air infiltration. All exposed brick settings should at least receive a coat of a good plaster sealing compound—a ½-in. covering of magnesia-asbestos cement, followed by the sealing compound, is even better.

Frequent leaks are found around stack connections, plates, dampers and doors, all of which influence the draft and reduce boiler efficiency. These parts require occasional inspection to insure a high order of maintenance.

Poor firing includes too thick or too thin a fuel bed, accumulation of clinkers, too frequent shaking, uneven distribution, permitting holes to develop, improper manipulation or neglect of dampers and carelessness in fire cleaning. Correction of these faults is a matter of analysis, education and supervision. It should be observed, however, that the economies of the best equipment may be lost in poor boiler room practice.

Radiation losses are usually considerable and nearly always neglected. At 100-lb. steam pressure and 70 deg. atmospheric temperature, the loss in radiation amounts to 718 lb. of coal per sq. ft. of uninsulated surface per year. Is is, unfortunately, common practice to burden railway shop boiler plants with a multitude of accessories usually involving large heating loads. It is certainly economy to centralize steam production, but economical steam distribution is a matter too frequently left to the division plumber or the shop pipe foreman, who may be masters of the technique of their trade, but to whom lost b.t.u.'s are of no particular interest. The surest evidence of this statement lies in the appearance of bare ground in winter over the average buried steam pipe. And here it should be said that plain, unprotected, asbestos covering, on an underground steam pipe, may be expected to become a surface condenser of large capacity.

Your committee takes this occasion to recommend the adoption of specifications for pipe coverings suitable for superheater and saturated steam and hot water, and also for water-proof underground coverings for low pressure lines.

Clean flues and boilers are a matter of standard practice and organization. In plants having no engineer, the responsibility for cleaning flues and washing boilers at the prescribed intervals should be placed upon one of the firemen, and he should be followed up by the general supervision.

Auxiliaries are frequently neglected, especially in the smaller and older plants. Blowing rod packing, excessive water-pump slippage and leaking steam-pipe joints are all too commonly in evidence where it is unnecessary to maintain a suitable relation between input and output.

The losses outside the plant are also much greater than usually supposed, particularly in compressed air lines. It is estimated that the cost of air, compressed in a modern plant, approximates 10c for each 1,000 cu. ft. of free air used, and yet the waste in many plants is enormous. Reasonable economy requires that a periodical inspection of air losses shall be conducted and leaks in pipe lines, valves and hose promptly repaired. Once each week is not too frequent for inspection in the average shop.

Preparation of systematic records is essential to every well operated plant. The possibilities should be developed through suitable experiments, and standards once established should be checked with the daily operation. Such records should be made to correspond with the available equipment, and, for smaller plants, may be very simple. The results for a general division of a railway may be tabulated and a rating established which will stimulate competition. For this purpose plants having the same general facilities should be grouped by classes in order that the ratings may be comparable.

It should be said that stationary power-plant operation may be reduced to a reasonably exact basis and that best results are attaiend when the equipment is planned for the required service. Results may then be obtained upon a basis corresponding with reasonable exactness to a predetermined production cost, but the variables in the operation must be worked out to produce maximum economy for various rates of output. These are problems requiring skill and experience, and should be intrusted only to qualified engineers. Your committee repeats its recommendations of last year that mechanical stationary power plants be placed under the responsible supervision of one man, whose time on the larger systems can profitably be devoted to the problems and economies in steam generation and utilization.

Your committee recognizes that without any attempt at research or experiment, it has been necessary to sacrifice originality of subject matter. But if many of the things mentioned have long been familiar to mechanical department officers, perhaps their present existence is the best of reasons for their consideration at this time. It is reasonable to assume that neither the cost of mine production, nor that of transportation, will be appreciably lower in the immediate future, so that economy in consumption assumes an importance relatively greater than ever before. But, it may be asked what shall be done to realize the economies admittedly so necessary? The answer is that the first requisite is full knowledge as to the extent to which wasteful practices prevail which should be determined by careful survey. Remedial measures will frequently involve mechanical equipment requiring appropriations, but the chief problem is one of efficient operation and effective supervision. The results depend upon maintaining an enthusiastic interest on the part of those responsible for the use of fuel and the elimination of wasteful practices. And the interest and enthusiasm must begin at the top and permeate the entire operating organization if the maximum efficiency is to be attained. The great difficulty, on a railway lies in the tendency to relaxed effort, because of the routine involved, but this is a subject demanding sustained and interested support from the chief operating officer to the fireman and the locomotive house man.

Train Brake and Signal Equipment Committee's Report.

An American Railroad Association's mechanical section committee, T. L. Burton, Consulting Air Brake Engineer, New York Central Rd., chairman, reported in part as follows: The question of air brake maintenance was discussed at a committee meeting in Nov., 1918, the findings of the committee being embodied in a circular on the subject, which was approved by the U.S. Railroad Administration.

It is suggested that the recommended practice packing ring gauge be made a standard, with tolerance dimensions provided for in the gauge, and the specifications to include instructions as to its use.

The practice of taking the cylinder piston and packing leather, when removed, to a conveniently located shop, where the leather is cleaned by a specially assigned man, and tested on the test rack, should be extended and made standard practice. With this in view, the committee has prepared drawings on suitable test racks and their use. While considering the new [illegible] [illegible] has [illegible] as superior to the older types, it does not consider it so much as to recommend that older types be [illegible].

It is recommended that when brake cylinders and triple valves are cleaned, they be stencilled on one side in two lines, one showing the place, month, date and year of cleaning, the other line showing the road on which the work was performed.

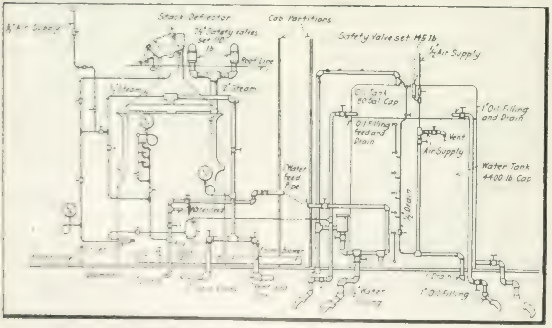
In connection with retaining valves for freight cars, a large number of different types and capacities are required to make proper repairs to foreign cars. The recommendation is made that two pressure spring type retaining valves of such capacity as may be required by individual roads, be used, leaving the question of standard capacity open for further consideration.

Detailed recommendations for recommended and standard practice are embodied covering the foregoing points.

Design, Maintenance and Operation of Electric Rolling Stock on Heating of Passenger Trains Drawn by Electric Locomotives.

At American Railroad Association's [illegible] section committee, C. H. Quereau, Superintendent, Electrical Equipment, New York Central Rd., chairman, submitted a report of which the following is an abstract.

Successful electric operation of through passenger trains over the usual steam railway division, or for any distance approximating this, would be impracticable unless the locomotive can furnish sufficient steam to satisfactorily heat the train. A study of the problem was commenced in 1902, and from that time until 1912, there were 9 designs of boilers built and tested, 4 of them using electricity as the source of heat, and 5 using fuel oil. The electric boilers did not prove satisfactory, while the oil-fired type has been finally developed to a point where it is quite generally accepted.



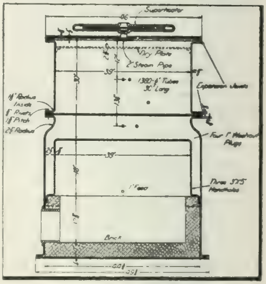
Assembled Installation of Oil Fired Heating Equipment.

The type of oil fired boiler shown in the accompanying illustrations was that finally adopted as giving the most satisfactory results. It was designed in 1912 and applied to 29 locomotives. They have [illegible] sq. ft. of heating surface, with a working pressure of 110 lb., and a capacity of [illegible] lb. of steam per hour. Though based on previous designs, there were several radical changes, the most important being the use of a water leg [illegible], increasing the [illegible] between the [illegible] to [illegible] in.; the substitution of a forced draft in the fire box with a closed door for the natural draft used previously; and the use of [illegible] of the bellows type in the boiler shell. Complete with oil and water storage tanks and piping, but without fuel oil or water, the heater equipment weighs 5,850 lb., and occupies a circular floor space less than 5 ft. in diameter for the boiler, and about the same for the storage tanks. Under service conditions, these boilers evaporate over 5 lb. of water per sq. ft. of heating surface, and over 6 lb. of water per lb. of oil, though in carefully conducted tests, the evaporation per lb. of oil has frequently been over 10 lb.

When using eastern fuel oil, which has a paraffine base, or kerosene, the lower section of the burner, which carries the steam or air for atomizing the oil, projects beyond the oil orifice, forming a lip or shelf on which the excess oil may flow and still be atomized. Where it is more economical to use the heavy western oils, having an asphalt base, it has been found necessary to leave off the lip, because of the liability of oil accumulating at that point and interfering with the steam jet. Only when the boiler is started is air from the main reservoir turned into the stack blower to insure a draft, and on to the burner to atomize the fuel oil. When the steam pressure approximates [illegible]0 lb., a 3-way cock substitutes steam for air. It only requires 10 min. from starting the fire to develop 110 lb. steam.

There is a superheater in connection with the boilers, as shown, and it is possible to obtain any reasonable degree of superheat. Good practice indicates that about 15 degs. is desirable, as a high superheat damages the steam hose and gaskets. Tests show that when the steam is somewhat superheated, it requires less steam per car per hour to satisfactorily heat it.

The type of boiler illustrated is standard for the New York Central Rd. electric passenger equipment, where the capacity is rated at 2,200 lb. of steam an hour; on the Chicago, Milwaukee and St. Paul Rd., where it is rated at 2,600 lb. of steam an hour; on the New York, New Haven and Hartford Rd., where the maximum capacity is given at 2,700 lb., and an average of 2,200 lb. an hour. It has been adopted for the Canadian Northern Ry's. electrified zone, where the heating plant is installed in a separate car, or trailer, instead of on the locomotive. Each of the railways reports satisfactory results from these boilers. In each case, the cars are heated from a steam header at terminals before the locomotives are attached, or are delivered, properly heated, by steam locomotives to the electric locomotives.



Cross Section of Oil-Fired Boiler.

The amount of steam necessary to satisfactorily heat and the car depends on a number of governing factors, such as outside temperature, wind, size of car, etc., but it would appear that for the average modern car, with outside temperatures between 20 and 30 degs. F., each car takes about 200 lb. of steam an hour, and with outside temperature of 0 deg. F., the consumption of steam per car approximates 225 to 250 lb.

Considering the extra plant required for electric heating, it was estimated a few years ago that with a 35-locomotive installation, electrically generated steam would cost about $45,000 a year more than oil generated, not including fixed charges in the cost of current. If fixed charges are included, there would be a saving of over $100,000 a year in favor of oil as a source of heat.

English Valley and Hudson Bay Ry.—In connection with the application of the company, for which H. A. Stewart, Toronto, is solicitor, to the Dominion Parliament for an extension of time for the construction of a railway from near Brereton, Man., station, on the National Transcontinental Ry. from Moncton, N.B., to the English River, Ont., between the eastern boundary of Manitoba, and the 9th meridian of longitude, the House of Commons railway committee reported that the granting of the extension would not be in the public interest. The House of Commons adopted the report on June 10, and directed that the fees paid, less cost of printing and translation, be returned.

Other Master Car Builders' Reports.

In addition to the various committee reports given in full, or in abstract, in this issue, the following committees also submitted reports:

Revision of Passenger Car Rules of Interchange—A committee of which H. H. Harvey, General Car Foreman, Chicago, Burlington and Quincy Rd., was chairman, and of which C. J. Forrester, General Car Inspector, G.T.R., was a member, recommended certain additions, changes and omissions in existing rules.

Specifications and Tests for Materials (M.C.B.)—A committee of which F. M. Waring, Engineer of Tests, Pennsylvania Rd., was chairman, recommended a number of changes in existing M.C.B. tests and specifications.

Standard Blocking for Cradles of Car Dumping Machines—A committee, of which J. McMullen, Mechanical Superintendent, Erie Rd., was chairman, found, by observation of the operation of the machines equipped with the present M.C.B. blocking, that cars receive more or less damage while passing through the machines. After experimenting in co-operation with the heads of various industries in the coal and ore districts, they have developed a blocking which they consider suitable for protecting cars. It consists of vertical posts covered with 3 in. horizontal planking, the latter so arranged that it does not interfere with the various projecting edges of the cars. A plan of the proposed blocking accompanies the report.

Loading Rules—A committee of which J. J. Burch, General Foreman Car Department, Norfolk and Western Ry., was chairman, recommended numerous changes in existing rules for loading. The principal part of the report is a complete set of instruction on the loading of automobiles, trucks and trailers.

Arbitration—A committee of which J. J. Hennessey, Assistant Master Car Builder, Chicago, Milwaukee and St. Paul Rd., was chairman, and of which J. Coleman, Superintendent Car Department, G.T.R., was a member, recommended a number of changes in existing practice.

Standards and Recommended Practice—A committee of which T. H. Goodnow, Superintendent Car Department, Chicago and North Western Rd., was chairman, recommended a number of changes in standards and recommended practice.

Other Master Mechanics' Reports.

In addition to the various committee reports given in full, or in abstract, in this issue, the following committees also presented reports:

Train Resistance and Tonnage Rating.—A committee of which O. P. Reese, Superintendent Motive Power, Pennsylvania Lines, was chairman, reported no new development.

Specifications and Test Materials (A.R.M.M.)—An American Railroad Association mechanical section committee, F. M. Waring, Engineer of Tests, Pennsylvania Rd., chairman, recommended changes in several existing specifications.

Standards and Recommended Practice—A committee, of which W. E. Dunham, General Superintedent Motive Power and Car Department, Chicago and North Western Rd., was chairman, recommended some changes in standards and recommended practice.

Officers and Committee for 1919-1920.

An American Railroad Association's mechanical section committee, F. W. Brazier, Superintendent Rolling Stock, New York Central Rd., chairman, and of which W. J. Robider, General Master Car Builder, C.P.R., was a member, reported as follows:

The present officers and general committee of the mechanical section of the American Railroad Association were elected at a joint meeting of the executive committees of the American Railway Master Mechanics' and Master Car Builders' Associations, held in New York, N.Y., Feb. 1, 1919, to serve tentatively until permanent officers and general committee could be regularly elected by members at the 1919 convention.

Sec. 5 (a) of the rules of order for this section provide that "it shall be the duty of the nominations committee to offer to the convention the name of one representative member as a candidate for chairman and one for vice chairman, and the names of 7 representative members as candidates for the general committee." As the present general committee is a tentative committee to serve only until this convention, your committee has nominated a chairman and 7 members for the general committee to serve for 2 years, and a vice chairman and 7 members of the general committee to serve for one year. This will provide that future nominations for the general committee can be made for the regular 2-year term in accordance with the rules.

In addition, F. McManamy, Assistant Director, Division of Operation, U.S. Railroad Administration, C. B. Young, Manager, Inspection and Tests Section, U.S. Railroad Adminstration, and F. F. Gaines, Chairman, Board of Railroad Wages and Working Conditions, U.S. Railroad Administration, are also members of the general committee representing the U.S. Railroad Administration. Your committee suggest the following:

To serve for two years—Chairman, W. J. Tollerton, General Mechanical Superintendent, Chicago, Rock Island and Pacific Rd.; general committee, J. T. Wallis, General Superintendent Motive Power, Pennsylvania Rd.; T. H. Goodnow, Superintendent Motive Power, Chicago and North Western Rd.; **W. H. Winterrowd**, Chief Mechanical Engineer, Canadian Pacific Ry.; C. H. Hogan, Assistant Superintendent Motive Power, New York Central and Hudson River Rd.; J. E. O'Brien, Mechanical Superintendent, Missouri Pacific Rd.; A. Kearney, Superintendent Motive Power, Norfolk and Western Rd., and C. F. Giles, Superintendent Machinery, Louisville and Nashville Rd.

To serve for one year—**Vice Chairman, J. Coleman**, Superintendent Car Department, Grand Trunk Ry.; general committee, J. W. Small, Mechanical Assistant to Regional Director, Southern Region, U.S. Railroad Administration; J. S. Lentz, Master Car Builder, Lehigh Valley Rd.; H. R. Warnock, General Superintendent Motive Power, Chicago, Milwaukee and St. Paul Rd.; C. E. Fuller, Superintendent Motive Power, Union Pacific Rd.; S. Lynn, Master Car Builder, Pittsburgh and Lake Erie Rd.; A. P. Prendergast, Mechanical Superintendent, Texas and Pacific Rd., and J. R. Gould, Superintendent Motive Power, Chesapeake and Ohio Rd.

The report was adopted and the officers and committee elected as recommended.

Railway Supply Exhibits at the Atlantic City Conventions.

The Railway Supply Manufacturers' Association's exhibits were, as usual, of a very comprehensive nature, in fact, larger than in any previous year, there being 301 exhibits, occupying about 9[illegible],500 sq. ft. of floor space, against 277 exhibits and 87,360 sq. ft. of floor space for 1913, the previous record year. Among the principal exhibitors were the following:—

American Brake Shoe & Foundry Co., New York, N.Y.—Reinforced brake shoes for locomotives and cars; malleable iron locomotive and car brake heads and keys.

American Locomotive Co., New York, N.Y.—Flexible staybolts; power reverse gear; intercepting valve; piston valve.

American Steel Foundries, Chicago, Ill.—Simplex clasp brake; Economy cast steel draft arm; Davis steel wheel; Ajax and Hercules brake beams; Simplex and American coupler pockets; Simplex coupler; Atlas safety guard and third point support; cast steel bolsters; Vulcan trucks.

Association of Manufacturers of Chilled Car Wheels, Chicago, Ill—One 33 in. 625 chilled iron wheel for 30-ton cars; one 33 in. 700 chilled iron wheels for 40-ton cars; one 33 in. 725 chilled iron wheel for 50-ton cars; one 33 in. 850 chilled iron wheel for 70-ton cars; one pair 850 lb. M.C.B. wheels for 70-ton cars, mounted on axle with flange increased 3-16 of an inch, as recommended by the association.

Boss Nut Co., Chicago, Ill.—Boss lock nuts.

Buffalo Brake Beam Co., New York, N.Y.—Brake beams and brake beam parts.

Chase & Co., L.C., Boston, Mass.—Mohair plush upholstery for railroad coaches, steamships and automobiles; leatherwove upholstery for railroad coaches.

Dearborn Chemical Company, Chicago, Ill.—Showing method of Dearborn water treatment for prevention of scale formation, corrosion, pitting and foaming. Waters analyzed. Operators of analytical laboratories; No-ox-id rust preventive.

Du Pont Fabrikoid Co., Wilmington, Del. Railway car seats; dining car seats; leather substitutes; a Cadillac roadster with entire surface covered with Craftsman Fabrikoid.

Edison Storage Battery Co., Orange, N.J.—Edison alkaline storage battery for railway train lighting, railway signaling; industrial trucks and tractors; commercial vehicle and delivery wagons; storage battery locomotives; mine lamps; meter testing; manhole lighting; ignition and lighting.

Electric Service Supplies Co., Philadelphia, Pa.—Keystone turbo-generator; Keystone locomotive headlight switch; Golden Glow locomotive headlight.

Flannery Bolt Co., Pittsburg, Pa.—Tate flexible staybolts for water space; adjustable crown stays; flexible flush staybolts; flexible drilled (hollow) staybolts; F.B.C. solid flexible staybolt (new design); F.B.C. hollow flexible staybolt (new design); installation tools for the application of Tate and F.B.C. staybolts; model of section locomotive boiler with complete installation—all types.

Franklin Railway Supply Co., Inc., New York, N.Y.—Franklin automatic adjustable driving box wedge; Franklin automatic driving box lubricator; Franklin automatic fire door; E[illegible]

[illegible] conduits, Franklin [illegible].

Galena-Signal Oil Co., Franklin, Pa.—[illegible].

Garlock Packing Co., Palmyra, N.Y.—Special packings for railway shops and roundhouses; for air pumps, throttles, [illegible] accumulators, steam hammers, stationary engines and pumps.

Gold Car Heating & Lighting Co., New York, N.Y.—Vapor combination pressure and vapor pressure, hot water and electric car heating systems. Thermostatic control for all types of car heating systems and buildings; ventilators for railway cars; pressure regulators.

Grip Nut Co., Chicago, Ill.—Grip nuts.

Hunt-Spiller Manufacturing Corporation, South Boston, Mass.—Air furnace gun iron castings.

Independent Pneumatic Tool Co., Chicago, Ill.—Piston air drills and reamers, non-reversible and reversible; pneumatic [illegible], stay bolt drivers; hoists; pneumatic chipping hammers; pneumatic caulking hammers; pneumatic flue heading hammers; pneumatic light riveting hammers; pneumatic long-stroke riveting hammers; sand rammers; electric drills and grinders; pneumatic tool hose and hose couplings; close corner drills.

Ingersoll-Rand Co., New York, N.Y.—Showing Little David type of pneumatic tools.

Johns-Manville Co., H. W., New York, N.Y.—Air brake cylinder packing cups and expander rings and gaskets; slack adjusters; insulating materials; pipe coverings; hair felts; boiler lagging; [illegible] packings; pump valves; insulating cements; high temperature cements; [illegible]eilinite; ebony and asbestos paper and millboard; vitribestos; fire felt; fibre conduit; sheet fibre; metallic flexible conduit; tape extinguishers; fuses, asbestos shingles; boiler wall coating; mastic; water-proofing materials, 85% magnesia and fire felt for locomotive boiler lagging; salamander insulation for steel passenger and postal cars; Keystone hair felt insulation for refrigerator cars.

Joliet Railway Supply Co., Chicago, Ill.—Huntoon brake beams; Huntoon truck bolsters; Joliet journal boxes; Perry, Barry & Perry side bearings; Huntoon center plates; Burnett reinforced car end; Burnett angle cock holder; Burnett train pipe anchor; Rex emergency knuckle.

KeYoke Railway Equipment Co., Chicago, Ill.—Cast steel friction draft gear; [illegible] cast steel coupler yokes; keyless cast steel coupled yokes.

Locomotive Stoker Co., Pittsburg, Pa.—Type D duplex stoker; type D slope [illegible] pusher.

Locomotive Superheater Co., New York, N.Y.—Pyrometer for superheater [illegible], developments in construction of superheater units; stationary superheaters.

[illegible] & Co., Chicago, Ill.—Journal [illegible].

Metal & Thermit Corporation, New York, N.Y.—Thermit and appliances; [illegible], samples of carbonfree metals and alloys produced by the Thermit process; large sample weld on a 9 [illegible]; materials for demonstrating pipe welding for welding locomotive [illegible]; sample of superheater [illegible] welded.

Mudge & Co., Chicago, Ill.—Mudge [illegible]; Mudge Slater [illegible] end; Mudge Salvit [illegible].

National Lock Washer Co., Newark, N.J.—[illegible]; car curtain fixtures; window locks; sash balances; weather stripping; curtain rollers; national rib lock washers.

Pratt & Whitney, New York, N.Y.—Moving pictures of railway machine tools in actual shop operation.

Norton, Incorporated, A.O., Boston, Mass.—High speed self-lowering lifting jacks.

Pyle-National Co., Chicago, Ill.—One type K2 500-watt maximum capacity turbo-generator; one type E2 500-watt normal capacity turbo-generator; one type E, 1,500-watt turbo-generator; one type T, 2½ k.w. turbo-generator; one type M, 3½ to 7 k.w. turbo-generator; one special 18 in. incandescent case and reflector fitted with no. 1450 lamp stand; one standard 18 in. incandescent case and reflector fitted with no. 1450 lamp stand; one model of Young valve gear.

Safety Car Heating & Lighting Co., New York, N.Y.—Pintsch mantle light; car lighting electric generators; car lighting electric generators; car lighting fixtures; Oxy-Pintsch metal cutting equipment; electric fans.

Symington Co., The T. H., New York, N.Y.—Farlow draft attachments; Symington journal boxes; Symington flexible dust guards.

Union Draft Gear Co., Chicago, Ill.—Cardwell friction draft gear type G class 11A; Cardwell friction draft gear type G class 11A-compound.

Universal Draft Gear Attachment Co., Chicago, Ill.—Universal cast steel re-inforcing draft arms, coupler yokes and malleable draft lugs and plates.

Vapor Car Heating Co., Chicago, Ill.—Passenger train car heating; vapor system of heating; steam pressure system of heating; combination steam and hot water heating system; car heating specialties; steam specialties; emergency stoves; ventilators.

Westinghouse Air Brake Co., Pittsburg, Pa.—Reception booth.

Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.—Arc welding motor-generator; small turbine generator unit; motor driven grinder; small portable drills; electric fans.

Wheels Truing Brake Shoe Co., Detroit, Mich.—Various forms of abrasive shoes designed for grinding car wheels and locomotive driver-wheels.

Whiting Foundry Equipment Co., Harvey, Ill.—Working models of type R electric crane trolley and Whiting electric screw-jack locomotive hoist; photos, drawing and catalogues of foundry equipment, cranes and railway equipment, such as coach hoists, turntable centers and tractors, transfer tables, car wheel foundries.

Exploration of Quebec Hinterland—A press dispatch of June 5, from Seven Islands, on the St. Lawrence River, reported the arrival there of F. Kissick, one of the leaders of the party which started from Quebec, Apr. 8, for a general exploration of the Ungava territory, and the laying out of a route for a railway from Seven Islands to Big Lake Kapachoo proposed to be built by a company incorporated by the Quebec Legislature as the Quebec and Ungava Ry. The party reported that all the preliminary work had been done for 75 miles inland, and that M. A. McCullough of Winnipeg, one of the party, had been drowned, near the camp on East River, 50 miles from Seven Islands. — [illegible] Montreal, is reported to represent the company, and is expected to give directions as to the future work of the party at an early date.

Hydro Electric Railway Construction for Ontario.

The Hamilton, Ont., City Council is reported to have passed a resolution June 10, calling upon the Hydro Electric Power Commission of Ontario to start work immediately upon the construction of the projected electric railway from Toronto via Hamilton to Niagara Falls. Sir Adam Beck, chairman of the commission, who was present, is reported to have informed the council that the money market is now so much easier that it is expected that the funds for construction can be secured at less than 5% and that there is possibility of construction work being started in the autumn.

Similar resolutions have been passed by the Burlington and Nelson municipal councils, and the matter, so far as the municipalities are concerned, is now completed, the Hydro Electric Power Commission of Ontario, being responsible for the carrying on of construction work,

Private Car for Minister of Militia—At a sitting of the committee of the House of Commons public accounts committee recently, some information was elicited as to the cost of the private car, Roleen, for the Minister of Militia. According to press reports, the car was bought in the United States second-hand in 1913, for the department, when Sir Sam Hughes was minister, by D. B. Hanna, then Third Vice President Canadian Northern Ry., for $9,800. Shortly afterwards $1,200 was spent in repairs, and in 1916 the car was overhauled and refurnished in the G.T.R. Montreal shops at a cost of $26,843.46. This amount included 15% profit on the cost of materials and 10% profit on the cost of labor.

Level Crossings Elimination—The Dominion Parliament has passed an act extending for 10 years, the provision of $200,000 a year to aid in eliminating level crossings of the railways in Canada. This act was passed in order that the work of eliminating these crossings with government assistance can be carried on in the event of the Consolidated Railway Act not being passed at parliament's present session. (May, pg. 248).

C.P.R. Quebec Terminal Facilities—Sir Thomas White submitted in the House of Commons, June 16, a copy of an agreement entered into between the Dominion Government and the C.P.R. for the use of the terminal facilities in Quebec. For the year ended Mar. 31, 1918, the Dominion Government paid the C.P.R. $28,637.47, and for the year ended Mar. 31, 1919, $136,787.07.

Lake St. Joseph Hotel Ownership—The Minister of Railways stated in the House of Commons that the Lake St. Joseph Hotel, at Lake St. Joseph, Que., is owned by the Quebec and Lake St. John Ry., and that 85% of that railway's stock is owned by the Canadian Northern Ry., which forms part of the Canadian National Rys.

Alberta Public Utilities Commission—The Alberta Legislature at its recent session, amended the Public Utilities Act so that any application, petition, matter or complaint within the board's jurisdiction may be heard by a single member, and the board may, on his report, deal with such matter as if the hearing had been before the full board.

Steam Railway Operating Statistics for Year Ended June 30, 1918.

In the following table the column headed gross earnings includes passenger and freight earnings, as well as miscellaneous earnings from operation, the latter not being shown separately; the next four columns give the operating expenses classified under their various headings, while the last gives the net earnings, which are arrived at by deducting the totals of the four columns referred to from the figures in the gross earnings column. The minus (—) mark before figures in the net columns shows that there was a deficit in the operation of the line to the extent of the figures given. The cents have been omitted in all cases, and the figures in the totals show the aggregate earnings, etc., including the cents, omitted from the detailed items. The figures in the the first column, "First track mileage," include the first track of main line, branches and spurs of lines represented by the respective companies' capital stock, the lines of proprietary companies, the lines operated under lease, and lines operated under contract, but not lines operated under trackage rights, the mileages of which are included in those for the respective owning companies. There are 20 companies operating under trackage rights over 1,028.33 miles of the lines of other companies. In addition to the 38,878.52 miles of first track operated, there are 2,522.73 miles of second track, details of which are given under "Notes to Steam Railway Statistics," on another page of this issue.

The figures in the last column of the table show the net earnings or loss from the operation of the various railways, and their necessary adjuncts. Many companies have income from other sources, and in some cases carry on business apart from their railways; these revenues are brought together in the "Income account," and from them are deducted taxes, rents for lease of other lines, etc., interest or funded debts, sinking funds, etc., leaving in the final analyses, the net corporate revenue available for dividend, or the gross deficit for the year. Another table containing these figures will be published in Canadian Railway and Marine World's next issue.

Name of Railway	First track mileage	Passenger earnings	Freight and switching earnings	Gross earnings from operations	Maintenance of way and structures	Maintenance of equipment	Traffic and transportation expenses, etc.	General expenses	Net operating earnings
Alberta and Great Waterways	113.20	$ 28,215	$ 50,360	$ 90,707	$ 20,709	$ 19,055	$ 53,114	$ 7,685	$ —9,856
Algoma Central & Hudson Bay	347.80	99,728	1,591,837	2,000,842	356,521	224,203	774,866	66,635	578,615
Algoma Eastern	89.45	57,183	763,934	879,158	143,225	115,348	332,854	20,592	287,730
Atlantic, Quebec & Western	103.08	42,758	139,545	182,304	50,165	27,482	87,131	15,888	1,635
Brandon, Saskatchewan & H.B.	69.45	25,940	23,293	49,703	59,885	13,300	66,421	4,774	—94,677
British Yukon	101.12	45,040	167,336	215,797	35.901	11,367	54,113	21,458	92,956
Canada Southern	380.54	4,479,533	10,771,470	15,364,792	1,651,159	1,910,526	6,218,084	346,499	5,238,522
Canada & Gulf Terminal	35.80	20,563	49,663	72,340	12,129	11,977	30,598	7,931	9,703
Canadian Government Railways									
Intercolonial	1,592.35	6,731,799	12,846,185	20,259,232	4,584,863	3,850,563	13,527,193	375,613	—2,079,001
International of N.B.	111.30	39,909	124,898	165,935	112,405	44,854	171,954	7,405	—170,685
St. John and Quebec	119.87	33,903	64,419	98,684	53,834	6,776	93,346	3,722	—58,996
Prince Edward Island	278.81	208,788	306,361	653,145	310,655	128,334	715,974	15,414	—537,233
National Transcontinental	2,002.92	1,217,775	7,684,679	8,976,203	3,765,959	2,191,099	5,040,161	178,488	—2,199,505
Canadian Northern System	9,320.15	9,662,065	32,370,273	44,067,825	7,673,480	7,060,069	22,654,276	1,136,440	5,543,559
Canadian Pacific	13,294.60	43,583,160	101,706,249	150,274,101	19,031,500	24,334,150	65,574,664	2,629,633	38,704,152
Cape Breton	31.00	8,976	5,642	14,619	9,810	1,543	13,062	2,286	—12,084
Caraquet & Gulf Shore	84.78	21,958	83,866	105,825	33,793	15,581	44,038	11,631	780
Central Canada	48.50	10,980	11,628	23,365	19,226	3,659	22,111	6,881	—28,513
Central Vermont	125.20	128,186	214,580	348,598	144,940	33,214	177,857	10,666	—18,080
Crows Nest Southern	74.18	14,962	76,490	92,763	70,233	31,089	88,834	7,160	—104,553
Cumberland Ry. and Coal Co.	32.00	19,174	103,554	129,815	31,729	15,473	61,235	6,708	14,669
Detroit River Tunnel Co. (1)	1.45								
Dominion Atlantic	274.16	476,706	717,001	1,212,773	218,853	97,163	528,513	71,023	297,220
Eastern British Columbia	14.00	2,078	38,500	41,352	15,423	5,785	17,439	3,002	—298
Edmonton, Dunvegan & B.C.	406.80	233,945	413,221	664,186	180,754	80,559	250,805	33,899	188,167
Elgin & Havelock	27.00	1,360	14,696	16,056	9,568	2,088	7,940	1,000	—4,541
Esquimalt & Nanaimo	199.20	265,882	532,159	821,825	139,982	104,587	269,744	11,356	296,354
Essex Terminal	21.00		92,592	119,187	19,309	12,158	36,808	20,582	30,328
Fredericton & Grand Lake C. & Ry. Co.	35.00	11,382	139,458	150,922	19,748	5,647	56,266	4,393	64,865
Grand Trunk	3,567.07	13,917,578	36,005,741	50,966,328	6,065,644	10,765,338	24,986,516	1,434,504	7,714,324
Grand Trunk Pacific	1,681.57	1,948,721	5,795,830	7,855,741	2,096,208	2,233,079	3,699,735	240,790	—414,072
Grand Trunk Pacific Branch Lines	1,032.63	480,425	1,334,050	1,836,685	668,804	596,088	1,116,626	74,069	—618,912
Hereford	53.06	24,272	44,235	69,168	50,119	21,749	77,736	5,422	—85,879
Inverness Ry. & Coal Co. (2)	60.91								
Kent Northern	27.00	11,344	19,385	32,064	6,944	4,084	10,578	2,001	8,454
Kettle Valley	355.69	243,331	348,841	607,770	271,997	77,555	290,513	15,997	—38,293
Klondike Mines (2)	31.81								
Lotbiniere & Megantic	30.00	6,167	35,324	41,507	11,824	4,279	14,228	5,575	5,599
Magnetawan River (3)	1.91								
Maine Central (Princeton Branch)	5.10	13,696	7,171	20,868	3,139	2,791	12,752	1,088	1,096
Manitoba Great Northern	91.77	4,991	17,654	23,158	66,829	9,736	45,379	3,756	—102,547
Maritime Coal, Ry. & Power Co.	15.00	7,132	100,001	107,193	21,964	8,972	43,485	3,818	28,952
Massawippi Valley	35.46	69,171	148,610	220,443	71,201	48,880	181,584	12,036	—93,259
Midland of Manitoba	6.40	136,091	133,953	283,394	53,233	54,635	241,006	15,193	—80,674
Moncton & Buctouche	34.00	12,570	21,147	34,787	30,061	8,112	17,122	5,841	—26,350
Montreal & Atlantic	184.40	234,405	1,171,843	1,445,713	283,251	305,173	811,101	37,225	8,962
Morrissey, Fernie & Michel	10.85	10,856	83,914	94,770	11,981	13,302	43,149	14,094	12,242
Napierville Jct.	27.06	96,742	195,397	293,375	47,862	25,869	104,918	22,745	91,979
Nelson and Fort Sheppard	55.42	23,196	28,859	55,291	41,514	10,723	51,172	5,073	—53,193
New Brunswick Coal & Ry. Co.	58.00	18,836	38,301	58,426	27,976	6,017	16,972	3,630	4,830
New Westminster Southern	15.18	609	4,394	5,006	7,937	1,963	6,908	807	—12,610
North Shore (2)	8.63								
Northern New B. & Seaboard (2)	19.80								
Noshonsing & Nipissing (4)	5.50								
Ottawa & New York	56.90	118,303	160,498	280,647	85,832	51,774	211,522	7,673	—76,155
Pacific Great Eastern	180.27								
Pere Marquette	198.81	140,698	3,121,464	3,289,199	355,951	237,156	1,337,836	107,618	1,253,636
Phillipsburg Ry. & Quarry Co.	6.00								

(Continued on page 366).

Steam Railway Statistics for Year Ended June 30, 1918 (Continued from page 365)

Name of Railway	First track mileage	Passenger earnings	Freight and switching earnings	Gross earnings from operations	Maintenance of way and structures	Maintenance of equipment	Traffic and transportation expenses, etc.	General expenses	Net operating earnings
Quebec Central	277.00	519,942	1,409,443	1,962,558	275,115	190,614	883,734	59,843	553,249
Quebec, Montreal & Southern	192.18	171,767	469,053	645,671	172,136	189,445	290,126	23,227	—29,264
Quebec Oriental	100.00	76,758	224,850	301,609	106,920	35,862	115,864	16,987	25,974
Quebec Ry., Light & Power Co	30.82	4,239	116,308	120,841	13,120	23,738	48,680	13,223	22,078
Red Mountain	9.59	2,821	8,890	12,187	11,806	1,758	19,612	892	—21,882
Roberval-Saguenay	36.80	18,879	162,241	199,542	32,581	15,524	79,596	22,284	49,555
Rutland & Noyan	3.39	2,974	7,682	10,657	4,629	2,397	8,615	890	—5,875
Salisbury & Albert	45.00	9,652	36,167	50,677	19,069	4,385	20,762	6,362	97
St. Clair Tunnel (3)	1.23	....	....	....	....	....	....	....	....
St. Lawrence & Adirondack	46.14	266,090	1,081,807	1,362,884	121,106	61,781	530,368	12,282	637,545
St. Martins	30.00	3,707	10,866	14,660	7,163	447	9,525	1,314	—3,790
Sydney & Louisbourg	70.27	56,499	842,922	920,712	162,389	265,307	342,585	43,255	107,174
Temiscouata	113.00	62,256	228,844	300,961	62,608	37,964	116,098	17,282	67,006
Timiskaming & Northern Ontario	328.50	779,174	1,765,936	2,651,109	462,892	382,105	1,221,773	105,531	478,806
Thousand Islands	6.33	13,940	29,195	46,888	5,060	276	22,837	4,026	14,688
Toronto, Hamilton & Buffalo	100.30	512,385	1,987,490	2,565,708	317,566	398,082	861,591	89,997	898,470
Vancouver, Victoria & Eastern	269.61	161,381	429,502	661,600	420,822	117,899	625,006	25,590	—527,718
Victoria & Sidney	15.97	19,205	11,655	31,144	5,722	2,571	23,253	2,883	—3,286
Victoria Terminal Ry. & Ferry Co.	0.99	1,474	725	2,202	350	158	1,492	184	17
Wabash (5)	....	514,979	3,061,492	3,635,278	356,953	728,749	1,934,172	104,122	511,280
York & Carleton	10.50	1,861	7,783	9,645	1,990	213	5,990	36	1,415
	38,878.52	$88,192,056	$231,813,388	$330,220,149	$51,614,857	$57,304,234	$157,438,358	$7,597,985	$56,264,714

Notes to Steam Railway Statistics.

The following notes refer to the statistical table on page — of this issue:

(1) The Detroit River Tunnel is operated by the Michigan Central Rd., which controls the Canada Southern Ry. Its earnings are reported in a separate table respecting international lines.

(2) The Inverness Ry. & Coal Co. Ry. in Nova Scotia is being operated by its receiver, but no particulars except mileage are available. The Klondike Mines Ry. in Yukon Territory; the North Shore Ry. (formerly the Beersville Coal & Ry. Co.) in New Brunswick, and the Northern New Brunswick & Seaboard Ry. are not being operated.

(3) The Magnetawan Ry. and the St. Clair Tunnel are operated by the Grand Trunk Ry. The earnings of the first named are included in those of the G.T.R., while those of the tunnel are reported in a separate table respecting international lines.

(4) The Nobonsing & Nipissing Ry., 5.50 miles, was taken up several years ago.

(5) The Wabash Ry., while operating in Canada, does not own any railway in the country, but runs over the G.T.R. from Windsor to the Niagara River under a lease. It does both a through and local business in Canada, the officials acting jointly for the G.T.R. and Wabash Ry.

International Railways—The following table gives particulars of operations of companies which are of an international character, operating across the International boundary. The Detroit River Tunnel is owned by the Michigan Central Rd.; the International Bridge Co., and the St. Clair Tunnel are owned by the Grand Trunk Ry., and the Pullman Co., operates sleeping and parlor cars over some Canadian railways.

	Total revenue	Total operating expenses	Net operating revenue
Detroit River Tunnel	$1,050,000	....	$1,050,000
International Bridge Co.	438,831	$ 83,255	355,576
St. Clair Tunnel	324,694	176,058	148,636
Pullman Co.	744,261	583,294	160,966

The Van Buren Bridge Co., operating between St. Leonards, N.B., and Van Buren, Me., which reported for 1916-17, did not report for 1917-18.

Second Track—Following are details of second track, in addition to the first track mileage given in the table on page 365, and this page, col. 1.

	Miles.
Canada Southern Ry.	243.04
Canadian Pacific Ry.	1427.60
Grand Trunk Ry.	723.37
Grand Trunk Pacific Ry.	14.94
Intercolonial Ry.	72.86
Montreal & Atlantic Ry.	6.50
National Transcontinental Ry.	5.31
Quebec Ry., Light and Power Co	9.50
Sydney and Louisburg Ry.	1.00
Timiskaming & Northern Ontario Ry	1.70
Toronto, Hamilton & Buffalo Ry	9.79
Vancouver, Victoria & Eastern Ry	7.12

An Address on Car Service.

By J. D. Altimas, Assistant General Superintendent Car Service, Canadian Pacific Railway.

The following address was given at a meeting of C.P.R. officers, agents, foremen, etc., in Montreal recently:—

"Car service in its essentials means the prompt and proper handling of cars, i.e., getting them ready for placement in time as ordered, preparing the billing and other papers, and moving them out immediately they are loaded, prompt movement while in transit, prompt placement at destination, and switching them out after they are made empty, so as to make them available for further loading. In all circumstances, cars must be used to the best possible advantage.

"Heretofore we have classed all cars of foreign ownership as foreign cars, but, from now on, we will draw the line a little closer and classify foreign cars of Canadian ownership and of United States ownership. Under the new arrangement, Canadian owned cars must be used as much as possible for business originating at and moving to points in Canada. Canadian Pacific cars, however, must, whenever possible, be used for business moving from and to points on the C.P.R. only, and all foreign cars will still cost 60c a car per day while they are on our rails, therefore, it will be just as important as ever to get rid of all classes of foreign cars as promptly as possible. When foreign cars are to be loaded, they should be used for loads that will take them off our rails via the shortest route, but always in accordance with the rules. When no loading is in sight they must be reported to the proper officer for disposal.

"Every effort should be made to load cars to their full carrying capacity. Even in times of car surplus, the maximum loading should be obtained, because this factor has a most important bearing upon the cost of handling tonnage in trains.

"The points which I have mentioned are the essentials of the car service problems. The details covering the handling of the various classes of cars of different ownership, both railway and private, are contained in the circulars issued by the car service department. All agents should study these rules carefully, so that they will understand what is required and so that they may instruct their subordinates and see that all concerned carry out the instructions.

"With all the instructions that are issued, and all the reports that are compiled, very often we do not get proper results, simply because we fail in some of the essentials. My experience leads me to the conclusion that where most of us fail is in not keeping proper records. Occasionally when proper records are installed, they are allowed to go wrong owing to a lack of supervision. We know that an agent, usually, is a pretty busy man, and has many things to look after, but he should make it his business to see that a proper record is kept of every car in his yard, from the time it arrives until it leaves.

"The agent may not have, in fact very seldom has, the time to do this work himself. He should, first of all, see that the information is obtained from the proper source, i.e., from the cars themselves, as to initials and car numbers, the other information from the waybills, or other data which accompany the cars. Next he should see that the information is entered promptly and correctly into the records. With his station records in good shape, it then becomes an easy matter for the various reports, daily, weekly, or monthly, to be correctly compiled and forwarded to the proper officers. The daily car report for the car service department is without doubt, the most important report an agent has to compile. When cars are promptly and properly reported, the car service department is enabled to give orders for their disposal, and in a great measure the proper and prompt disposal of equipment is a big factor in the economical handling of tonnage, which affects the expenses of operation and in the securing of business which affects the earnings. Once the records are properly started, the agent, or in the case of larger stations, the chief clerk, can check up and supervise the records very quickly. Surprise checks are always productive of good results. We very soon learn which clerks require close supervision. The fact that checking up and supervising is in effect, prompts everybody in the office to see that the work is promptly and efficiently done.

Interswitching, so far as the car service department is concerned, means the interchange of cars. Every physical movement of a car from one road to another, must be properly shown in the interchange report. The correct number, with the correct initials or marks, is just as important as the correct date of interchange. The most important feature of all, however, is to see that each and every car interchanged is shown in the report. There are too many cars omitted from the interchange reports, which would not be the case if the importance of these reports was impressed upon all concerned and a little supervision was given by the agent or chief clerk. Recently I have not been following up closely the record of errors and omissions in the interchange reports, but I mentioned this matter a few days ago to Mr. Phelan, our car accountant, who tells me we are getting good results from the agents in clearing the outstanding records, but apparently there is still lots of room for improvement. Best results can only be obtained by close checking and supervision, which will ensure more correct and complete reports in the first place, which would, of course, eliminate all the unnecessary work in both the car accountant's office and in the agent's office. In every case where we are unable to pay per diem to the car owners, in accordance with the rules, we are penalized by the addition of a penalty of 5c per day, which makes the per diem charge 65c a day instead of 60c. When you consider that we are paying on an average over $345,000 a month for the use of foreign cars, while our accounts against foreign roads for the use of our cars average over $529,000 a month, you will realize how important it is for the car accountant to get proper interchange reports, since the whole accounting system is based upon these reports.

"There is another good reason why we must make every effort to improve the interchange reports. The American Railroad Association has under consideration a new method of settlement for car hire. Under our present method we settle for each individual car, allowing to the car owner direct 60c for each day one of his cars is on our rails. The proposed plan contemplates a settlement between connecting roads on daily balances of the number of cars received and delivered at the interchange point, regardless of ownership of such cars, the final settlement being made with the car owner, through the medium of a per diem clearing house. You will readily understand that to operate a plan of this kind the interchange reports must be absolutely correct. As a preliminary to this plan, the American Railroad Administration at Washington has decided to inaugurate a per diem bureau for the settlement of per diem accounts between U.S. roads and Canadian roads, and it has already started a campaign to ensure all interchange reports at border points being prepared on a proper basis. Special meetings are being convened at the principal points and all concerned are being instructed as to what is required. In addition the various car accountants are to prepare complete data, covering errors and omissions in the reports, showing the record for each station and these statements are to be forwarded to the Railroad Administration. It will be necessary for all of us to get busy and make sure that all concerned understand what is required, otherwise, we will be sure to hear from headquarters.

"I am prompted to tell you of something which I discovered by a little checking up at one of our large interchange points. The interchange reports from this particular station contained quite a few errors in initials and numbers, and numerous omissions. Our analysis developed that these errors and omissions were in the reports covering Sundays. The next time I visited that station I took this matter up with the agent, and we soon discovered that as the regular interchange clerk was entitled to one day off each week, he had decided to lay off Sundays, and a substitute was furnished in the person of the lamplighter, who was very glad to earn the extra money. Sometimes you will find a lamplighter who will make a good interchange clerk, but in most cases if such a man could make a good interchange clerk, he would not be a lamplighter very long. My advice, therefore, is not to depend on the lamplighter, or any other similar help, to look after interchange work.

"This question of records in connection with car service and interchange work is most important and I will take this opportunity to point out that the index record should be properly maintained at all times for the reason that it is the key to all the information in your station records. We are preparing a new form of index record, something similar to old form 908b, which we believe can be used more effectively at the smaller stations.

"I will again impress upon you the necessity of exercising supervision over the work of your subordinates. We have tried this method in our own office to good advantage and I am certain that you will improve conditions and get better results if you will give a certain amount of your time each day to supervising the several desks in the offices under your care."

The Canadian Railway Troops Splendid Work in the War.

The story of the Canadian Railway Troops is one of the romances of the war, recording how one battalion of Canadian railwaymen grew into a corps of nearly 16,000 strong, which, from the spring of 1917, took a major part in the construction and maintenance of railways of all gauges to within easy reach of the front line. After the battle of the Somme, it was clearly proved that road and animal transport could not alone take forward in the fighting zone, over shell-torn terrain, the weight of war material (as much as 2,000 tons a mile of active front per day) required to stage a modern battle.

In the early stages of the war, the French General Staff assumed the entire responsibility for the maintenance and construction of railways, in the British armies zone on the western front. Though six Imperial Royal Engineer Railway Construction Companies were sent to France in 1914, they were not permitted by the French to do any, or scarcely any, work, until it was recognized that the duration of the war would be indefinitely prolonged, and the French Government would be unable to furnish either sufficient railway construction personnel or material.

In 1914, some well known Canadian railway contractors requested the Militia Department to be allowed to raise a railway construction unit, but for reasons outlined above, this proposal was not approved. However, in the spring of 1915, the War Office requested the Canadian Government to send over two railway construction companies. These, the Canadian Pacific Ry. Co. undertook to organize at the Militia Department's request, with the result that the Canadian Overseas Railway Construction Corps proceeded to France in Aug., 1915. This unit was made up of 500 picked men from the C.P.R. construction forces. Each man, before enlisting, was required to pass a test as to his technical ability before he joined the unit, which was the pioneer Canadian railway construction unit in France.

After personal representations had been made to several War Office departments, it was finally decided in May, 1916, to ask Canada to furnish another unit, approximately 1,000 strong, for railway construction work on the western front. The organizer of this battalion, Lt.-Col. J. W. Stewart, of Vancouver, now Major-General J. W. Stewart, C.B., C.M.G., who gathered recruits from among the experienced railway workers of every province in the Dominion. It was known as the 239th Overseas Railway Construction Corps, but, before it could sail, Lt. Col. Stewart was called to England, at the War Office's request, to assist in the general organization of better transport facilities on the western front.

As outlined above, after the commencement of the battle of the Somme, it was decided by the Imperial General Staff to make greater use of railways, and more especially of light railways in forward areas as used by both the French and Germans. To accomplish this, **Sir Eric Geddes** was appointed Director General of Transportation, with practically plenipotentiary powers to reorganize all the transportation services on the British western front. As during recent years more new railways have been built in Canada than in any other part of the British Empire, Sir Eric Geddes naturally looked to Canada for a man to supervise and direct the construction of railways.

It was agreed that Canada should furnish five battalions of construction men, to be known as the Canadian Railway Troops, and that Col. Stewart should proceed to France immediately to act as Deputy Director of Light Railways, as well as being in immediate command of the Canadian Railway Construction Battalions on their arrival in France. Lt.-Col. Angus McDonnell, now Colonel Angus McDonnell, C.M.G., was delegated to remain in England to organize the units and to follow Lt.-Col. Stewart as second in command, on the completion of the organization.

On Jan. 1, 1917, Brigadier-General Stewart (having been promoted to that rank), was appointed Deputy Director General Transportation (Construction), and made directly responsible to the Director General of Transportation, for all railway construction, the maintenance and provision of necessary material, thus taking over supervision of the work done by the Royal Engineers' Railway Construction Companies (at that time numbering [illegible] ranks), in addition to that done by the Canadian Railway Troops, as well as direct administrative command of the latter. An administrative office to deal with the organization was set up in London, and a depot established at Purfleet, Essex. The original five battalions were made up as follows:

The 1st Canadian Overseas Construction Battalion, which had proceeded to France in [illegible] and was working on standard gauge railways, was re-organized and re-equipped as the 1st Battalion, Canadian Railway Troops in France.

The [illegible] Infantry Battalion, then at Bramshott, Eng., was re-organized as the 2nd Battalion Canadian Railway Troops, proceeding to France, Jan. 11, 1917.

The 239th Battalion was re-named the 3rd Battalion, Canadian Railway Troops, and went to France, Mar. 22, 1917.

The 4th and 5th Battalions were organized at Purfleet, and proceeded to France in Feb., 1917.

However, before the 3rd Battalion left for France on Mar. 22, 1917, it had been decided to increase the number of battalions to 10, and as more units arrived from Canada, they were sent to Purfleet. So swiftly was the new organization carried out, that by Apr. 1, 1917, there were six Canadian Railway Troops battalions fully equipped and serving in the field. All ten battalions were at work on the British western front by the end of June, 1917. The greater number of the units were employed on light railway construction and maintenance, and, with the help of attached labor, since 1917, all the light railway construction and maintenance, on the British western front, until the armistice was signed, was carried out by Canadian Railway Troops.

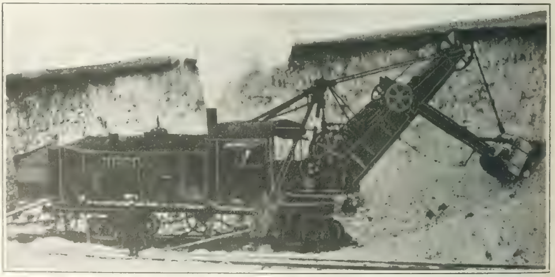
Canadian Pioneer Battalion building grade, Lebucquiere East Diversion, in France, Nov. 22, 1917. Photograph loaned by C.P.R.

The whole Canadian Railway Troops organization was separate from the Canadian Corps. The administrative headquarters of the Canadian Railway Troops were established at the British Army's General Headquarters in France in Mar., 1917, to enable Brigadier-General Stewart to fill the dual capacity of General Officer Commanding the Canadian Railway Troops, and Deputy Director of General Transportation (Construction).

The Railway Troops arrived in France just in time to prove their worth. During the German retreat on the Somme, in Feb. and Mar., 1917, the first of the battalions to arrive were able to push forward standard gauge and light railway lines with surprising rapidity, in spite of the obstacles and difficulties imposed by atrocious weather and the thoroughness of the destruction left by the enemy in the wake of his retreat.

On Apr. 9, 1917, began the battle of Arras, when the Canadians attacked and captured Vimy Ridge, then the strongest German fortress on the western front. For several weeks prior to the opening of the attack, the weather had been extremely bad, and the ground in the battle area was like a quagmire. Notwithstanding this, the Canadian Railway Troops had laid rails to within a short distance of the front line. Then, as soon as the infantry advanced on that memorable Easter Monday, the railway battalions constructed new lines on the heels of the fighting men. Supplies and ammunition were carried forward on standard and narrow gauge lines, and the wounded were evacuated over them to the very doors of the field ambulance dressing stations and the casualty clearing hospitals. It was the first time that such work had been accomplished during the war. Within a week of the opening of that Arras offensive, trains were running to the brow of Vimy Ridge, and by the end of April, by which time the British lines had been pushed for some distance across the level plain stretching beyond the ridge, light railways were running forward as far as the battalions' ration dumps.

The next big offensive in 1917 was at Messines, and there the railwaymen from Canada contributed their quota to success, in spite of interruptions caused by enemy shell fire, the almost impassable sea of mud which they were compelled to cross, and the many other obstacles that beset the path of railway construction on the battlefield, obstacles that are unknown to the civilian railroad worker. Nor were the Railway Troops less determined and successful during the final attack at Passchendaele, in which the Canadian corps again won undying fame, under conditions among



Steam shovel working in chalk pit, for railway construction on British Western Front, Nov. 26, 1917. Photograph loaned by C.P.R.

the most trying and exasperating encountered during the war.

The difficulty of the task set the Canadian Railway Troops in the Ypres salient may be gauged from the fact that during more than two moths of the summer of 1917, the average daily number of breaks in the light railway lines, due to enemy shell fire, was about 100, in the areas of the 2nd and 5th British armies alone.

It was in Mar., 1918, when the German offensive began in the Somme sector, that it unfortunately became necessary to leave many miles of standard and light gauge railways in the enemy's hands. Seven battalions of the corps of Canadian Railway Troops had to be withdrawn from railway work and were employed for a time on the construction of a rear defence trench system. In this work, which was carried out under the direction of Brigadier-General Stewart, they were assisted by 20,000 troops from labor, engineer, road and other technical units. When the task was completed, they had built a defensive trench system on a front over 30 miles, with a total trench mileage of approximately 120 miles. In addition, many strong points and machine gun emplacements were built and the whole front protected with thick belts of wire. In addition to this work the railway system was being altered and lines added, so that, if the position became still more serious, supplies and material could be handled with greater dispatch and convenience. Nor was this all. On the southern part of the front, a point where the German thrust had been most successful, the Railway Troops were kept busy on the reorganization of the lines of communication.

March and April, 1918, were indeed eventful for the corps of Canadian Railway Troops, for not only did the situation strain their wonderful adaptability to the utmost, but it threw out a direct challenge. There arrived a moment when it became necessary for the Canadian Railway Troops suddenly to transfer themselves into fighting men. They met the challenge with a skill and a success which proved the wisdom of the policy insisted on by the Canadian military authorities, that every Canadian at the front engaged on work of a technical nature, should first be trained as a soldier.

It was during the last four days of March, when the enemy was advancing on Amiens, that one battalion of the corps of Canadian Railway Troops was called on to take part in the defence of the city. The railwaymen promptly organized 16 Lewis gun teams and held tenaciously to the position allotted them, until relieved by troops from the New Zealand Division. Again, in the first British army area, three of their battalions were organized into what was called the Canadian Railway Brigade. No sooner, however, had they became so formed, than the importance of engineering again became such a paramount consideration that the Canadian Railway Brigade, which had been organized with every intention of making use of it as a fighting force, had to be disbanded. Two companies, however, from still another railway battalion, were put into the line and did very good work until relieved by Imperial troops.

In the meantime, the number of battalions had been increased to 13, by the conversion and re organization of the 2nd and 3rd Canadian Railway Labor Battalions with the 11th and 12th Battalions, Canadian Railway Troops, respectively, ad the formation of the 13th Battalion from personnel at the depot at Purfleet, England.

Later in the spring of 1918, the Germans launched an offensive in two sectors in the north, with the intention of reaching the Channel Ports. This, too, placed a considerable strain on the corps of Canadian Railway Troops, as they were at once put to work on the construction of broad gauge lines and the elaboration of the light railway system which acted as a feeder to the front line trenches.

In the early summer of 1918, the Canadian Overseas Railway Construction Corps, the 58th Broad Gauge Operating Company, the 13th Light Railway Operating Company, the 69th Wagon Erecting Company, and the 85th Engine Crew Company, were brought under the Headquarters, Canadian Railway Troops, and the whole formed into the corps of Canadian Railway Troops. About the same time Brigadier-General Stewart was appointed Director of Construction, and as such his duties embraced all construction of a civil engineering character in the zone of the British armies. This work continued until the end of July, 1918, and at the beginning of August preparations were being made by the railwaymen for the work which would be required of them in the attack by the allies on a 20 mile front beyond Amiens. The achievements accomplished by the corps of Canadian Railway Troops in that battle formed a brilliant chapter in their career, and from then on the railwaymen continued to lend invaluable aid in the successive offensive which, launched on different parts of the front, finally led to victory.

Mention should not be omitted of the fact that during the offensive in Palestine in the summer of 1918, when General Allenby called for a party of expert bridge builders, the War Office requisitioned the services of Canadian Railway Troops. Six officers and 250 other ranks were thereupon selected from among the volunteers who came forward in France, and left for Palestine on Sept. 20, 1918.

It should be added that many officers were seconded from the Canadian Construction Railway Troops to fill executive positions in different departments under the Director General of Transportation, which should be considered as a high tribute to the technical efficiency of the officers concerned and the corps of Canadian Railway Troops as a whole.

The following table shows the comparative strength of the Imperial and Canadian Railway Construction Forces on the western front as at the dates given:

Date	Nom'l. strength Imperial Ry. Con Troops	Nom'l strength Canadian Ry. Con. Troops
Dec. 31, 1914	1,476	
Dec. 31, 1915	2,140	512
Dec. 31, 1916	4,900	1,617
Jan. 30, 1917	7,340	11,562
Dec. 31, 1917	7,340	13,772
Nov. 11, 1918	7,340	14,877

In addition there were four Canadian Railway Troops Operating Companies, with a strength of 1,087, all ranks, on Nov. 11, 1918. The total strength of Canadian Railway Troops in England on Nov. 11, 1918, was 5,364.

During their career at the front, the personnel of the Corps of Canadian Railway Troops were awarded 489 honors and decorations. The construction units of the corps of Canadian Railway Troops were more mobile than any other construction units on the British front, as their establishment provided for 280 mules, 10 lorries and 8 box cars per unit. They also were able to carry out new construction with great rapidity by using scrapers and mules, thereby saving man power, one of the most important questions in the concluding phases of the campaign.

In this necessarily condensed report, it is impossible to give more than the briefest outline of the organization, functions and operations of the Canadian Railway Troops. The importance of the work assigned to them can easily be understood by anyone with only a rudimentary knowledge of warfare, as, since prehistoric times, mobility has been organized as an essential factor to victory. The career of the Canadian Railway Troops on the western front furnishes one of the most engaging chapters in the record of Canada's contributions in the war, and was a factor in helping to spell victory with a capital "V."

Summary of work done by Corps of Canadian Railway Troops during 1918.

Standard Gauge Lines, 4 ft. 8½ in.

Miles located	[illegible]
Miles graded	369.[illegible]
Miles grade repaired	838.[illegible]
Miles track laid	1038.00
Average number of miles maintained monthly	[illegible]
Average number attached labor daily on construction	4616
Average number other ranks, C.R.T. daily on maintenance	997

Narrow Gauge (Decauville) Lines, 2 ft.

Miles located	1494.19
Miles graded	[illegible]
Miles grade repaired	[illegible]
Miles track laid	823.79
Average number of miles maintained monthly	746.81
Average number attached labor daily on construction	1288
Average number other ranks, C.R.T. daily on maintenance	2166

The foregoing is reproduced from the report of the Minister of Canadian Overseas Military Forces, Sir Edward Kemp, of which it forms a chapter.

Canadian Manufacturers' Association's President on Government Ownership.

W. J. Bullman, of Winnipeg, President, Canadian Manufacturers' Association, in his opening address at the recent annual meeting in Toronto, said: "A great experiment is being tried now in the government ownership of railways. While this association in annual convention at Winnipeg in 1917 declared against the public ownership of railways, and even suggested that further aid should be given to certain railways under proper supervision, so that their identity might be continued, the fact must not be forgotten that the construction of these railways was duly authorized by the people at large and would not have been built without such endorsation. However, as the government has been compelled to take over the Canadian Northern Railway and to operate the Grand Trunk Pacific under a receivership, the experiment must proceed, and the government is to be congratulated on the effort which is being made through legislation to keep the operation of these railways free from politics.

"It may be necessary for the government to take over the Grand Trunk Railway, but the extension of the principle of government ownership to the Canadian Pacific Railway would prevent competition, and, by overloading the government, would endanger [illegible] the whole undertaking.

Mainly About Railway People Throughout Canada.

J. C. Beckwith, who has been appointed District Engineer, Levis, Edmundston and St. Maurice Divisions, Quebec District, Canadian National Rys., Quebec, Que., was born at Fredericton, N.B., Aug. [illegible], and entered railway service, June, 1898, since when he has been, to 1900, rodman and draftsman Columbia and Western Ry., Boundary District, B.C.; 1900, draftsman, C.P.R., in British Columbia and Ontario; 1901, draftsman, Algoma Central and Hudson Bay Ry. in Western Ontario; 1901 to 1902, draftsman, C.P.R., Winnipeg; 1902 to 1903, leveller and transit man, C.P.R., Winnipeg; 1903, Resident Engineer, C.P.R., Winnipeg; 1903 to 1904, transit man and Resident Engineer, C.P.R., Winnipeg; 1905 to 1907, Assistant Engineer, Construction Department, Eastern Lines, C.P.R., Montreal; 1907 to 1908, Engineer in Charge, New Brunswick Southern Ry., St.. John, N.B.; 1909, Division Engineer, New Canadian Co., Port Davis, Que.; 1909 to 1912, Assistant Engineer, Construction Department, Western Lines, C.P.R., Winnipeg; 1912 to 1913, Assistant Engineer, Construction Department, Eastern Lines, C.P.R., Montreal; 1913 to Apr. 1, 1914, Assistant Engineer, Canadian Government Rys., Moncton, N.B.; Apr. 1, 1914 to May 1, 1919, Engineer of Construction, Canadian Government Rys., Moncton, N.B.

Van Tuyl Boughton, whose appointment as Assistant Superintendent, C.P.R., Chapleau, Ont., was born at Troy, N.Y., Sept. 9, 1888 and entered railway service in July, 1910. From July, 1910 to Oct., 1910, he was rodman, C.P.R., Schreiber, Ont.; July, 1911 to Nov., 1912, transitman, C.P.R., Sudbury, Ont.; Nov., 1912 to June, 1916, Resident Engineer, C.P.R., Chapleau, Ont.; June, 1916 to May, 1917, Resident Engineer, C.P.R., Sudbury, Ont.; May, 1917 to May, 1919, with 11th Engineers (Railway) U.S. Army.

Lady Brown, wife of Sir Geo. McLaren Brown, European General Manager, C.P.R., who has been spending some time in Canada, principally in Hamilton and Montreal, has returned to England.

Sir Geo. Bury, ex-Vice President, C.P.R., assumed his duties as President, Whalen Pulp & Paper Mills Ltd., at Vancouver, June 2.

George Judson Cooper, whose appointment as General Claims Agent, Grand Trunk Western Lines Rd., Detroit, Michigan, was announced in our last issue, was born at Chicago, Ill., Aug. 25, 1892, and entered railway service Sept. 1, 1909, since when he has been, to Oct. 1, 1910, clerk to General Claim Agent, Pere Marquette Rd., Grand Rapids, Mich.; between Oct. 1, 1910 and Nov. 1, 1913, he attended Wisconsin University; Nov. 1, 1913 to Jan. 1, 1914, Claim Agent, Illinois Central Rd., Paducah, Ky.; Jan. 1 to June [illegible], 1914, Claim Agent, same road, Freeport, Ill.; July 1, 1914 to Jan. 1, 1915, Claim Agent, same road, Springfield, Ill.; Jan. 1, 1915 to May 1, 1917, Assistant to General Claim Attorney, Pere Marquette Rd., Grand Rapids, Mich.; May 1, 1917 to July 15, 1918, Assistant General Claim Agent, same road, Detroit, Mich.; July 1, 1918 to Jan. 15, 1919, he held a commission in the U.S. Army; Mar. 1 to May 1, 1919, District Claim Agent, U.S. Railroad Administration, Detroit, Mich.

Emery C. P. Cushing, who has been appointed Purchasing Agent, C.P.R., Calgary, Alta., was born at Ottawa, Ont., Nov. 13, 1886, and entered C.P.R. service Dec. 1, 1902, since when he has been, to Mar. 15, 1907, clerk and stenographer, Passenger Department, Ottawa; Mar. 15, 1907, to Aug. 1,1908, clerk and stenographer, General Passenger Department, Montreal; Aug. 1, 1908, to Aug. 1, 1912, clerk and stenographer, President's office, Montreal; Aug. 1, 1912, to May 1, 1918, chief clerk and secretary to President (Lord Shaughnessy), Montreal; May 1 to Sept. 30, Assistant to General Purchasing Agent, Montreal; Sept. 30, 1918 to May, 1919, Assistant Purchasing Agent, Winnipeg.

Louis Charles Dupuis, whose appointment as Division Engineer, Canadian National Rys., Quebec, Que., was announced in our last issue, was born at St. Roch des Aulnais, L'Islet County, Que., Nov. 8, 1886, and entered railway service, Aug. 20, 1911, since when he has been, to May, 1912, Assistant Engineer, Intercolonial Ry., Moncton, N.B.; May, 1912 to Jan., 1913, Assistant Engineer, I.R.C., Levis, Que.; Jan. to Oct., 1913, Resident Engineer, I.R.C., Levis, Que.; Oct., 1913 to Jan., 1916, Assistant Engineer in charge of double track, St. Romuald to Charing, Que., Canadian Government Rys., Levis, Que.; Jan., 1916 to May, 1919, Assistant Engineer, C.G.R., Levis, Que.

H. C. Martin,
Freight Traffic Manager, Grand Trunk Railway.

Llewellyn E. Edwards, Supervising Engineer, Railways, Bridges and Docks, Works Department, Toronto, has resigned on his appointment as Bridge Engineer, in the Bureau of Public Roads, U.S. Department of Agriculture, Washington, D.C. He was born near Portland, Me., and in 1907, was Structural Engineer, G.T.R., Montreal, and was engaged on the design and construction of the Coteau bridge over the St. Lawrence River, at Valleyfield, Que. He entered the City of Toronto's service in Feb., 1913, and was engaged on general bridge construction, and when the U.S. entered the war, he was appointed a captain in the Engineers Corps, U.S. Army, and was incapacitated from further service by an accident sustained whilst training troops in a southern camp.

Ulmus E. Gillen, who has been appointed General Manager, Toronto Terminals Ry. Co., Toronto, was born at Brooklyn, Mo., Feb. 27, 1867. He entered railway service in 1884, and was, to Apr., 1885, clerk, telegraph operator and relief agent, Chicago, Milwaukee and St. Paul Ry., Canton, S.D.; Apr., 1885 to 1888, telegraph operator, Missouri Pacific Ry., Pacific, Mo.; 1888 to 1892, operator in dispatcher's office, same road, St. Louis, Mo.; 1892 to 1901, dispatcher, and chief dispatcher, same road, St. Louis; 1901 to 1902, Trainmaster, G.T.R. Belleville, Ont.; 1902 to 1904, Assistant Superintendent, same road, Belleville, Ont.; 1904 to 1907, Assistant Superintendent same road, London, Ont.; 1907 to 1912, Superintendent, same road, Montreal; 1913 to Sept. 1, 1917, General Superintendent, Western Lines, same road, Chicago, Ill; Sept. 1, 1917 to June 17, 1919, Vice President in charge of transportation, G.T.R., Montreal, and since Oct., 1918, on leave of absence through illness. He was President of the G.T.R. Maintenance of Way Association for 1916, and in 1917 was President of the General Superintendents' Association of Chicago. He is a member of the American Railway Engineering Association.

Casimir Stanislaus Gzowski, Jr., whose appointment as Special Engineer to Vice President, Operation, Etc., Canadian National Rys., Toronto, was announced in our last issue, was born at Toronto, May 1, 1876, and entered transportation service in April, 1897. While attending Toronto University he was engaged during the summers on survey work, in 1897 being with the C.P.R. on survey and construction on its Crowsnest Branch and subsequently in various positions in charge of location and construction work for the C.P.R. and other roads. In 1905 he became a partner in Macdonell, Gzowski & Co., Vancouver, B.C., and later with a branch in Spokane, Wash., under the name of G. O. Foss & Co., as contractors and engineers, building the C.P.R. Nicola Branch, changes of line on C.P.R. at Rogers Pass, near Nelson, B.C., and on the Esquimalt & Nanaimo Ry., Vancouver Island. The firm also built parts of the Milwaukee extension westerly, Great Northern Ry. changes of lines and parts of branches in Canada and the U.S.; C.P.R. spiral tunnels at Field, B.C., and considerable other railway work in Canada and the U.S., until its dissolution in 1914, after which he did valuation work for the Dominion commission of enquiry into railways and also acted as special engineer for the Canadian Northern Ry. on the government arbitration of its stock valuation.

Mrs. Grant Hall, wife of the Vice President, C.P.R., returned to Montreal, early in June, after spending several weeks with her sister, Mrs. Allen Weagant, in Winnipeg.

George Ham, of the C.P.R. headquarters staff, Montreal, visited Vancouver in June, having accompanied the first party of passengers on the new C.P.R. Trans-Canada Limited train.

E. J. Hilliard, who has been appointed Division Freight Agent, G.T.R., Ottawa, Ont., was born at Montreal, Apr. 14, 1870, and entered G.T.R. service in 1886, since when he has been consecutively, to June, 1904, clerk, Passenger Department; in Chief Accountant's office; stenographer, General Manager's office and Division Freight Agent's office; Contracting Freight Agent, Montreal; Contracting Freight Agent, New York; Travelling Freight Agent, Montreal; chief clerk, Division Freight Agent's office, Montreal; Travelling Freight Agent, Moncton, N.B.; June, 1904 to June, 1919, Commercial Agent, Buffalo, N.Y.

Chas. R. Hosmer, of the C.P.R. directorate, who was in the Royal Victoria Hospital, Montreal, for a number of weeks, during which he had to undergo two operations, was reported June 1 to have recovered sufficiently to leave the hospital, return to his house and take daily motor drives. He left Montreal June 18, with Mrs. Hosmer, to spend some weeks at their summer house at St. Andrews, N.B.

H. Hulatt, Manager of Telegraphs, G.T.R. and Grand Trunk Pacific Ry., Montreal, has been elected second vice chairman, Telegraph and Telephone Division, American Railroad Association, formerly Association of Railway Telegraph Superintendents, for the current year. Last year he was one of the committee of directors.

F. James, foreman of the planing mill, Canadian National Rys., Moncton, N.B., retired from active service, May 31, after 44 years service, and was presented with a gold watch and locket by the employes.

Thomas Kearney, who has been appointed Resident Engineer, Canadian National Rys., Montreal, was born at Donegal, Ireland, July 19, 1887, and was educated at the Royal School, Raphoe, and University College, Galway, Ireland, and graduated from the National University of Ireland, in science, in 1911, and in engineering in 1912. He came to Canada in 1913, and from Apr. 10, to May 1, 1914, was Assistant Engineer, Canadian Northern Quebec Ry., Quebec, Que.; May 1, 1914 to Apr. 1, 1919, Assistant Engineer, C.N.Q.R., Montreal.

H. G. Kelley, President, G.T.R. and Grand Trunk Pacific Ry., has been elected a member of the American Railroad Association's executive committee.

E. R. Lewis, Chief Engineer, Duluth, South Shore and Atlantic Rd., Duluth, Minn., has resigned, to take up railway editorial work.

R. W. Long, who has been appointed Division Freight Agent, G.T.R., Toronto, was born at Appin, Ont., Mar. 20, 1873, and entered G.T.R. service in March, 1889, since when he has been, to Oct., 1896, operator and clerk in Commercial Agent's and Local Freight Agent's offices, Buffalo, N.Y.; Sept., 1901 to May, 1904, Commercial Agent, Buffalo, N.Y.; June, 1904 to July, 1907, Division Freight Agent, Stratford, Ont.; July, 1907 to June, 1919, Division Freight Agent, Hamilton, Ont.

Mrs. Malcolm, widow of Thos. Malcolm, formerly President, International Ry. of New Brunswick, Campbellton, N.B., who has been living at the Ritz Carlton, Montreal, for some time, left for England early in June.

Gordon A. McGuire, who has been appointed Commercial Agent, G.T.R., Buffalo, N.Y., entered G.T.R. service in 1905 and served at Montreal and Toronto, until 1908, when he was transferred to Grand Trunk Pacific Ry. service at Winnipeg, in 1913, being chief clerk to Division Freight Agent, Edmonton, Alta.; 1916, tariff clerk, General Freight office, Winnipeg, and later he was appointed chief clerk to Vice President (Traffic), G.T.R., Montreal, which position he held at the time of his present appointment.

Sir Wm. Mackenzie, ex-President, Canadian Northern Ry., left Toronto, May 14, for England, expecting to return about the end of July.

J. K. McNeillie, Superintendent, Susquehanna Division, Delaware & Hudson Rd., Oneonta, N.Y., formerly General Superintendent, Canadian Government Rys., Moncton, N.B., has been elected a director of the Oneonta Chamber of Commerce, for three years. The Oneonta Star says his election is in recognition of his public spirited interest in all that pertains to the welfare of the town since he became a resident of it.

C. E. McPherson, Assistant Passenger Traffic Manager, C.P.R., Winnipeg, who travelled on the first Trans-Canada Limited train, from Winnipeg to Vancouver, recently, went on to San Francisco on business.

G. W. McVicar, Travelling Auditor, G.T.R., Guelph, Ont., won a McLaughlin motor car in a Great War Veterans' Association's drawing recently.

W. M. Noon, Superintendent, Duluth, South Shore and Atlantic Rd., died at Miami, Fla., recently. He had been in railway service for 52 years, was with the D.S.S. & A.R. for the past 29 years, and was a member of the American Railway, Bridge and Building Association.

H. D. Reid, President, Reid Newfoundland Co., St. John's, Nfld., was married June 5, to Miss M. M. Robert.

J. G. Rutherford, C.M.G., one of the members of the Board of Railway Commissioners for Canada, has been given the degree of Doctor of Veterinary Science, by Toronto University. He has been appointed chairman of a commission of four, to investigate the potentialities of the arctic and subarctic regions of Canada as a grazing country for the development of musk ox and reindeer herds for commercial and national purposes.

Lady Schreiber, widow of the late Sir Collingwood Schreiber, who at the time of his death was General Consulting Engineer for the Dominion Government, has left Ottawa for England to visit her sister, Mrs. Baldwin.

Hon. W. J. Shaughnessy, who has been elected a director of the C.P.R., succeeding Jas. Dunsmuir, resigned, is the only surviving son of Lord Saughnessy, his brother having been killed in the war. He was educated at Laval University, Montreal, and Cambridge, Eng., and practices law in Montreal. He served overseas for three years, leaving Canada as Captain and Adjutant of the 199th Irish Rangers, recruited in Montreal, and was in charge of the arrangements for the Battalion's Irish tour. On the breaking up of the Irish Rangers, he went to France as A.D.C. to Brig.-Gen. Simms, Canadian Representative at British general headquarters, and afterwards was transferred to the Canadian Corps headquarters, as A.D.C. to Lieut.-Gen. Sir Arthur Currie, Corps Commander.

Alex. T. Shortt, Superintendent of Ogden shops, C.P.R., Calgary, Alta., died at the Calgary General Hospital, May 27, aged 46, after a short illness. He had been, at various times, Master Mechanic of the Saskatchewan and Alberta Divisions, and was in C.P.R. service for about 20 years.

A. H. Smith, President, New York Central Rd., has been elected President, Cleveland, Cincinnati, Chicago and St. Louis Rd. Co. and also the Canada Southern Ry., Lake Erie and Western Rd., and other New York Central subsidiaries, vice W. K. Vanderbilt, Jr., resigned.

Lord Mount Stephen, first President C.P.R. Co., who has lived in England for many years, was 90 years of age on June 5.

Mrs. Stitt, widow of Wm. Stitt, who at the time of his death was General Passenger Agent, Eastern Lines, C.P.R., is spending some weeks at Delta, on Lake Manitoba.

Sir Thomas Tait, President Fredericton and Grand Lake Coal and Ry. Co., motored recently from Montreal to St. Andrews, N.B., where he and his family spend the summer at the Algonquin Hotel.

Lady Van Horne and Miss Van Horne left Montreal, June 19, to spend the summer at their house, Covenhoven, St. Andrews, N.B.

Robert James Scott Weatherston, who has been appointed Division Freight Agent, G.T.R., Hamilton, Ont., was born at St. Thomas Ont., Jan. 27, 1878, and entered G.T.R. service July 4, 1893, since when he has been, to Dec. 31, 1901, clerk in Transportation Department, Hamilton, Ont.; Jan. 1 to July 22, 1902, clerk in Traffic Department, Hamilton, Ont.; July 23, 1902, to May 10, 1903, Soliciting Freight Agent, Hamilton, Ont.; May 11, 1903, to June 17, 1906, Soliciting Freight Agent, Toronto; June 18, 1906, to May 31, 1907, Travelling Freight Agent, Ottawa, Ont.; June 1, 1907, to Oct. 31, 1911, chief clerk to Division Freight Agent, Hamilton, Ont.; Nov. 1, 1911, to Jan. 31, 1919, Division Freight Agent, Stratford, Ont.; Jan. 31 to June, 1919, Division Freight Agent, Ottawa, Ont.

J. K. Yorston, who has been appointed Locating Engineer, Western Lines, C.P. R., Winnipeg, entered C.P.R. service 9ug., 1906, and has been, to Jan., 1907, rodman; Jan., 1907 to May, 1908, chainman and topographer; May, 1908 to Dec., 1909, rodman, experiment man, chainman on location and experiment man on construction; Dec., 1909 to Jan., 1913, resident engineer on construction; Jan. to Apr., 1913, transit man on location; Apr., 1913 to Sept., 1915, resident engineer on construction; Sept., 1915 to Dec., 1916, inspector of concrete and experiment man, Rogers Pass tunnel; in Apr., 1917, he was appointed resident engineer, Lethbridge Division, Alberta District, C.P.R., Lethbridge, Alta., which position he held at the time of his present appointment.

Car Demurrage Rules, Influenza Epidemic—The Board of Railway Commissioners issued a circular May 31, referring to its judgment of Nov. 25, 1918, and stating that the special treatment given in respect to influenza conditions would terminate on June 15, but that this, of course, would not in any way affect claims under consideration, or in respect of relief under the judgment which might be filed prior to June 15.

Transportation Appointments Throughout Canada.

[illegible] which is gathered [illegible] from official sources, is compiled [illegible] so as to ensure absolute [illegible]. Anyone who may notice any error [illegible] will confer a favor by advising [illegible].

Canadian Government Merchant Marine Ltd.—R. B. TEAKLE, formerly Manager, Allan Steamship Line, at Boston, Mass., and latterly Manager, France-Canada Line, at Philadelphia, has been appointed Manager, C.G.M.M. Office, 230 St. James St., Montreal, Que.

THOS. TODD, formerly Chief Accountant and Purchasing Agent, Allan Steamship Line, Montreal, and subsequently loaned by the C.P.R. to the Canadian [illegible] Commission, has been appointed Auditor, C.G.M.M. Office, 230 St. James St., Montreal.

Canadian National Rys.—J. C. BECKWITH, heretofore Engineer of Construction, Canadian Government Rys., Moncton, N.B., has been appointed District Engineer, Levis, Edmundston and St. Maurice Division, Canadian National Rys. Office, Quebec, Que.

LIEUT.-COL. F. F. CLARKE, who prior to the war was in Canadian Northern Ry. service, has resumed his duties as Chief Land Surveyor, Canadian National Rys., with jurisdiction over the whole system.

C. M. HAMILTON, of Weyburn, Sask., who has been nominated as the Liberal candidate for the provincial constituency, is reported to have stated that he intended to resign as a director of the Canadian National Rys.

J. J. LEYDON, heretofore city ticket agent, Halifax, N.S., is reported to have been appointed City Passenger Agent there.

W. C. MOIR, formerly in the city ticket office, Halifax, N.S., and latterly in active military service, is reported to have been appointed city ticket agent there, vice J. J. Leydon, promoted.

A. PATRICK, formerly Sleeping and Dining Car Inspector, Western Lines, Canadian Northern Ry., and latterly in the Royal Air Force, has been appointed Agent, Sleeping, Dining and Parlor cars, Canadian National Rys., Quebec, Que., vice Jas. Baird, transferred.

Canadian Pacific Ry.—M. W. BOUCHER, heretofore Locomotive Foreman, Ignace, Ont., has been appointed Locomotive Foreman, Field, B.C.

H. G. BUCHANAN, heretofore City Freight Agent, Edmonton, Alta., has been appointed District Freight Agent there, and his former position has been abolished.

E. C. P. CUSHING, heretofore Assistant Purchasing Agent, Winnipeg, has been appointed Purchasing Agent, Calgary, Alta., vice B. W. Roberts, transferred to Vancouver, B.C.

H. G. DRING, formerly General Passenger Agent, has been appointed European Passenger Manager, C.P.R., and not European Passenger Manager, Canadian Pacific Ocean Services, Ltd., as stated in Canadian Railway and Marine World for [illegible]. His initials were erroneously stated as H. D. Office, London, England.

[illegible], heretofore Resident Engineer, [illegible] Division, Manitoba District, has been appointed Division Engineer, Saskatoon Division, Saskatchewan District, vice E. A. Kelly, [illegible]. Office, Saskatoon.

[illegible] heretofore Assistant [illegible]

ed Assistant Superintendent, Bruce Division, Ontario District, vice W. J. Stinson, transferred. Office, West Toronto, Ont.

J. MILES, heretofore Assistant Superintendent, Toronto Terminals Division, West Toronto, has been appointed Assistant Superintendent, Trenton Division, Ontario District. Office, Trenton, Ont.

COL. C. W. P. RAMSEY, C.M.G., formerly Engineer of Construction, Eastern Lines, who returned from overseas some little time ago, and re-entered the C.P.R. service, is for the summer attending to the work of superintendents at various points, who are given their usual leave of absence.

LIEUT. COL. BLAIR RIPLEY, C.B.E., D.S.O., formerly Engineer of Grade Separation, C.P.R., Toronto, having returned from overseas, has re-entered the company's service and has been assigned special duties for the present.

F. E. Gillen,
General Manager, Toronto Terminal Ry. Co.

B. W. ROBERTS, heretofore Purchasing Agent, Calgary, Alta., has been appointed Purchasing Agent, Vancouver, B.C.

HON. W. J. SHAUGHNESSY, son of Lord Shaughnessy, has been elected a director, succeeding Jas. Dunsmuir, of Victoria, resigned. The vacancy on the board caused by the death of W. D. Matthews, of Toronto, has not been filled.

L. J. SKELLY, heretofore Assistant Superintendent, Montreal Terminals Division, Quebec District, has been appointed Traffic Supervisor, Toronto Terminals Division, Ontario District. Office, West Toronto, Ont.

W. J. STINSON, has been appointed Assistant Superintendent, Toronto Terminals Division, West Toronto, Ont., vice J. Miles, transferred.

J. K. YORSTON, heretofore Resident Engineer, Lethbridge Division, Alberta District, Lethbridge, Alta., has been appointed Locating Engineer, Western Lines. Office, Winnipeg.

Canadian Pacific Ocean Services, Ltd., E. C. BROWN, has been appointed Purchasing Agent, Montreal.

H. G. DRING has not been appointed European Passenger Manager, C.P.O.S., London, as stated in Canadian Railway and Marine World for June, his appointment being that of European Passenger Manager, C.P.R. His initials were erroneously stated as H. D.

CAPT. THOMAS FISHER, R.N., has been appointed General Manager, London, Eng.

J. A. MARTIN, heretofore Assistant Manager, has been appointed Manager, Liverpool, Eng.

A. S. MAYNARD, heretofore Commissary Agent, has been appointed General Purchasing Agent, Montreal.

E. T. STEBBING, heretofore Agent, New York, has been appointed Passenger Manager for Great Britain and the European continent, vice H. S. Carmichael, resigned. Office, Liverpool, Eng.

WILLIAM WAINWRIGHT, formerly with the Allan Line Steamship Co., and latterly with the British Ministry of Shipping (Canada), has been appointed Assistant to the Chairman, C.P.O.S. Ltd. Office, Montreal.

Caraquet & Gulf Shore Ry.—F. V. BURTON, not F. B. Burton, as stated in Canadian Railway and Marine World for May, Superintendent, Bathurst, N.B., is now in direct charge of this line, consequent on the death of W. B. Cronk, Vice President.

S. G. WOODWARD, formerly Roadmaster, British Chemical Co., and Assistant Roadmaster, Central Ontario Ry., Trenton, Ont., has been appointed Roadmaster, C. & G.S. Ry. Office, Bathurst, N.B.

La Cie. Canadienne Transatlantique Ltee., Canada Steamship Lines., Ltd., General Agents—DUNCAN D'E. COOPER, formerly Agent, Lehigh Valley Rd., Toronto, has been appointed Agent for Ontario for La Compagnie Canadienne Transatlantique, in charge of export and import traffic. Office, Foy Bldg., Front St. West, Toronto.

Grand Trunk Ry.—I. N. CLARK, heretofore Travelling Car Inspector, Eastern Lines, Montreal, has been appointed Master Car Builder, Ontario Lines, and his former position has been abolished. Office, London, Ont.

F. FOUSE, heretofore Travelling Car Inspector, Ontario Lines, London, Ont., has been appointed Master Car Builder, London shops, and his former position has been abolished. Office, London, Ont.

E. J. HILLIARD, heretofore Commercial Agent, Buffalo, N.Y., has been appointed Division Freight Agent, Ottawa, vice R. J. S. Weatherston, transferred.

R. W. LONG, heretofore Division Freight Agent, Hamilton, Ont., has been appointed Division Freight Agent, Toronto, vice L. Macdonald, promoted.

J. HENDRY, heretofore Assistant Master Car Builder, Montreal, has been appointed Master Car Builder, Eastern Lines, and his former position has been abolished. Office, Montreal.

W. J. HYMAN, Chief Draftsman, Car Department, has resigned, and has been appointed Sales Engineer, International Equipment Co., Montreal.

G. A. McGUIRE has been appointed Commercial Agent, Buffalo, N.Y., vice E. J. Hilliard, promoted.

JOHN McMURTY, has been appointed

Road Foreman of Locomotives, Hamilton, Ont., vice G. Cooper, promoted.

D. C. MESSEROLL, heretofore Lubricating and Air Brake Inspector, Montreal, has been appointed General Travelling Car Inspector, and his former position has been abolished. Office, Montreal.

N. P. NORTH, heretofore Trainmaster, Districts 2 and 3, Montreal Division, has been appointed Trainmaster, Districts 6 and 7, Montreal Division, vice H. M. Gain, transferred. Office, Belleville, Ont.

W. A. PITT, heretofore Assistant Master Car Builder, London, Ont., has been appointed Master Car Builder, Montreal shops, and his former position has been abolished. Office, Montreal.

R. J. S. WEATHERSTON, heretofore Division Freight Agent, Ottawa, Ont., has been appointed Division Freight Agent, Hamilton, Ont., vice R. W. Long.

Grand Trunk Pacific Ry.—A. C. LIPSETT, recently in active service overseas, is reported to have been appointed acting City Passenger and Ticket Agent, Calgary, Alta., vice R. Merritt, who has been granted extended leave of absence on account of illness.

Toronto Terminals Ry. Co.—U. E. GILLEN, heretofore Vice President in charge of transportation, G.T.R., Montreal, has been appointed General Manager, Toronto Terminals Ry. Co., vice J. W. Leonard, deceased. Office, Toronto.

J. M. ROSEVEAR, General Auditor, G.T.R., Montreal, has also been appointed Auditor, T.T.R. Co., vice W. H. Ardley, retired. Office, Montreal.

President Beatty, of the C.P.R., on Government Ownership, Etc.

E. W. Beatty, K.C., President C.P.R., during his trip from Montreal to the Pacific coast and return, in the latter part of May and early in June, addressed a number of meetings, including the follow: Associated Boards of Trade of British Columbia, at Nelson; Canadian Club, at Victoria; Board of Trade and Canadian Club, at Vancouver; Canadian and Rotary Clubs at Calgary; business men, at Edmonton; Canadian Club, at Fort William.

Following is a complete report of Mr. Beatty's remarks:—"I feel that I need make no apology for speaking very briefly on a matter which is engrossing the attention of the most serious thinking Canadians, and that is, what is to be the ultimate end of our railways and under what auspices or method of administration are they to be managed. The possession by the Canadian Pacific Ry. Co. of a system involving 13,770 miles in Canada, of which 8,750 miles are west of the Great Lakes, gives in itself a reason why its officers should have some knowledge and some views on the subject, and if they are of any value, those that have an equal voice in the final determination of the question are certainly entitled to the benefit of them.

"I have an additional reason for mentioning this subject, in that a great deal of misapprehension seems to exist in some quarters as to just what the problem is. We have private ownership of some railways and we have public ownership of others, both existing in the country now. The fact that the country has been compelled, through the financial failure of some systems, to take them over, in order to prevent them from falling into utter desuetude is one thing, but that it is quite a different problem from the question of a permanent policy of government owned and government managed railways. I do not know that the Government could have done anything else than it did do, but I do feel that neither the Government nor the people of this country are yet in a position to determine finally what the future of all these systems must be.

"I think it is unfortunate that fuller discussion of this subject has not obtained in Canada up to now. It is true it occupies certain space in the newspapers, and has been discussed in parliament, but always with the unsatisfactory result that the advocates of the different methods of administration are considered prejudiced. If a public man speaks, we shrug our shoulders, and say it is politics; if a railway man speaks, he is said to be prejudiced by his railway association. Not all the men who go to Ottawa are governed absolutely and exclusively by political considerations, and the railway man can still be a railway man and be a good citizen of Canada, with an honest desire to see the transportation future of his country assured.

"Government ownership in theory has much to recommend it. It has been said by a very able member of the Government that the advisability of its increases as you approach a state of monopoly, and that is probably true, but it has not been determined in any satisfactory way up to date, whether Government management of our systems is feasible or even possible. Until it is determined, I should conclude it would be well for the government and the people to withhold their final judgment. Among the advocates of this system are many men who are sincerely and honestly convinced that in the last analysis it will be for the benefit of the people of this country, and that is the only angle from which the question can be viewed. It is unfortunate however, that most of these large enterprises, and the wish for success is father to the thought, that success will result. We have recently had the benefit of the results of similar experiments in Great Britain and the Uuited States, and while I am quite prepared to admit that the abnormal conditions under which the systems had to be operated during the war, make the lessons to be drawn from this method of administration not entirely conclusive, I am strongly of the view that there is nothing in these results which gives confidence or justifies the hope that we would avoid the disaster they have experienced, and that the difficulties which at least, contributed to their failure would be absent from the administration of Canadian railways under like auspices.

"You will recall that the Uuited States systems broke down when put to the test. They broke down physically and financially. Both could, I think, have been avoided, or at least minimized, had a little broader view of the needs of U.S. railways been taken by U.S. tribunals in the five years prior to the entry of the U.S. into the war. What was subsequently done, was done in an attempt to meet a highly emergent situation and with an intent that the cost, whatever it might be, of mistake or should be borne in the interest of the principles for which the allied nations were contending in this war. The result is described as a debacle, the deficits have been enormous, and the efficiency and character of the service lessened to an alarming degree. The U.S. people were, however, fortunate their experience was crowded into a comparatively short time, and they were enabled to learn the lesson it taught without protracted experiments.

"As a result of this experience and that which they had through the operation of cables, telegraphs and telephones, I think it may be safely said that the last vestige of desire for government operation of these utilities has departed from the majority of the U.S. people. In fact, those actually entrusted by the government with the administration of the properties have admitted the unwisdom of the continuance of the system. The Posmaster-General has agreed to the return of the cables and the telegraph lines, and the President of the U.S. has directed the return of the railways. The Director-General of Railroads, Mr. Hines, who has been connected with the U.S. Railroad Administration from the beginning, first as Assistant Director-General and latterly as Director-General, expresses his views as follows: "I want to tell you that in my judgment, based on a very careful sudy of this subject since the Federal Control began, the best interests of the country will be promoted, not through permanent government operation, but through the return of the railways to private management. I believe the American public wants competition in service, and private initiative is, I think, of the utmost importance in order to get satisfactory public service. Mr. E. N. Hurley, Chairman of the U.S. Shipping Board, states that it is his belief that combinations between government and business are almost as dangerous as combinations between church and state. The results in the U.S. will be available to this country and the ultimate solution adopted there will be of use to us in determining what our policy will be, because the evils of government administration if present in one country will be difficult to avoid in the other.

"It may be said that my own views are prejudiced, and they are to the extent that they are the result of 18 years of intimate association with the workings of one railway company and an appreciation from the inside of what factors contributed to its efficiency and success. It is a long and arduous work to hammer together an efficient organization which must be so widespread in its activities and so widely separated as to locality as the organization of a transcontinental railway. In the case of the C.P.R., it has been in existence for almost [illegible] years, and the organization has been built up painfully and slowly. It has now reached an efficiency in all ranks, which it will be easier to maintain, but it could not be developed, nor can it be maintained without the enterprise, resourcefulness, loyalty, initiative and esprit of the officers and men of the company. There is something which gives rise to this spirit which comes from within the organization itself, and I would need be assured not only that independent non-political administration is possible, but that it would provoke this spirit, before I would cast a vote for a permanent policy of government ownership and operation. When I speak of government ownership and operation. I do so because [illegible] as the latter is the natural consequence of the establishment of the former. It is not possible, in my opinion, to divorce the responsibility for operation from those upon whom rests the responsibilities for the results. In theory, it may seem reasonable, but in practice I am quite convinced it will be found impossible to persuade those who vote the money for these enterprises to exclude themselves entirely from the administration of the properties for which they supply the money.

"In the determination of this question, I know of no consideration less important than that of political expediency. It is particularly a question of national economics, and what system will give the best and cheapest service to the people of this country. The crux of the whole thing lies in this, that is, the ability of governments to carry on enterprises such as this with the same competency and efficiency as private owners. I am not attempting to persuade you to my views; they are not unalterable, but I have not yet found anyone who could adduce evidence of the success of a government operated system in former days, or in other countries, where similar conditions prevail, and before we adopt a similar policy which will saddle us with the principles of public ownership and operation of our systems, we should, I think, be very sure of our ground. The question cannot be determined in accordance with the wishes and views of financiers, stock brokers, politicians, or any one set of men; it must be determined on the one ground by balancing its advantages with its disadvantages and considering which is in the best interests of Canada.

"In order to reach a decision, the most careful consideration and analysis of results here and in other countries is necessary. With knowledge and experience, we can determine it, without it, we will add to our railway mistakes. That we have made serious blunders is evident, but we are all responsible. We built railways in wrong places, and at wrong times. But these mistakes, serious as their consequences have been, would be minor compared to the mistake if we adopted a wrong principle for their administration, and add the continuing and pyramiding losses, which would result from extending these wrong principles to a largely extended system.

"I am a great believer in this country and I believe that our difficulties, economically and commercially speaking, will be solved. Some of these difficulties appear serious, and they are, and in expressing hope and confidence. I do not wish to minimize the danger of the situation. I am convinced, however, that the difficulties are not insuperable, nor should they be entirely unexpected. It is the most natural thing, and quite in accordance with the precedent of history, that following such a terrible four years world eruption, there should now arise, both nationally and individually, conditions which it will take extraordinary [illegible] to meet. Last summer the railways of the country were threatened with very serious labor troubles; wage adjustments were made and rates were raised, but the individual difficulties due to unrest did not thereby disappear. The railways, in conjunction with the government and the labor unions, adopted a course quite without precedent in the history of Canada. Their heads sat round a table, discussed the best methods to adopt, and in the end constituted what is known as Railway Board of Adjustment No. 1, composed of six representatives of the labor unions and six railway executives. The board was empowered to adjust and make binding upon the parties concerned all disputes arising between railway employes and the railway companies. In the event of failure to agree, there was a provision for calling in an outside and independent referee, who would give the casting vote. Whether or not it was because the number this gentleman would bear was no. 13, I cannot say, but 32 main disputes, in some cases involving half a dozen minor differences, each one of which might have precipitated a strike, have been determined by this board, and in no case has there been an absence of agreement, and in no case have either the executives or the men complained that substantial justice was not done. Now the reason for the extraordinary success of the tribunal, which was formed to exist during the period of the war only, but which I hope will continue long after peace has been declared, is this—it was composed of men determined to see that right was done; men who respected their colleagues on the board and themselves; men who were actuated by the spirit of adjustment. In no case has the board ever forgotten its judicial attitude, nor has there been any evidence of feeling on either side.

"It is not for me to suggest what measures would be appropriate for industries, but I can assure you that the workings of the Canadian Board of Adjustment No. 1 can be looked to with great satisfaction, and I should think, with some advantage by all those who have to deal with the existing labor problems. You are all aware of the high scale of wages now existing in this country and of the prevailing unrest. As representing a company whose operating expenses increased by $34,000,000 in the short period of two years, I have had some experience of the manner in which these rapidly increasing costs affect large enterprises. We are all disposed to attribute these things to the high cost of living, but few, if any, of us know what is responsible for it, or what the ingredients in it are. It has recently been announced by the Minister of Labor that the government has quietly made investigations and will be able shortly to make an announcement of the results of them, and undoubtedly that is the first step to be taken, because if these costs are improper costs, we should know where the unfairness rests; if they are otherwise, we must take means to ensure our ability to meet these higher standards of living. Here again, it is the actual facts, which will enable the people to decide what should be done and whether our highly increased wages are due to reasons which could be avoided, or whether they are inevitable.

"It has been announced that conventions are to be held in the coming summer for the purpose of developing the natural resources of the western provinces, and the establishment of industries there in order that they may be more self contained. This is as it should be. We need immigrants; principally of the agricultural class, and we need to know and interest others in the local possibilities of Western Canada. Most of us believe that they are almost limitless, but we must interest capital in order that these resources can be developed and industries maintained in the development of the whole country."

Freight and Passenger Traffic Notes.

The Canadian National Rys. are reported to have bought the old Sun Life Bldg., James St. North, Hamilton, Ont., for an up-town office.

The C.P.R. is reported to be arranging for the establishment of a tourist route from Vancouver, by water, around the west coast of Vancouver Island, during the summer, the round trip to last a week.

A Quebec press report of June 12 stated that the putting on a daily passenger train service on the Quebec and Saguenay Ry., between St. Joachim, and Murray Bay, Que., for July, Aug. and Sept., was being discussed.

The Canadian National Railways, District Passenger Agent's office, and city ticket office, heretofore located in the Transportation Building, 120 St. James St.., Montreal, were removed June 23 to the Canadian National Rys. Bldg., 226-230 St. James St.

The Vancouver Board of Trade, the Canadian Manufacturers' Association's British Columbia branch and other allied trading bodies, are reported to have arranged for establishing a freight traffic bureau for the province with headquarters at Vancouver.

The Canadian National Rys. advised the Edmonton, Alta., Board of Trade, recently, that it was impossible to put on a freight service over the 44 miles of the line from Oliver towards St. Paul de Metis, on which track was laid, on account of it not being ballasted.

Freight traffic over the Quebec bridge for the week ended June 15, was, according to a press report, 335 loaded cars from the bridge station to Chaudiere Jct.., and 252 from Chaudiere Jct. to the bridge station, a total of 587, against 618 for the corresponding week of 1918.

The car ferry steamship Prince Edward Island, operating between Cape Tormentine, N.B., and Borden, P.E.I., is making two trips a day, thus giving a double daily service for passengers, mail and freight. The 6.15 a.m. train out of Charlottetown, connects with the Ocean Limited train, and the 12.50 p.m. train out of Charlottetown connects with the maritime express, going west; while passengers on these trains going east change at Sackville, N.B., to trains connecting with the ferry. Passengers arriving in Prince Edward Island on the ferry's afternoon trip can get through to Tiquist, and those arriving in the evening ferry can get to Summerside.

Mail from Edmonton to McMurray, Alta., heretofore carried via Athabasca Landing by rail, thence by motor boat to House River, and then by portage to destination, is now being carried by rail to Lac la Biche on the Alberta and Great Waterways Ry., thence by a gasoline "speeder" to the end of track, for the remaining eight miles the mail is carried to wagon to the Clearwater River, and thence by launch to destination. The mail is now delivered twice a month. A press report states that the mail contractor is having a motor car fitted to run on the Edmonton, Dunvegan and British Columbia Ry., with a view of making weekly round trips.

The British Columbia Government issued an order in council recently, granting running rights over the Victoria and Sidney Ry., to the Canadian National Rys. The operation of the V. and S. Ry.

was abandoned by the Great Northern Ry., and the company's affairs are in a receiver's hands. A conference is reported to have taken place at Vancouver recently between A. T. Goward, Local Manager of the British Columbia Electric Ry. at Victoria, and the liquidator of the V. and S. Ry., with a view of the B.C.E.R. taking over the section of the line from Victoria to the nearest point of contact with its own line, thus making a loop line.

A. P. Barnhill, K.C., a director of the Canadian National Rys., is reported to have said in Montreal, June 20, that as soon as the St. John and Quebec Ry. is completed from Gagetown to the C.P.R. to Westfield, N.B., and the Fredericton-McGivney Jct. improvements on the old Canada Eastern Ry. are done, it will be possible to run through trains between St. John and Montreal. The trains will start from the west side of the harbor in St. John, and reach Westfield over the C.P.R., running rights having been arrange dfor, thence over the St. John and Quebec Ry. to Fredericton, thence over the I.R.C. to McGivney Jct. and thence by the National Transcontinental Ry. to Levis, and from Levis by the Intercolonial to Montreal. It is expected that the new route will be opened up in September. The distance from St. John to Montreal, by the proposed route will be 660 miles, and trains leaving St. John at 3 p.m., will, it is said, be timed to reach Montreal at 8 o'clock on the following morning.

Canadian Transportation Men, Engineers, Etc. in the War.

Canadian Railway and Marine World readers who are returning to civil life from military, naval or other government service are strongly urged to send in items about themselves and about their friends who are in a similar situation. Items should give former position, describe character of military or other service and state the civil work to which the transportation official, etc., in question, is going. In the case of those with service abroad, information regarding the activities of the units to which they were assigned is especially desired.

Troop Transportation Expenditures—According to Canadian National Rys. statistics, the total number of troops moved to camps and seaports east of Winnipeg, between Aug., 1914 and May 31, 1919, was 1,108,081. The estimated cost is based on a calculation of from $10 to $15 a man. Between Aug., 1914 and Nov. 30, 1918, the actual war period, the C.N.R. handled 462,240 men by special trains and 296,585 by regular trains all outward bound. The number of special trains required was 1,191 and the special train mileage was 808,359. From the commencement of demobilization, Dec. 1, 1918 to May 31, 1919, 153,609 men were handled by special trains at Halifax, N.S., westerly, and 17,680 by regular trains. For home coming troops to the latter date, 353 special trains were used with a total mileage of 303,515.

Tanks loaded on railway cars, on British Western Front, showing bundles of wood carried, to dump in deep trenches, to allow tanks to cross. Photograph loaned by C.P.R.

PERSONAL NOTES.

Lieut.-Col. Blair Ripley, D.S.O., formerly Engineer of Grade Separation, C.P.R., Toronto, who returned to Canada recently with the 1st Battalion, Canadian Railway Troops, of which he was O.C., has been made a Commander of the Order of the British Empire.

Lieut.-Col. H. F. H. Hertzberg, D.S.O., M.C., who has returned to Canada after considerable service in France, is a son of A. L. Hertzberg, Engineer, Ontario District, C.P.R., Toronto. He went overseas as a lieutenant with the first contingent and in April, 1915, was wounded, while serving with the 1st Field Co. of the 3rd Brigade. In June, 1915, he was awarded the Military Cross for conspicuous gallantry and devotion to duty, and in Jan., 1918, received the Distinguished Service Order. In addition to these decorations he was mentioned in dispatches three times.

Capt. Howard Reid, recently of the Royal Air Force, who is acting as official starter of various flying machines in Transatlantic flights, making Newfoundland their starting point, is a son of Sir Wm. Reid, formerly President, Reid Newfoundland Co. He was one of twelve British airmen to start a flight from Mudros to Bucharest in 1916, across the Bulgarian and Turkish battle lines and thence northward to Russia and to England by way of Archangel. Only two of those who started finished the flight.

Lieut. W. H. Roberts, who has resumed duties in the C.P.R. ticket office at Edmonton, Alta., enlisted in the old 9th Battalion and served in France with a machine gun brigade. He was given a commission in Aug., 1917, and was awarded the Military Cross, for conspicuous gallantry at Amiens, in 1918.

Lieut. E. E. Soper, son of W. Y. Soper, Vice President, Ottawa Electric Ry., returned to Canada, June 5, after 3 years service overseas. He left Canada in 1916 with the Canadian Army Service Corps and on arrival in England was transferred to the Forestry Corps, and went to France as Quartermaster of No. 48 Company, which operated chiefly in Southern France. He returned to England in February. His wife returned to Canada with him, she having been engaged in war work as deputy administrator of the women's section of the Royal Air Force, at Bushey Park, near London.

C.P.R. Boys' Club, Montreal—In connection with its welfare work, the C.P.R. has organized a club for the boys employed in the offices at the Windsor St. station, Montreal. The membership at it recent organization consisted of about 150 employes under 18 years of age. The club engages in various atheltic and other amusements, and the members take up various branches of study connected with their work, 50% of the cost of instruction being borne by the company.

Canadian National Rys. Headquarters—A report that the C.N.R. headquarters were to be removed from Toronto to Montreal having been in circulation recently, the mayor of Toronto telegraphed Sir Robert Borden, protesting, and received the following reply:—"Your telegram regarding reported removal Canadian Government Railway headquarters from Toronto to Montreal. Government has no intention of any such proposal, nor has it been considered."

The C.P.R. Social Club was organized recently at Fort William, Ont. The officers elected are: Honorary President, A. F. Hawkins, Superintendent; Honorary Vice Presidents, the heads of all departments at the terminal; President, J. D. Callahen, Yard Office; Vice President, J. C. Watson, General Office; Secretary, Insp. M. A. Woodworth, Superintendent's Office; Treasurer, Insp. J. Rowe, Port Arthur, freight department. There is an executive committee representative of the employes of the different departments. The club aims at the promotion of more intimate intercourse among the staff of the different departments, and the fostering and encouraging of activities in all branches of sport. It is intended to equip club rooms for the members, the company having granted the use of rooms on the second floor of the freight and grain office for this purpose. We are advised that over 300 of the company's employes have already joined the club.

Orders by Board of Railway Commissioners for Canada.

Beginning with June, 1904, Canadian Railway and Marine World has published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed the paper have a continuous record of the Board's proceedings. No other paper has done this.

General order 261. May 13.—Authorizing Bell Telephone Co.'s increased tolls for long distance service and on all toll rates and charges for exchange telephone service and charges incidental thereto; [illegible] service connection charge, so-called, to be disallowed, increased tolls for exchange service already installed to be effective June 1.

28,318. May 14.—Authorizing Grand Trunk Pacific Branch Lines Co. to build spur for Rocky [illegible] Collieries Ltd., in northwest ¼, Sec. 35, Tp. 47, Range 20, west 5th meridian, Alta.

28,319. May 14.—Approving plan of work to be done on Barons drain, under C.P.R., of South Dorchester Tp., Ont.

28,320. May 15.—Authorizing Canadian National Rys. to cross highways on its Melfort-Humboldt Branch between Sec. 4, Tp. 38, Range 22, and Sec. 33, Tp. 37, Range 22, between Secs. 28 and 21, Tp. 37, Range 22, and between Secs. 21 and 20, Tp. 37, Range 22, west 2nd meridian, Sask.

28,321. May 1[illegible].—Authorizing Esquimalt and Nanaimo Ry. to build spur for Victoria Lumber & Mfg. Co., Nanaimo, B.C.

28,322. May 12.—Approving G.T.R. plan of revised location of station at St. Agapit, Que.

28,323. May 16.—Relieving Canadian National Ry. from providing further protection at the crossing of Dawson Road, Man.

28,324 and 28,325. **May 15.—Authorizing Canadian Northern Ontario Ry. to rebuild bridges** over Mill Creek, Ont., mileage 59.25, from Montreal, and Squiers Creek, mileage 49.76, from Picton, Ont.

28,326. **May 16.—Authorizing Canadian Na**tional Rys. to cross highway between Secs. 23 and 26, Tp. 38, Range 22, west 2nd meridian, Sask.

28,327 and 28,328. May 16.—Authorizing Canadian Northern Ontario Ry. to rebuild bridges over Coal Creek, mileage 38.13, and over Squiers Creek, mileage 41.35, from Picton, Ont.

28,329. May 16.—Authorizing G.T.R. to operate over crossing at Junction Cut, Ont., without first stopping.

28,330. May 14.—Approving agreement, Apr. 25, between the Bell Telephone Co. and North Brock Telephone Co. in Ontario County, Ont.

28,331. **May 20.—Authorizing Canadian North**ern Ontario Ry. to rebuild bridge over Black River, mileage 86.90, from Toronto.

28,332. May 21.—Relieving Montreal Tramways Co. and G.T.R. from protection at crossing of G.T.R. along the front of the city docks, and Dominion Coal Co.'s spur.

28,333. May 19.—Authorizing Niagara, St. **Catharines and Toronto Ry. to build spur for A.** Martin & Son, Thorold, Ont.

28,334. May 1[illegible].—Authorizing Grand Trunk Pacific Ry. to build spur for Penny Labor Co. at mileage [illegible], British Columbia.

28,335. May 20.—Authorizing Canadian National Rys. to cross highway between Secs. 22 and [illegible], Tp. [illegible], Range 22, on its Melfort-Humbolt Branch, Sask.

28,336. May [illegible].—Approving G.T.R. clearances [illegible], Brockville, Ont.

28,337. May [illegible].—Authorizing Canadian Northern Quebec Ry. to rebuild bridge over River [illegible] from Joliette, Que.

28,338. May [illegible].—Authorizing Canadian National Rys. to cross highway between Secs. 10 and [illegible], Tp. [illegible], Range 22, on its Melfort-Humboldt Branch, Sask.

28,339. May [illegible].—Relieving Quebec, Montreal & Southern Ry. until Oct. 1, from complying with order 27,744, Oct. 1, 1918, re mixed trains service between Noyan Jct. and Lacolle Jct., Que.

28,340. May 1[illegible].—Ordering Canadian National Rys. to stop train 7 at Richmond, Ont., on Saturday nights.

28,341. **May 20.—Authorizing Hydro Electric** Power Commission of Ontario to build spur across **Niagara, St. Catharines and Toronto Ry. on lots** [illegible] and 66, Stamford Tp., Ont.

28,342. May 20.—Authorizing C.P.R. to open [illegible] second main track between Fair[illegible] and West St. John, N.B., from mileage 0.07 [illegible].

28,343. May 20.—Authorizing Canadian Northern Ontario Ry. to rebuild bridge over Chenail [illegible], Hawkesbury, Ont.

28,344. May [illegible].—Authorizing Canadian National Rys. to rebuild **bridge over Sinclair St.,** [illegible], Ont.

28,345. May 20.—Authorizing Canadian National Rys. to cross highway between Secs. [illegible], Range 22, on its Melfort-Humboldt Branch, Sask.

28,346. May 2[illegible].—Approving G.T.R. to re[illegible] River near St. [illegible]

28,347. May [illegible].—Amending order 28,291, Apr. [illegible] Montreal [illegible] July

17, 1918, suspending C.P.R. and G.T.R. tariffs cancelling special commodity rates on glass bottles in carloads, Hamilton, Toronto and Montreal, and authorizing them to cancel special commodity rates on bottles in carloads from Wallaceburg made effective in pursuance of judgment of July 30, 1904, to take effect simultaneously.

28,349. May 2.—Authorizing Great Northern Ry. to discontinue train service between Grand Forks and Phoenix on Vancouver, Victoria & Eastern Ry. & Nav. Co., on condition that satisfactory freight service be furnished.

28,350. May 19.—Approving agreement, May 9, between Bell Telephone Co. and Welland County Telephone Co., Welland County, Ont.

28,351. May 21. Ordering that crossing of Powell St., Vancouver, B.C., by the Vancouver, Victoria & Eastern Ry. & Nav. Co. (G.N.R.), to take up tracks to stop at northern boundary, Dominion Biscuit Co. property.; Canadian National Rys. to extend the V.V. & E.R., over which it has running rights to south of Hastings St., northerly and easterly, crossing Powell St. and C.P.R. main line.

28,352 and 28,353. May 26.—Approving Bell Telephone's agreements with Ivy Thornton Telephone Co., Simcoe County, Ont., May 26, and Durham Road Telephone Co., Bruce County, Ont., May 8.

28,354. May 26.—Authorizing Canadian Northern Ontario Ry. to rebuild bridge over Talbot River, Mara and Thorah Tps., Ont., mileage 67 from Toronto.

28,356. May 26.—Authorizing Canadian Northern Ontario Ry. to rebuild bridge over Laronde River, Beaucage Tp., Ont., mileage 74.7 from Brent.

28,355. May 28.—Suspending pending hearing at Ottawa, June 10, tariffs of C.P.R., G.T.R., Canadian National Rys., New York Central Rd., Quebec, Montreal & Southern Ry., Napierville Jct. Ry. and Montreal & Southern Counties Ry., increasing, effective June 1, rates on milk in passenger or mixed train service.

28,357. May 23.—Amending order 28,147, Mar. 11, re maintenance of signalmen at G.T.R. crossing at Southwold, Ont., and Michigan Central Rd. at Appin, Ont.

28,358. May 27. — Authorizing Saskatchewan Government to build highway crossing over Canadian National Rys. on dead line between Secs. 6 and 7, east to Hague Ferry, Sask.

28,359 to 28,361. May 26.—Authorizing Canadian Northern Ontario Ry. to divert Burnt Creek, Neelon Tp., Ont., mileage 107.80 from Parry Sound, and to rebuild bridge over same; to rebuild bridge over South Nation River, North Plantagenet Tp., Ont., mileage 78.26 from Montreal; and to rebuild bridge over Farm Road, Whitechurch Tp., Ont., mileage 34.50 from Toronto.

28,362. May 26.—Ordering C.P.R. and Ottawa & New York Ry. to change timetables in connection with trains at Finch, Ont., and the connection there.

28,363. May 27.—Authorizing Grand Trunk Pacific Ry. to divert road allowance in northeast ¼, Sec. 2, Tp. 24, Range 9, in Stanley rural municipality, no. 215, Sask.

28,364. May 27.—Authorizing Canadian Northern Ontario Ry. to rebuild crossing over arm of Sydenham Lake, mileage 166.10 from Todmorden, Ont.

28,365. May 26.—Authorizing C.P.R. to build spur to Dryden ballast pit, Zealand Tp., Ont.

28,366. May 27.—Ordering G.T.R. to build farm crossing for J. Demers, St. Agapit Parish, Que.

28,367. May 26.—Rescinding order 16,128, Mar. 15, 1912, in so far as it exempts C.P.R. from erecting fences along right of way between mileage 42.3 and 42.5, and 45.5 and 45.8, north side, such fencing to be done by June 30, 1919.

28,368. May 21.—Approving Canadian Northern Western Ry. location through Tps. 14 and 18, Ranges 6 and 9, west 4th meridian, Alta., from mileage 92.40 to 128.68.

28,369. May 21. Dismissing application for order directing Lake Erie and Western Ry. (C.P.R.) to provide access to M. F. Muir's property **on the river front at Brantford, Ont., by crossing beneath tracks.**

28,370. May 30.—Authorizing Niagara, St. Catharines & Toronto Ry. to build spur for Clemens & Miller, Welland, Ont.

28,371. May 29. Authorizing Canadian Northern **Quebec Ry. to build spur for H. Walsh & Son, St. Andrews, Que.**

28,372 to 28,374. May 29.—Authorizing Canadian Northern Saskatchewan Ry. to build across three highways in Saskatchewan.

28,375. May 29.—Authorizing C.P.R. to build spur for Canadian Co-operated Wool Growers, Ltd., in York Tp., Ont.

28,376. May 31. Authorizing Canadian National Rys. to connect with Grand Trunk Pacific Branch Lines Co.'s line at Moose Jaw, Sask.

28,377. May 30. Authorizing Canadian Northern Western Ry. to cross highway between Sec. 3 and 4, Tp. 17, Range 8, west 4th meridian, Alta.

28,378 to 28,382. May 29. Authorizing Canadian Northern Saskatchewan Ry. to build across five highways in Saskatchewan.

28,383. June 3. Authorizing Canadian National Rys. to operate over portion of Victoria & **Sidney Ry. (G.N.R.) from Sidney, B.C., to Canadian Northern Pacific Ry. crossing, for three months from date.**

28,384. May 30.—Authorizing G.T.R. to take certain land for track for suburban trains, new team tracks and house tracks serving new freight shed near Point St. Clair, Que.

28,385. May 31.—Authorizing Town of Drumheller, Alta., to make highway crossing over Canadian National Rys. Y on Third Ave.

28,386. June 4.—Authorizing C.P.R. to build spur for B. Blair Co., Blandford Tp., Ont.

28,387. May 30. Approving agreement between Bell Telephone Co. and Imperial Munitions Board Liquidation Committee, dated May 17, re operating exchange at Nobel, Ont.

28,388. May 30.—Authorizing Canadian Northern Western Ry. to cross 26 highways in Alberta.

28,389. June 5.—Authorizing McDougall Tp., Ont., to make highway crossing over Canadian National Ry. at Lot 28, Con. 6.

28,390. June 5.—Approving plans and specifications of work on Parent outlet relief train on G.T.R. lands, Sandwich East Tp., Ont.

28,391, 28,392. June 2. — Authorizing Canadian Northern Saskatchewan Ry. to cross two highways in Saskatchewan.

28,393. May 31.—Approving Canadian National Rys. plan of alterations to station building at Kamsack, Sask.

28,394. June 5.—Approving changes in G.T.R. spur for Steel Co. of Canada, Belleville, Ont.

28,395. June 2.—Amending order t27,996, Jan. 8, re protection by C.P.R. at street crossings in Peterborough, Ont.

28,396. May 31.—Ordering Canadian National Rys. to move portable station at Runnymede, Sask., to 50 ft. east of east switch and to make road past station and adjoining road allowance.

28,397. May 29.—Amending order 25,540, Oct. 17, 1916, re protection of crossing of C.P.R., Canadian National Rys. and G.T.R. in Riverdale Park, Toronto.

28,398. May 28.—Authorizing Lake Erie & Northern Ry., Toronto, Hamilton & Buffalo Ry., and G.T.R. to operate over interchange track at Brantford, Ont.

28,399. May 31.—Authorizing Canadian National Rys. to build spur fo rManitoba Abbattoir & Packers Ltd., St. Boniface, Man.

28,400. June 4.—Approving Great Northern Ry. plan of changes in its bridge over False Creek, Vancouver, B.C.

28,401. June 5.—Ordering Michigan Central Rd. within 60 days to instal automatic bell at crossing of Talbot Road, Maidstone, Ont.

28,402. June 6.—Authorizing C.P.R. to make changes in track for Dwyer Elevator Co., Fort William, Ont.

28,403. Apr. 19.—Authorizing Saskatchewan Government to make highway crossing over Grand Trunk Pacific Ry. on surveyed road north of Sec. 29, Tp. 39, Range 21, west 3rd meridian.

28,404. June 4. — Authorizing Saskatchewan Government to make crossing over C.P.R. at Amazon.

28,405. June 4.—Authorizing G.T.R. to build branch line for Stewart Ltd., Sarnia, Ont.

28,406. June 2.—Ordering C.P.R. within 60 days to instal two automatic bells at crossing of Anderson St., Grenfell, Sask.

28,407. June 6.—Authorizing Canadian Northern Pacific Ry. to build spur for Queen Bess Mine, Lot 1652, Kamloops Land District, B.C.

28,408. June 6.—Approving clearances for Canadian National Rys. overhead unloading apparatus for tank cars, to be erected for Imperial Oil, Sarnia, Ont.

28,409. June 6.—Authorizing C.P.R. to rebuild bridge near Ardendale station, Ont.

28,410. June 6.—Authorizing Canadian Northern Ontario Ry. to rebuild bridge over Seguin River, at Parry Sound, Ont.

28,411. June 6.—Approving G.T.R. plan of construction and location of passenger shelter, at St. Henri station, Montreal.

28,412. June 9.—Approving relocation of C.P.R. station at Coldwater Jct., Ont.

28,413. June 4.—Ordering Canadian National Rys. to make certain alterations in station at Baldur, Man., to be completed by Aug. 1.

28,414. June 4. Ordering G.T.R. to divert road allowance between Cons. 4 and 5, **Raleigh Tp., Ont., to make it cross tracks at right angles with** turns outside of right of way.

28,415. June 4.—Approving Michigan Central Rd. clearances at belt conveyor for Queenston Quarry Co., St. Davids, Ont.

28,416. June 9.—Ordering C.P.R. to appoint male caretaker at Laval Rapids, Que., to see that station is kept clean and in proper condition for l.c.l. freight and express and for passengers.

28,424. June 11. Authorizing Canadian National Rys. to build spur for Manitoba Coal & **Development Co., Drumheller, Alta.**

28,425. June 11. Authorizing Dominion Government to build highway over C.P.R. near Lake Louise, Alta.

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Canadian Northern Ry.—There has been filed with the Secretary of State at Ottawa duplicate of a lease, dated May 1, made by Canadian Northern Rolling Stock Ltd., to the Canadian Northern Ry. of certain rolling stock, attached to which is an assignment of the same to the Girard Trust Co.

Grand Trunk Ry.—The Dominion Parliament has authorized the company to issue additional perpetual consolidated 4% debenture stock, in such amounts as the proprietors of the company entitled to vote shall from time to time determine, provided that the aggregate amount of the interest to be paid annually on the stock to be issued under the present act shall not exceed £100,000. Such stock is to rank equally and be consolidated with the present consolidated debenture stock, and the holder shall be entitled to the same voting powers. The proceeds of the stock issued may be applied in the exercise of any of the powers specifically conferred upon the company, and for the company's general purposes.

A special meeting of shareholders was called to be held in London, Eng., June 30, to approve of the act, and authorize the directors to exercise the powers conferred by the act.

Grand Trunk Pacific Ry.—The Dominion Parliament has confirmed the two orders in council under which the Minister of Railways was appointed Receiver for the G.T.P.R. and its subsidiary companies. These orders were given in full in Canadian Railway and Marine World for April.

Grand Trunk Pacific Ry.—The Premier of Saskatchewan is reported to have stated, June 5, that the Saskatchewan Government had paid the interest due on the bonds issued by the Grand Trunk Pacific Ry., and subsdiary companies, in respect of branch lines in the province, the payment of which had been guaranteed by the Saskatchewan Legislature.. The half year's interest, due May 1, amounted approximately to $260,000.

Roberval-Saguenay Ry.—The Saguenay Pulp and Power Co., which owns the Roberval - Saguenay Ry. Co.'s stock, placed on the market, June 9, an issue of $5,500,000 6½% serial gold bonds, dated June 1. They are issued in denominations of $100, $500 and $1,000 and are redeemable as to $100,000 on July 1, 1921, and in increasing amounts on each succeeding July 1, until 1934, when the balance of $2,476,000 will become due. The security for the issue includes $1,333,000 of 7% bonds, $800,000 or 6%, non-cumulative preferred shares, and $1,200,000 ordinary shares of the Roberval-Saguenay Ry., these being the entire bonds and shares issued by the company. The profits of the railway for the year ended Dec. 31, 1918, are stated to have been $105,002.88. The directors of the Saguenay Pulp and Power Co. include: Hon. F. L. Beique, a director of the Canadian Pacific Ry., and Hon. J. M. Wilson, a director of the Montreal Tramways Co.

Rutland Rd.—There has been deposited with the Secretary of State at Ottawa an agreement dated April 5, between the company and the Guaranty Trust Co. of New York, supplemental to the lease of April 1, 1913, establishing the Rutland Rd. Equipment Trust of 1913.

Toronto, Hamilton and Buffalo Ry.—Following are the directors for the current year, elected at the annual meeting in Hamilton, Ont., June 3:—H. B. Ledyard, J. N. Beckley, W. K. Vanderbilt, Jr.; Lord Shaughnessy, D. W. Saunders, W. P. Torrance, E. W. Beatty, W. L. Scott, A. K. Harris, Grant Hall, A. H. Smith.

Rolling Stock Orders and Deliveries.

The C.P.R., between Apr. 13 and June 14, ordered 3 vans from its Winnipeg shops.

The C.P.R., between Apr. 13 and June 14, received the following additions to rolling stock: 108 flat cars, and 7 locomotives, from its Angus shops; and 4 vans from its Winnipeg shops.

The Canadian Locomotive Co. has made no deliveries of locomotives on order since those last mentioned in Canadian Railway and Marine World on account of the plant being closed owing to a strike.

The G.T.R. has received 4 switching locomotives from its Montreal shops, leaving 5 of an order of 20 under construction there. A full description of these locomotives was given in our last issue.

The National Steel Car Co., between May 13 and June 12, delivered 427 box cars, 40 ft. long, to Canadian National Rys., and is continuing delivery of railway material to the Federated Malay States Government.

Canadian National Rys. has invited tenders for the construction of 20 steel postal cars and 20 steel first class passenger cars. The postal cars are to be supplied with the latest Canadian Railway Mail Service's requirements and also with those of the U.S. Railway Mail Service. They are to be 73½ ft. long.

Canadian Car and Foundry Co., between May 13 and June 12, delivered to Canadian National Rys. 347 steel frame box cars, completing an order for 5,000; 41 colonist cars; 142 ballast cars, and 22 Eastman heater cars, which were equipped at the company's Amherst plant. It has also delivered 6 electric locomotives to the Hydro Electric Power Commission of Ontario, and 23 refrigerator cars, which have been repaired at Montreal, to the G.T.R.

Quebec Board of Trade on Government Ownership of Railways.

The Quebec Board of Trade passed the following resolution recently:—"That the President be requested to write to Sir Robert Borden, Prime Minister, stating that while quite understanding that urgent reasons compelled the government to take over and operate the National Transcontinental Ry. and the Canadian Northern Ry., the Quebec Board of Trade would respectfully suggest that it would not be wise for the government to take over and assume the indebtedness of any other railway, at least until two or three years trial of the roads they are now operating shall have proved whether this can be done with advantage and without increasing the already very heavy financial burdens of the country. An opportunity to ascertain, by a little delay, would seem prudent, in view of the enormous losses sustained by the United States Government in operating the railways of that country, even with increased rates, and in view of our own experience with the Intercolonial Ry."

Canadian Pacific Railway Trans-Canada Trains.

As announced in advance, in Canadian Railway and Marine World for June, the C.P.R.'s new Trans-Canada Limited started running on June 1, the first westbound train leaving Montreal at 3.30 p.m. and reaching Vancouver, Jan. 6 at 10 a.m., making the annual running time for the 2,885.8 miles, 93½ hours. It was never behind time on the whole run, and at some points exceeding its schedule, and it could have reached Vancouver considerably earlier.

As stated above, the running time from Montreal to Vancouver is 93½ hours. From Toronto to Vancouver it is 89¾ hours. Eastbound the running time is, from Vancouver to Montreal, 92¼ hours, and from Vancouver to Toronto, 88 hours.

On leaving Montreal the train had about 100 passengers and picked up others en route. The highest number of passengers was 125. The passengers on the cross country flight were largely from Boston, New York, Washington, D.C., and San Francisco. Some left at Banff, but the majority went through.

Trans-Canada Limited Train, Canadian Pacific Railway, leaving Windsor Street station, Montreal, June 1, 1919, on its first run to Vancouver, B.C., 2885.8 miles.

Following are particulars of the equipment of the Trans-Canada Limited trains. Train 7, from Montreal to Vancouver, and train 9, from Toronto to Sudbury, where it is consolidated with train 7: Dining car, Montreal to Vancouver; Toronto to Sudbury, standard sleeping car, Montreal to Vancouver; standard sleeping car, Montreal to Winnipeg; Winnipeg to Vancouver; standard sleeping car, Toronto to Vancouver; standard sleeping car, Toronto to Winnipeg, Winnipeg to Vancouver; standard sleeping car, Fort William to Winnipeg; standard sleeping car, Winnipeg to Vancouver; compartment car, 1 drawing room, 7 compartments, Toronto to Winnipeg; compartment observation car, 1 drawing room, 3 compartments, Montreal to Vancouver.

Train 8, from Vancouver to Montreal, and train 10, from Sudbury to Toronto: Dining car, Vancouver to Montreal; Sudbury to Toronto; standard sleeping car, Vancouver to Winnipeg; standard sleeping car, Vancouver to Toronto, standard sleeping car, Vancouver to Winnipeg, Winnipeg to Toronto; standard sleeping car, Vancouver to Montreal; standard sleeping car, Vancouver to Winnipeg, Winnipeg to Montreal; standard sleeping car, Winnipeg to Fort William; compartment car, 1 drawing room, 7 compartments, Winnipeg to Toronto; compartment observation car, 1 drawing room, 3 compartments, Vancouver to Montreal.

The new trains, east and west, require for their operation, 59 sleeping cars, the value of which at present prices is approximately $2,478,000; fifteen dining cars, $750,000; twelve observation cars, $480,000; five compartment cars, $210,000; twelve baggage cars, $180,000, and 24 locomotives, $1,464,000; making a total of $5,762,000 on a very conservative estimate. The labor cost is less easy to compute, but each train itself requires 12 train crews, and 24 locomotive crews.

The first westbound train carried many photographers, who took views en route.

Steel Rails Ordered for Canadian National Railways.

Following is a copy of a report of a committee of the Privy Council, approved by the Governor-General, June 6, 1919:—"The committee of the Privy Council have had before them a report, dated June 2, 1919, from the Minister of Railways and Canals, representing that the Algoma Steel Corporation have advised that, as the production of munition steel now has ceased, they are without orders with which to keep their plant running, and that if this continues, they will be forced to close down their plant, throwing 2,000 and 3,000 men out of employment. That a deputation of the employes of this company recently had an interview with the Minister of Railways and Canals, and drew attention to the fact that the closing down of the plant would throw them out of employment, leaving them with no means of supporting their families.

"That the matter has been taken up with the management of the Canadian National Railways, who advise that an additional quantity of steel rails, up to 10,000 tons, could be used by them in work which has not been laid out for the present season, but which it would be advisable to have carried out this year, if the rails required are available. The Minister, on the advice of the Deputy Minister of the Department of Railways and Canals, recommends that authority be given for entry into a contract with the Algoma Steel Corporation for 10,000 gross tons of 85 lb. steel rails; the price per ton not to exceed the actual cost of production as ascertained by the Minister of Railways and Canals upon investigation, and in no event to exceed $50 a ton, or such lesser price as may be agreed upon with the Canadian Pacific Railway Co. for any rails which may be rolled for them by the Algoma Steel Corporation, at any time prior to Sept. 15, 1919, the said rails to be used on the Canadian National Railways and to be rolled in accordance with the same specifications as used by the company in manufacturing the rails covered by their recent contract of Jan., 1919. The committee concur in the foregoing recommendation and submit the same for approval."

The contract as above outlined was accepted by W. C. Franz, President Algoma Steel Corporation, in a letter to the Deputy Minister, in which he said:—"Referring to order in council, dated June 2, 1919, covering purchase of 10,000 gross tons of 85 lb. rails. We are quite agreeable to accept all conditions regarding daily tonnage, and price to be actual cost not exceeding $50 a ton. However, the last clause referring to C.P.R., we ask to apply on any rails we might sell to the C.P.R. prior to Sept. 15, 1919, as we now have a balance due that company on old contract made in 1917, that was at a price of $33 a ton, that we would like to be free to roll at any compromise price we might make with the C.P.R. when this tonnage is supplied them."

The Canadian Railway and Marine World is advised that the 10,000 tons of rails are to be used to replace 60 lb. rails on the Saskatoon-Calgary Line.

Business at National Transcontinental Ry. Stations—The Minister of Railways stated in the House of Commons, June 4, in reply to a question, that it was not in the interest of the Canadian National Rys. System that information as to the business done at each station, either by way of receipts or cars received, or dispatched, should be given to competing systems. The request was that this information be given for each station on the Transcontinental Ry. for each month.

Canadian National Railways Construction, Betterments, Etc.

Appropriations for Construction and Betterments—The Minister of Railways informed the House of Commons, June 5, when the vote of $11,121,681 for construction and betterments on the Canadian Government Railways came up for consideration, that the amount included $6,004,140 for work on lines east of Quebec; $1,600,000 for the Halifax Terminals; $500,000 for branch lines in New Brunswick; $993,208 for work on the National Transcontinental Ry. west of Fort William; $524,333 for the mechanical department, and $1,500,000 for general appropriations in connection with construction and betterments.

Prince Edward Island Ry.—In connection with the vote on account of $11,121,681 for construction and betterments on the Canadian Government Rys., the Minister of Railways said in the House of Commons, June 5, that it was decided last year to standardize the gauge of the P.E.I.R. between Port Borden and Summerside so that standard gauge cars could be loaded between these points and taken over the main line. That work was started and proceeded with as rapidly as possible. The present information is that if labor can be obtained during the summer, it will be possible to operate standard gauge cars into Summerside and Charlottetown. It is not intended to standardize the line any further than Charlottetown or Summerside during this year. After the rails are laid there will be a lot of work to do in putting the road in shape, and it is felt that under present financial conditions the government would not be justified in proceeding further during this year. It is the government's intention to standardize the whole line, but the Minister could not say how much will be done next year.

Prince Edward Island Car Ferry—Tenders were received to June 28 for improvements, including dredging, of the entrance channel and turning basin at the car ferry terminal at Cape Tormentine, N.B.

Halifax Ocean Terminals — Tenders were received to June 30 for the construction of a train shed at Halifax, N.S., as part of the Halifax ocean terminals plans. Ross and McDonald, Montreal, are the architects.

Orangedale to Cheticamp Branch—A public meeting at Inverness, N.S., May 24, passed a resolution asking the Dominion Government to build a branch line from the Intercolonial Ry. at Orangedale, mileage 153, on the Truro-Sydney line, to Cheticamp. The meeting appointed a railway extension committee for the Inverness County, and also a delegation to go to Ottawa to present the resolution. A press report of the meeting says that reports on the route and the prospects of traffic were made to the government in 1912 and 1914.

Pugwash, N.S., Spur—The Minister of Railways stated in the House of Commons, June 4, that the cost of the spur from the I.R.C. main line to the brick yards at Pugwash, N.S., was $92,452.67, and that the work was completed, Aug. 28, 1918. There were four claims outstanding in respect of right of way, which were in course of settlement, the total amount involved being $694.78. The same freight rates apply on traffic from and to the Nova Scotia Clay Works spur line, as from Pugwash itself, except on shipments of ore, on which there is a switching charge of 1c per 100 lb. The total receipts from such switching charges to Mar. 31, were $82.40. The total tonnage handled over the spur from date of opening to Mar. 31, 1919, was 2,479 tons, and the total earnings therefrom from originating point to destination were $5,167.63. The Nova Scotia Clay Works is to pay rental for this spur of $1,700 a year for 15 years.

Second Track on Intercolonial Main Line—We are officially advised that new second track is to be built this year between Truro and Belmont, mileage 0 to 7.57, and between Springhill Jct. and Maccan, mileage 59.54 to 68.67. Between Truro and Belmont there will be only slight changes in alignment on curves, and the gradients will remain unchanged, except slightly at a few locations.

On this stretch there are three bridges to be doubletracked, the following being the details: Salmon River bridge being 0.6, two 105 ft. deck plate girder spans, each track; new abutments and pier to be built and new steel placed; existing spans to be removed; old piers and abutments to be dismantled to bed of stream. North River bridge, mile 2, two 105 ft. truss plate girder double track spans; new abutments and pier to be built and new steel to be placed; existing spans to be removed; old abutments to be dismantled. Belmont River bridge, mileage 7.3, two 105 ft. truss plate girder double track spans; new abutments and pier to be built and new steel spans placed; existing spans to be removed and old abutments and pier to be dismantled.

Between Springhill Jct. and Maccan there will be a few slight changes in alignment and curves, also some slight changes in gradients, to make same more uniform and to take out small snags. On this stretch there is one bridge to be doubletracked, at Little Forks, mileage 62.9, consisting of one 104½ ft. deck plate girder span, with one 35 deck plate girder span at either end for each track, the existing 104½ ft. deck plate girder span to be raised; new substructure consisting of 2 piers and 2 abutments for double track.

Tenders for grading for the above work were received to June 28, the work being as follows:—

Grading for one additional main line track, between Truro and Belmont, N.S., for approximately 7.57 miles, partly on the right side and partly on the left side of the present track.

Grading for one additional main line track between Springhill and Maccan, Amherst Subdivision, N.S., for approximately 9.13 miles, partly on the right side and partly on the left side of the present track.

Tenders were also received to June 28, for the following second track and diversion work:—

Grading for double track railway at Moncton, N.B., approximately 3.35 miles, consisting of grading on the north side of and parallel to the present track on the St. John Subdivision from mile 1.44, to 2.53, both approximate, and grading for double track from mile 2.53, St. John Subdivision, to mile 3.50, Newcastle Subdivision.

Grading for double track diversion from mileage 108.21 to 112.91, on Chandiere Subdivision, between Ste. Rosalie and Charlotte, Que.

Fredericton - McGivney Jct. Betterments—We were officially advised, June 11, that work had not then been started on the improvement of the section of the old Canada Eastern Ry., between Fredericton and McGivney Jct., N.B., which is to be used in connection with the through route from the National Transcontinental Ry., via the St. John and Quebec Ry. to St. John, N.B.

Grand Lake, N.B.—The proposal for the building of a 5-mile spur line from the National Transcontinental Ry. to the Grand Lake coal areas of New Brunswick, has, we are officially advised, been considered by Canadian National Rys. executive and it has been decided not to build it.

Double Track Bridge Near Sackville—Tenders were received to June 28 for the construction of the substructure for a double rack railway bridge over the Tantramar River, about a mile east of Sackville, N.B., on the I.R.C. main line.

Section Houses—Tenders were received to June 28 for building section houses at the following points:—Napadogan Subdivision-Pacific Jct.; Alward, Pangburn, North Cains, N.B.; Edmundston Subdivision-Juniper, Summit, N.B.; Leonard Subdivision—Grog Brook, N. Grog Brook, Sirios, N.B.; Monk Subdivision—Lapointe, Picard, Bretaque, Lefebvre, Que.; Quebec Subdivision—Hervey Jct.; Lac Chat, Que.; Fitzpatrick Subdivision—Hibbard, Que.; Parent Subdivision—Parent, Monck, Que.; Doucet Subdivision—Vilmontel, Que.

Tenders were received to June 28 for the construction of a coaling plant and sand house at Sydney, N.S., and a freight shed at Rothesay, N.B.

Tenders were received to June 28, for the erection of three dwellings at Napadogan, N.B.

St. Ubalde, Que.—A press report states that "the Canadian National Rys. contemplates building a spur line near St. Ubaldo to connect with new mines." We cannot locate St. Ubaldo, but there is a St. Ubalde, in Portneuf County, the nearest station to which is St. Casimir, mileage 124, from Montreal on the Canadian Northern Ry. to Quebec, and mileage 505 on the National Transcontinental Ry. from Moncton.

St. Malo Shops—We are officially advised in connection with the track to be laid at the St. Malo Shops, Que., that it is not intended to build a new line connecting the shops with the main track, that line being already laid, but that it is intended to relay some of the tracks leading to the car and erecting shops.

The shops were expected to be partly opened before the end of June.

Cap Rouge to Portneuf, Que.—Tenders were received to June 21 for rock filling, riprapping, broken stone ballasting, etc., on the St. Lawrence Subdivision between Cap Rouge and Portneuf. This work is in connection with the rebuilding of the washed out roadbed and track between the places named.

National Transcontinental Ry.—Tenders were received to June 30, for the erection of no. 1 section houses at Frederick, Hunta, Moonbeam, Savoff, Jacobs, Fowler, Superior Jct., Quibell, Dugald, and Oscar, east and west of Superior Jct., Ont. J. Schofield, is the railway's architect at Winnipeg.

Toronto-Sudbury Line Betterments—Tenders were received to June 28 for the construction of concrete culverts and bridge abutments between mileage 56, [illegible] and 64, Sparrow Lake, on the Muskoka Subdivision; and for concrete culverts and bridge abutments and piers between mileage 82, Porlock, and 108, Coniston, on the Sudbury Subdivision.

Port Arthur Elevator—Tenders were received to June 30 for the construction of the superstructure of a grain elevator workhouse of about 700,000 bush. capacity, with unloading shed and complete elevator equipment at Port Arthur, Ont. The plans, specifications, etc., were given out to tendering firms by C. D. Howe & Co., consulting engineers, Port Arthur.

Port Arthur Locomotive House—A press report states that a 5-stall addition is to be made to the locomotive house, and that the foundation under the turntable will be replaced this year.

Prairie Provinces Extensions—In further reference to the matter published under this head in Canadian Railway and Marine World for May, we have been officially advised that on the Amaranth extension the 35 miles to be built is divided into two parts, 15 miles to be added northerly from Amaranth, Man., the other 20 miles to be added to the St. Rose du Lac branch, which leaves the main line at Ochre River, running easterly, and is at present in operation to St. Rose du Lac, Man. This 20 miles is to be graded in northerly and northwesterly from the present end of grade, 9 miles from St. Rose du Lac. The grading to be done on the Swift Current extension is let for 27 miles instead of 25 miles as mentioned in the article referred to above.

In connection with this latter line, we are advised that the firm of Gibbs Bros., to which the contract was let, consists of J. N. F., D. C. and W. C. Gibbs, the latter of whom is Manager. The work was started May 15, and is in charge of D. C. Gibbs, who has his headquarters at Gravelbourg, Sask.

The Western Construction Co., to which was let the contract for the construction of the 23 mile extension of the Luck Lake branch, is a recently incorporated company in which Jas. Miller and L. Parke, are principally interested. The company's headquarters are at North Battleford, Sask.

Western Lines Locomotive Houses—We are officially advised that the locomotive houses to be built at Kamsack, Humboldt and North Battleford, Sask, will have brick walls, mill construction, supports and roofs, and concrete pits, the stalls being 100 ft. long. The buildings at Kamsack and Humboldt will have 10 stalls, and that at North Battleford, 15. The machine shop attached to each will be of similar construction, 30 x 80 ft.

Water Supply at Wartime, Sask.—Tenders were received to June 20 for the construction of a water supply pipe line at Wartime.

Rosebud Diversion—Tenders were received to June 19, for the construction of [illegible] diversions at mileages 324 and [illegible] Calgary Subdivision.

Hanna-Medicine Hat Line—The Secretary of the United Farmers of Alberta is reported to have received a letter recently from [illegible] E. Warren, General Manager, Western Lines, in which he said that it was hoped to begin operations on the Hanna-Medicine Hat line in three or four weeks, and that it would take about [illegible] to lay the track from the present railhead, mileage 11.8, to the river.

Kamloops-Kelowna-Lumby Line—We are officially advised that this line will have a total length of 132 miles. It is already built from the Canadian Northern main line across the Thompson River into Kamloops (see Canadian Railway and Marine World, Mar., pg. 128), and the contract let recently to John W. Stewart & Co., Winnipeg, is for the comcially advised that the line running from Kamloops through Armstrong to Vernon is 83.7 miles long; the line from Vernon to Kelowna, is 33 miles long, and the line from Vernon to Lumby is 15 miles long. The route from Kamloops is along the southern bank of the Thompson River, then along Monte Creek to Monte Lake, and across the Grande Prairie County to Ashcroft, Armstrong and Vernon, where the line branches, one section running easterly for 15 miles to Lumby, and the other southerly via Long Lake, to Kelowna, on Okanagan Lake. The maximum gradient is 1.56%, and the maximum curvature 10 deg., there are no large bridges on the line, but there will be a number of timber trestles.

A recent press report states that subcontracts have been let for the grading approximately 10-mile sections to Rankin Bros., Carleton and Barber; Lieut.-Col. McDonald, Major Stewart and Capt. McLeod.

New Westminster to Vancouver, B.C.—We are officially advised in connection with the press report referred to in our last issue as to a proposed line from New Westminster to South Vancouver, that it is intended to build the line from the south end of the bridge over the Fraser River into New Westminster, approximately a mile. Until the surveys, which are to be extended beyond New Westminster are completed, no decision can be reached as to further construction, route, etc.

Vancouver Island Lines—Tenders were received recently for erecting a pile trestle on a spur line to Cameron Mill, Selkirk Water, Victoria, B.C.

Tenders were received recently for grading the company's railway terminal north of Point Ellice bridge, Victoria, B.C. A press report states that the work to be done requires the removal of about 40,000 cubic yards of material from the area between Point Ellice bridge and the southern end of the Selkirk Water bridge. (June, pg. 318).

Alien C.P.R. Stockholders—The Quebec Court of Appeal has dismissed the C.P.R.'s appeal from an order of the Superior Court under sec. 28 of the Consolidated Orders in Council respecting trading with the enemy. Under this order approximately $22,000,000 of C.P.R. stock held by or on behalf of Germans, was given into the charge of the Finance Minister as custodian. Counsel moved, on behalf of the Secretary of State, to dismiss the appeal on the following grounds: That the Superior Court was exercising special statutory jurisdiction and acting as a curia designata; that no right of appeal existed under the statute or otherwise; that the judgment appealed from was not a final judgment, and did not order the doing of anything which could not be remedied, and did not decide the issues in whole or in part; that there was concurrent jurisdiction in the Court of King's Bench and the Superior Court created by the order in council; and that the appellant had no interest in prosecuting this appeal.

Canadian National Railways Earnings.

The gross earnings of the system from Jan. 1, compared with those for the same period of 1918, are as follows:

	1919	1918
January	$ 6,744,018	$ 4,696,567
February	6,000,312	4,421,504
March	6,827,491	5,710,660
April	6,909,632	7,165,890
May	7,518,244	6,580,745
	$33,999,727	$28,575,366

Approximate gross earnings for two weeks ended June 14, $2,924,017, against $2,980,286 for same period, 1918.

Canadian Pacific Railway Earnings, Expenses, Etc.

Gross earnings, working expenses, net earnings, and increases or decreases, from Jan. 1, 1919, compared with those of 1918:

	Gross	Expenses	Net	Increases or decreases
Jan.	$13,028,328	$11,474,816	$1,553,512	$ 385,519
Feb.	11,064,167	10,083,051	981,116	390,218
Mar.	12,374,182	10,835,138	1,539,044	*1,453,737
	$36,466,677	$32,393,005	$4,073,672	*$678,000
Incr.	$ 3,674,643	$ 4,352,643		
Decr.			$ 678,000	

*Decreases.

Approximate earnings for April, $12,780,000; May, $13,277,000, and for two weeks ended June 14, $6,019,000, against $13,007,000; $13,024,000, and $5,760,000, for same periods respectively in 1918.

Grand Trunk Railway Earnngs, Expenses, Etc.

Gross earnings, working expenses, net earnings and increases or decreases compared with those for 1918, from Jan. 1, 1919:

	Gross	Expenses	Net	Increases or decreases
Jan.	$ 4,405,402	$ 5,121,779	x$ 716,377	*$ 81,816
Feb.	4,090,800	4,401,019	x 311,219	660,372
Mar.	5,517,223	4,676,174	841,049	763,616
Apr.	5,360,896	4,604,585	756,311	93,047
	$19,374,321	$18,803,557	$ 569,764	$1,435,219
Incr.	$ 5,318,527	$ 3,883,308	$1,435,189	

xDeficits. *Decreases.

Approximate gross earnings for May, $5,272,060, and for two weeks ended June 14, $2,288,670, against $4,863,585, and $2,126,210 for same periods respectively in 1918.

Canadian Northern Ry.'s Winnipeg Taxes—The Canadian Northern Ry., and the Winnipeg City Council were reported, June 14, to have reached an agreement with regard to local taxes. The city, is said to have agree to accept $100,000 in full payment of all taxes due by the company as owner or lessee for the periods ended Dec. 31, 1917, and Dec. 31, 1918, the company to pay all the local improvement assessments against its lands in the city from and including the year 1918.

Railway Lands Patented—Letters patented were issued during May for Dominion railway lands in Manitoba, Saskatchewan, Alberta and British Columbia, as follows:—

	Acres.
Alberta & Great Waterways Ry.	31.84
Canadian Northern Ry.	940.70
Edmonton, Dunvegan & British Columbia Ry.	16.60
Grand Trunk Pacific Ry.	8.92
Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co.	69.70
Total	1,067.76

Railway Development, Projected Lines, Surveys, Construction, Betterments, Etc.

British America Nickel Corporation—We are officially advised in connection with a press report as to the construction of a line from Nickelton to Sudbury, Ont., that the company has made a survey for such a line, but has no immediate intention of building it. J. H. Gillis, Nickelton, Ont., is the company's Superintendent of Construction. (June, pg. 313).

Burrard Inlet Tunnel and Bridge Co.—A deputation from the Vancouver area headed by the mayor of North Vancouver, B.C., waited on the Dominion Government at Ottawa recently to urge that the Dominion undertake the construction of the projected bridge across the Second Narrows of Burrard Inlet, as a part of the projected Vancouver harbor works. It is reported that the delegation was informed that the appropriations include amounts for a car ferry and terminal railway to serve the North Shore industries, and that the question of the erection of a bridge is one more for the consideration of the British Columbia Government and for the municipalities than for the Dominion Government. (June, pg. 313).

A delegation which visited Ottawa recently in connection with the projected bridge over the Second Narrows of Burrard Inlet, is reported to have made the following report to the north shore reconstruction committee, on June 10:—"The bridge is accepted as a definite part of the whole scheme of harbor development; the Minister of Marine is heartily in favor of its construction when finances will permit; when built it will be financed by the harbor board, Canadian National Rys., and the municipalities with possible provincial government assistance; there is still a possibility of obtaining a portion of the $5,000,000 appropriation for harbor improvements; Commissioner McClay has declared his intention of standing for the appropriation of $500,000 of board funds towards bridge construction; Messrs. Stevens, Crowe and Cooper have specifically declared that they will secure a commencement of bridge construction next year, while Messrs. Hanna and MacLeod, of the C.N.R., have declared their readiness to enter into an arrangement for the joint construction of the bridge and to prepare their plans in time for the submission of bylaws in Jan."

Calgary and South Western Ry.—The route map of this projected railway shows a line starting from Sec. 27, Tp. 23, Range 1, west 5th meridian, near Turner, 6 miles out of Calgary on the C.P.R. Calgary-Macleod line, cutting across the southeast corner of the Sarcee Indian reserve, crossing Fish Creek at Priddis, Fisher Creek at Millerville, the north branch of Sheep River at Kew, thence to the valley of the south branch of the Sheep River, the north bank of which is followed up to its source in the Rocky Mountains Forest Reserve in Sec. 15, Tp. 19, Range 7, west 5th meridian. The total distance is 59.4 miles. We are officially advised that construction will be deferred until next autumn, or early in the spring of 1920. John Callaghan, Calgary, Alta., is Chief Engineer. (May, pg. 253).

Central Ry. Co. of Canada—The Dominion Parliament has passed an act providing that subject to the provisions of sec. 3, chap. 83, statutes of 1914 (Consolidated Railway Act). "The Central Ry. of Canada or the purchaser thereof in the proceedings now pending in the Exchequer Court of Canada, may complete within five years of the passing of this act the uncompleted portions of the railway authorized by chap. 172 of the statutes of 1903, and the acts amending the same, to be constructed between Rockland and South Indian, between South Indian and Hawkesbury, between Hawkesbury and Glen Robertson, Ont., and between St. Andrews and Ste. Agathe, Que.," with the proviso that if 25 miles of the uncompleted portions of line are not completed and put in operation within two years, and 25 miles additional built each succeeding year, and the whole lines completed within five years, the powers granted shall cease in so far as the uncompleted portions of the lines are concerned. The Minister of Railways explained to the House of Commons that the passage of the act in this form gives the bondholders the power to sell anything that has any value. The company has an interest in 35 miles of line, serving Glen Robertson and Hawkesbury and leased to the G.T.R., and owns, in addition, the right of way for the South Indian-Hawkesbury and the St. Andrews-Ste. Agathe lines. (May, pg. 260).

Esquimalt and Nanaimo Ry.—The Dominion Parliament has authorized the building of a line from between Port Alberni and Bainbridge, on the existing Parksville Jct.-Alberni line, northwesterly via Great Central Lake and Ash River Valley to Comox Lake, with a branch line from near Sproat Lake to Long Beach on the west coast of Vancouver Island. Plans for these lines are reported to have been prepared. (Apr. pg. 191 and Feb., pg. 79).

The Minister of Public Works is reported to have advised the mayor of Victoria that the Dominion Government has definitely decided not to make a contribution towards the cost of the Johnson St. Bridge. The modified plans for the bridge prepared by the City Engineer of Victoria after the conference with the C.P.R. officials, have been forwarded for final approval by P. B. Motley, Engineer of Bridges, and J. M. R. Fairbairn, Chief Engineer C.P.R. The estimated cost of the bridge is $525,000, of which the C.P.R. will contribute $100,000, the city $225,000, and the government $200,000. (June, pg. 313).

Great Northern Ry.—About 1,000 yards of the right of way, about 10 miles south of Nelson, B.C., on the Bedlington and Nelson Ry., one of the lines owned by the G.N.R. in Canada, is reported to have been washed out by floods.

A recent decision of the Board of Railway Commissioners rejected the City of Vancouver's application for an amendment of the order with respect to the interlocking and derailing plant at the Powell St. crossing, on a new line which is to be double tracked and will connect the G.N.R. spur from False Creek with the C.P.R. service track north of the main line, connections being made east and west with the government dock and the G.N.R. dock, respectively. The order suggests that a new line might be built from just south of the Hastings St. viaduct, under the viaduct, with a trend north and east, instead of north and west. (May, pg. 253).

Grand Trunk Ry.—The Dominion Parliament has extended for two years the time within which the Lachine, Jacques Cartier and Maisonneuve Ry. may build its projected line from Lachine Parish to Hochelaga Ward, Montreal, or in the Town of Maisonneuve, passing in the rear of Mount Royal, with power to extend the line from the starting point to Dorval, on one side, and to the northern end of the Montreal Island on the other. The construction of this line was originally authorized in 1909; it was declared to be a work of the general advantage of Canada in 1911, and extensions of time for its construction have been granted, the one prior to the present being in 1917. Surveys were made several years ago, and plans were approved by the Minister of Railways and the Board of Railway Commissioners, but considerable difficulties were experienced in securing right of way, and the approval of the municipalities for the crossing of highways.

The Toronto City Council has authorized the company to erect a bridge shop near Main St., York Station, East Toronto, at an estimated cost of $7,500.

A press report states that the company is considering the purchase of some property east of Rectory St., London, Ont., to extend its east end yards. (June, pg. 313).

Kettle Valley Lines—A press report states that representations have been made to the British Columbia Government to urge the company to build a line southerly from Penticton, through the 22,000 acres of land set apart mainly for settlement by returned soldiers. It is said that the matter was discussed with E. W. Beatty, President, C.P.R., which company leases the K.V.R. during his recent visit to Victoria.

In connection with the building of the branch line from Princeton to the Copper Mountain district, a local correspondent gave some details recently of the development work in progress at Princeton, Allenby and Copper Mountain in carrying out the Canada Copper Corporation's plans. He says that at Allenby it appears as though there were two railways building into the town, one on each side, with the lower one some 200 ft. beneath the upper one. In making distance, in order to secure a feasible gradient, a loop is formed, and by a clever piece of engineering, the line comes in at the upper side of the mill to which it will deliver the crude ore, and it goes out from the lower side at which it will receive the concentrates for delivery at the Trail smelter. A good deal of development work is reported to be at a standstill, waiting for the completion of the branch line, which was to have been finished in June. The railway contractors' men are reported to have stopped work Apr. 1, and practically no work has been done since. (Mar., pg. 135).

Lacombe and North Western Ry.—A press report states that ties and telephone posts have been delivered at Gull Lake, and that construction gangs are making preparations for the extension of the line from its present terminus near Bentley to Rimbey, Alta. The line is owned by the Alberta Government, and provision for the extension was made at the legislature's recent session. (June, pg. 313).

Montreal Central Terminal Co.—The Senate's railway committee reported June 5 that C. N. Armstrong, one of the promoters of the bill, having made application for leave to withdraw it, he be allowed to do so and that the fees paid less cost of printing and translating be remitted. This report was approved by the Senate June 6, and the bill was withdrawn. The bill asked for an extension of time within which the company could construct its proposed terminals, bridge and other projected works in Montreal.

The company, according to a press report, applied to the Minister of Public Works at Ottawa, June 11, for approval of its plans for a tunnel or tunnels proposed to be built under the St. Lawrence River from Longueuil on the south short to Montreal in lieu of the bridge originally proposed, and for certain railway connections therewith. Counsel or engineers were present on behalf of the Railways Department, the Montreal Harbor Commission, the municipalities interested on the south shore, the Grand Trunk Ry., etc., and all expressed their opposition to the plan. C. N. Armstrong, the principal promoter of the project, stated that, apart from outlays on land, $250,000 had been expended in connection with the proposal. The company desired to provide facilities for access to the east end of Montreal for railways not having them. The company was not asking a guarantee of bonds or a subsidy, but desired to have a traffic agreement for the government lines to use the tunnel and terminal. If the company could not get that the tunnel would not be built. Counsel for the Railways Department stated that the only effect of sanctioning the scheme would be to compel the Canadian National Rys. to buy out the company; the engineer for the Grand Trunk Ry. said it would cost between $80,000,000 and $90,000,000 to carry out the company's plans and that the project could never be made to pay without having industrial connections; the secretary of the Montreal Harbor Commission said the sanction of these plans would interfere with the commissions plans for the proposed bridge to the south shore, via St. Helen's Island, and the south shore municipalities' representatives stated that only a bridge would meet with their approval and support. The Minister reserved his decision: (June, pg. 313).

The North West Route—The Senate Standing Committee on Railways reported June 5 with respect to the bill for the incorporation of a company with this title, which had been passed by the House of Commons, that after examination it had arrived at the decision that the incorporation of the company proposed to be created would not be in the public interest. This report was adopted by the Senate June 6. The bill provided for the incorporation of a company to develop certain stretches of navigable waterways, and to connect the same by means of railways, so as to provide a rail and water connection between the westerly end of Baker Lake, at the headwaters of Chesterfield Inlet, Hudson Bay, and Old Fort Reliance at the easterly end of Great Slave Lake. (May, pg. [illegible]).

Pacific Great Eastern Ry.—A press report states that delivery has been completed of the rails which were ordered in the United States prior to the war. There are said to be about 1,500 tons at Fort George, and about 9,000 tons at the present end of track, the remaining 10,000 tons were loaned to the Dominion Government for the Canadian Northern Ry. The 9,000 tons at the end of track will, it is estimated, be sufficient to lay track from mileage 210 to William Lake, about 70 miles. Tracklaying is expected to begin July 1, and to be completed to Williams Lake by Sept. 1.

In the course of a recent speech, the Premier of British Columbia is reported to have said that a number of miles of the railway would have to be abandoned. It would cost the province a considerably greater sum than the government had anticipated in the first place, to get the railway linked up with the Grand Trunk Pacific Ry. at Prince George.

Major Ewart, formerly of the 8th Battalion Canadian Railway Troops, in France, is reported to have been appointed to make a survey of the country north of Quesnel, with a view of securing a route for the line, which will avoid some difficult country.

Part of the original project of the P.G.E.R. was the continuation of the line from Prince George to the Peace River country, and the effecting of a junction at the British Columbia-Alberta boundary, with the Edmonton, Dunvegan and British Columbia Ry. A deputation from the Peace River country waited on the British Columbia Government recently to urge progress and the Premier promised consideration. (June, pg. 313).

Quebec to St. Stephen, N.B.—D. F. Maxwell, C.E., in a recent interview at Quebec, is reported to have said that a railway from Quebec to St. Stephen, N.B., would be a very valuable branch to the Transcontinental Ry., and would cut the distance from Quebec to an ocean port in half, as compared with the present route from Quebec to St. John. The distance from Quebec to St. John, by the present route, is 577 miles, while from Quebec to St. Stephen it would be 250 miles. A line between these two points would run through a real virgin timber country for 100 miles, and would open up a new and rich country for general settlement. The route was gone over at one time by A. L. Light, C.E., and J. G. Scott, Quebec, is reported to be also familiar with the country through which the line would pass. The port at the end of the line would be St. Croix harbor, which it is claimed that the largest ships could use. Starting at St. Croix harbor, the line would run through St. Stephen, passing through Princeton, Me., back to the St. Croix River, and lakes to Mattawamkeag, and along the valley of the Penobscot River to Melensocket, and on to the Etchemin River, to St. Malachie, Dorchester County, Que., where connection could be made with the Transcontinental Ry.

J. G. Scott is reported to have said that the surveys for this line were made in 1882, before the line via Sherbrooke and Lake Megantic was built. That line was only 90 miles shorter between Montreal and Halifax than via the Intercolonial Ry., and it goes over a summit of 1,700 ft., while the suggested Quebec-St. Stephen line would have a summit of about 1,200 ft., with a maximum gradient of 0.4%. The National Transcontinental Ry. would be used from Quebec to Frampton, 52 miles.

St. John and Quebec Ry.—The Dominion Parliament has extended to Dec. 21, 1921, the time within which the section of the line from the present northerly terminus at Centreville to Andover, N.B., may be built, at the Minister of Railways direction. The Minister is given power to extend the subsidy agreement with the Dominion Government to the same date, and the agreement with the New Brunswick Government for the operation of the line as a part of the Intercolonial Ry. on the basis of a division of the gross receipts in the proportion of 60% to the Dominion and 40% to New Brunswick. The New Brunswick Legislature has also passed an act providing for the extension of time, etc.

We are officially advised that the section of the line from the present southerly terminus to Westfield where a junction is effected with the C.P.R., will be ready for operation by Aug. 1. Ballasting and other work is in progress. The Premier and other representatives of the New Brunswick Government left Fredericton, June 6, to inspect the line. A press report of June 6, states that a train left Centerville, June 5, and travelled over the line via Westville and on to St. John. (June, pg. 314).

Western Dominion Ry.—The Dominion Parliament has extended for two years the time within which this company may commence its projected railway from the International boundary in Range 23, west 4th meridian, via Cardston, and Pincher Creek to Lundbreck on the C.P.R. Crowsnest line, thence to Calgary and Edmonton, Alta., and Fort St. John, B.C., with branches into the Southern Alberta coal fields. (Feb., pg. 80).

New Conditions for Extension of Railway Charters.

In connection with the several acts passed by the Dominion Parliament at its current session, granting extensions of time for construction, an additional provision has been inserted at the Minister of Railway's instance. The practice has hitherto been to extend the time for beginning of construction for two years, and the time of completion for five years. The new provision is that the company shall within two years after the passing of the act proceed with the construction and complete and put in operation 25 miles of the authorized railway, and shall continue to construct and complete and put in operation to the satisfaction of the Minister, not less than 25 miles of the railway, or the equivalent thereof, during each year thereafter, until the whole of the railway is completed. The section also provides that if the company fails to carry out the requirements specified, the powers of construction granted to it shall cease.

The Shedden Forwarding Co., Ltd., has been granted supplementary letters patent, decreasing its capital stock from $1,500,000 to $1,125,000, the decrease being effected by repaying to shareholders $25 on each of 7,000 share allotted, and by reducing to the war value of $75 each, 8,000 unallotted shares, so that the existing 1,500 shares now of the par value of $100 each, shall be reduced to the par value of $75 each. The company is to add to its name the words, "and reduced" for one month from May 22, 1919.

Rails for G.T.R.—The Algoma Steel Corporation rolled 12,060 tons of 100 lb. A.R.A. section steel rails for the G.T.R. recently, shipments being made to Allandale, Ont., for distribution. This completed a nolder order which was suspended during the war.

Canadian Pacific Railway Construction, Betterments, Etc.

New Brunswick District—A press report states that the company is about to call for tenders for paving with granite blocks, 2,500 square yards at its freight terminals, Mill St., St. John, N.B.

Manitoba District—Tenders were received to June 18 for the construction of a standard no. 3 station at Hargrave, Ont., piers for bridge 3.1, La Riviere Subdivision, Ont., for floor for stock yards at Fort William, Ont., and for the erection of a coaling plant at Raith, Ont.

The Manitoba and North Western Ry. Co., a C.P.R. subsidy, has been authorized by the Dominion Parliament to build a line from its Shell River Branch, in Tp.. 21, Range 28, west of 1st meridian, generally northerly to Tp. 23, Range 28, west 1st meridian. Work is to be started within two years, and completed within five years, and to provide for construction, the company may issue securities for $40,000 a mile..

Saskatchewan District — President Beatty is reported to have stated in Saskatoon, June 6, on his recent trip, that the company will build a line from Lanigan through Watson and Melfort, to Tp. 57, Range 17, west 2nd meridian, north of the Carrot River, and that construction will be gone on with this year from the Lanigan end, and that construction will also be started from Rosetown south to the Saskatchewan River, thence easterly. The company is said to be investigating with a view to early construction, the route of a line from Hawarden into Saskatoon. Hawarden is a station on the Moose Jaw northwesterly branch, almost directly south of Saskatoon. The President is further reported to have said that construction will be started shortly on a line from Milden, on the Moose Jaw northwesterly line to Empress, on the Swift Current northwesterly line.

We are officially advised that the company proposes to build a line from Vidora or Govanlock, Sask., to Assiniboia, Sask., and that a start will be made from the western end, during this year. In all probability, the work will be started from Vidora, but this has not been definitely decided. As soon as the route map is approved by the Board of Railway Commissioners, tenders will be asked for the work on 50 miles. This is one of the lines mentioned in the resolution passed at the company's recent annual meeting.

Moose Jaw Station—President Beatty is reported to have said, in an interview at Moose Jaw, Sask., May 30, that a new station to cost at least $250,000 will be built there. We are officially advised that competitive plans have been asked for from architects at Moose Jaw and Winnipeg. The new building will be directly north of the present station and will be of stone. The main street frontage, and part of the gardens will be occupied by the building, the northern extremity of which will reach almost to Manitoba St. The present baggage and express rooms will be allowed to stand, but at a later date a west wing will be added to the station to replace them. The plans provide for a change to a subway entrance to the tracks if this is desirable later, but the cosntruction will first be made for an entrance similar to the one now in use.

D. C. Coleman, Vice President, Western Lines, is reported to have stated that the question of building an hotel at Moose Jaw, will have to stand over until the cost of building had returned to a more normal level.

Alberta District—President Beatty is reported to have stated at Lethbridge recently, that the only construction definitely settled on for Alberta, is the Acme-Empress line.

A press report of June 11, states that a contract has been let to Stewart and Welch, Vancouver, B.C., for building of a line from Acme to Drumheller, Alta. The line will, it is reported, involve considerable heavy construction. This is the line referred to in the company's annual report as an extension of the Langdon north branch from Acme, Alta., to the projected extension of the Swift Current Northwesterly Branch near Empress, 132 miles. Such a line would pass through the Drumheller coal fields. (June, pg. 319).

Traffic Orders by Board of Railway Commissioners.

Supplement 12, to Canadian Freight Classification.

General order 265. Re application of Canadian Freight Association, on behalf of railway companies subject to the board's jurisdiction, under section 321 of the Railway Act, for approval of proposed Supplement 12 to Canadian Freight Classification 16, containing certain increased, reduced, and additional ratings; notice having been given by the railway companies in The Canada Gazette as required by sec. 321 of the Railway Act, and to the mercantile organizations enumerated in general order 153, Nov. 4, 1915, and the proposed changes having been considered at a conference of representatives of the Grand Trunk, Canadian Pacific, and Canadian National Railways, the Canadian Manufacturers' Association, and the Montreal and Toronto Boards of Trade, held at Montreal, Apr. 9, 1919, when various objections filed with the board were considered, the proposed changes were agreed to, modified, or eliminated; and upon the consideration of what has been filed, and upon the report and recommendation of the board's Chief Traffic Officer, it is ordered that the proposed supplement 12, as finally revised and submitted for approval by the Canadian Freight Association's chairman, by letter, dated May 28, 1919, be approved.

Eastern British Columbia Ry.'s Tariff.

28,420. June 11. Re application of Eastern British Columbia Ry., for approval of its standard mileage freight tariff C.R.C., 73; upon reading what has been filed in support of the application, and upon the report of the board's traffic department, it is ordered that the said tariff, cancelling C.R.C., no 16, be approved; the said tariff, together with a reference to this order, to be published in at least two consecutive weekly issues of the Canada Gazette.

Commodity Rates on Ferro Silicon.

28,427. June 11. Re application of Montreal Board of Trade for disallowance, and of Canadian Manufacturers' Association for suspension of proposed cancellation of commodity rates on ferrosilicon from Welland and Thorold, Ont., and Shawinigan Falls, Que., the said proposed cancellation having been suspended by order 27,841, Nov. 7, 1918; upon hearing the matter at Toronto and Montreal on Jan. 15 and 16, 1919, respectively, in the presence of counsel and representatives for the Canadian Pacific, Grand Trunk, and the Canadian National Railways, and the Canadian Manufacturers' Association at the Toronto sittings; counsel for the C.P.R. only appearing at the hearing in Montreal, the case was adjourned to be reinstated for hearing at the request of the parties; no application for a rehearing having been made on behalf of the Montreal Board of Trade, and the Canadian Manufacturers' Association having withdrawn its application for suspension; it is ordered that order 27,841, made herein, be rescinded.

Classification of Dr. Rusk's Chick Food.

28,436. June 12. Re application of the Taylor Milling and Elevator Co., Lethbridge, Alta., complaining against the classification of Dr. Rusk's chick food, when shipped in mixed cars of flour and feed; upon hearing the application at Lethbridge, Feb. 24, 1919, in the presence of counsel for the C.P.R., the applicant being represented at the hearing, and what was alleged; and upon reading what has been filed in support of the application, and on behalf of the Canadian Freight Association, and the report of the board's Chief Traffic Officer, and its appearing that the C.P.R., by item 87A of Supplement 10, effective May 6, 1919, to its commodity tariff C.R.C., no. w. 2,397, has established its 4th class rates from Lethbridge to all its stations in Alberta, Saskatchewan, and British Columbia on poultry food, removing in part the applicant's objections to the classification complained against; it is ordered that the C.P.R. file forthwith a further supplement to its tariff C.R.C. no. w. 2,397, adding to the said item 87A of Supplement 20, the 8th class rating for carload shipments of not less than 30,000 lb. of the items of poultry food therein enumerated; and it is further ordered that the application for the privilege of including less than carload lots of poultry food with grain products at the carload rates, provided for the latter, bulking the whole to make up the minimum weight required for grain products, be refused.

American Railroad Association and Railway Stores—The American Railroad Association has created an additional section to be known as section 6, to consider and report upon all questions affecting the purchasing, selling, storing and distribution of materials and supplies, and kindred subjects. The section will include the Railway Storekeepers' Association's former activities. H. S Burr, Superintendent of Stores, Erie Rd., is the chairman of the committee, which includes E. N. Bender, General Purchasing Agent, C.P.R., and E. J. McVeigh, General Storekeeper, G.T.R., Montreal.

British Railway Earnings, Etc., for 1918—A London, Eng., cable of June 16, referring to the Board of Trade report on British railways for 1918, states that the total revenues in 1918 increased to more than $820,300,000, compared with $550,000,000 in 1913, while total expenses in 1918 were about $606,600,000, compared with $347,000,000 in 1913. Operating rates are shown to have increased from 63.3% in 1913 to 73.9% in 1918. One item of particular interest in the statement was the increase in passenger receipts. They were approximately $250,000,000 in 1913, and in 1918 were about $322,500,000.

Birthdays of Transportation Men in July.

Many happy returns of the day to:

A. A. Allan, Vice President, Holden Co., Ltd., Montreal, formerly Master Mechanic, Temiskaming & Northern Ontario Ry., born at Grafton, Ont., July 7, 1870.

J. H. Black, ex-Superintendent, Timiskaming & Northern Ontario Ry., now at Toronto, born near Smiths Falls, Ont., July 8, 1874.

D. E. Blair, Superintendent of Rolling Stock, Montreal Tramways Co., born at St. Thomas de Montmagny, Que., July 25, 1877.

D'Alton C. Coleman, Vice President, Western Lines, C.P.R., Winnipeg, born at Carleton Place, Ont., July 9, 1879.

G. C. Conn, ex-Freight Traffic Manager, Pere Marquette Ry., Detroit, Mich., now General Traffic Manager, Buick Motor Co., Flint, Mich., born at Woburn, Mass., July 1, 1867.

H. Darling, Locomotive Foreman, Grand Trunk Pacific Ry., Smithers, B.C., born in Northumberland, Eng., July 27, 1873.

S. E. Dewey, General Eastern Freight Agent, G.T.R., New York, born at Beckenham, Kent, Eng., July 4, 1879.

A. H. Eager, Mechanical Superintendent, Western Lines, Canadian National Rys., Winnipeg, born at Waterloo, Que., July 15, 1868.

F. C. Foy, Passenger Agent, New York Central Rd., Utica, N.Y., born at Toronto, July 5, 1881.

F. E. Hartshorn, Assistant Superintendent, Montreal Division, Quebec District, Canadian National Rys., Joliette, Que., born at West Stewartstown, N.H., July 21, 1877.

S. J. Hungerford, Assistant Vice President, Canadian National Rys., Toronto, born at Bedford, Que., July 16, 1872.

C. W. Johnston, Assistant General Passenger Agent, G.T.R., Montreal, born at Actonvale, Que., July 27, 1879.

M. Kelly, Resident Engineer, Farnham Division, Quebec District, C.P.R., Farnham, born at Thamesville, Ont., July 6, 18784.

T. King, Superintendent, Detroit Division, Grand Trunk Western Lines Rd., Detroit, Mich., born at Dunbarton, Ont., July 18, 1869.

A. E. Lock, Superintendent Car Service, Toronto, Hamilton & Buffalo Ry., Hamilton, Ont., born at Albany, N.Y., July 11, 1873.

G. A. McNicholl, Assistant General Freight and Passenger Agent, Grand Trunk Pacific Ry., Prince Rupert, B.C., born at Montreal, July 31, 1876.

H. D. Mackenzie, Master Mechanic, Canadian National Rys., Edmundston, N.B., born at Churchville, N.S., July 22, 1864.

M. H. MacLeod, Vice President, Operation, Maintenance and Construction, Canadian National Rys., Toronto, born in Skye, Inverness-shire, Scotland, July 1[illegible], 18[illegible].

J. M. Macrae, Assistant General Freight Agent, Canadian National Rys., Winnipeg, born at Stornoway, Scotland, July [illegible] 1864.

W. G. Manders, Assistant Freight Traffic Manager, Canadian National Rys., Winnipeg, born at Owen Sound, Ont., July 24, 1876.

[illegible] Marple, General Foreman, Michigan Central Rd., St. Thomas, Ont., born in McKillop Tp., Ont., July 1, 1860.

J. E. Morazain, General Superintendent, Quebec District, Canadian National Rys., Quebec, born at Wheatland, Que., July 31, 1875.

P. C. Perry, Assistant Resident Engineer, Grand Trunk Pacific Ry., Regina, Sask., born at Fort William, Ont., July 27, 1889.

R. E. Perry, Assistant General Freight Agent, Canadian National Rys., Montreal, born at Drayton, Ont., July 5, 1876.

J. E. Quick, ex-General Baggage Agent, G.T.R., Toronto, now at Port Huron, Mich., born at Richmond, Ontario Co., N.Y., July 10, 1851.

G. G. Ruel, Counsel, Canadian National Rys., Toronto, born at St. John, N.B., July 5, 1866.

C. Steeves, General Boiler Inspector, Eastern Lines, Canadian National Rys., Moncton, N.B., born at Hopewell Cape, N.B., July 6, 1874.

George Stephen, Freight Traffic Manager, Canadian National Rys., Toronto, born at Montreal, July 5, 1876.

Sir Thos. Tait, President, Fredericton & Grand Lake Ry. & Coal Co., Montreal, born at Melbourne, Que., July 24, 1864.

M. M. Todd, Vice President and Treasurer, Grand River Ry. and Lake Erie & Northern Ry., Galt, Ont., born there, July 22, 1891.

H. B. Walkem, Assistant Engineer, C.P.R., Vancouver, B.C., born at Montreal, July 31, 1858.

G. A. Walton, General Passenger Agent, Western Lines, C.P.R., Winnipeg, born at Montreal, July 17, 1881.

R. H. Webster, Commercial Agent, G.T.R., Moncton, N.B., born at Pictou, N.S., July 2, 1885.

Canadian Manufacturers Oppose Government Railway Ownership.

The Canadian Manufacturers' Association passed the following resolution at its annual meeting in Toronto recently:—Whereas, the Dominion Government has been compelled to take over and operate two transcontinental railway systems, and whereas, these systems are not yet paying the cost of operation, and deficits incurred by them must be borne by the tax paying public, and whereas, competition is absolutely necessary in order to secure proper and adequate service, be it therefore resolved, that the Canadian Manufacturers' Association places itself on record as being opposed to any further acquisition or operation of railways by the Dominion Government.

Interswitching at Owen Sound, Ont.—The city council engaged W. F. Tye, C.E., recently to report on the feasibility of interswitching traffic between the C.P.R. and G.T.R., and also on the possibility of erecting a union station and establishing an electric railway service. The two railway lines are on opposite sides of the Sydenham River, and it is proposed to build a Y crossing the river from the G.T.R. near 10th St., to connect with the C.P.R. on the east side of the river. The estimated cost of this is $100,549, and it is claimed that a saving of $4,258 a year would be effected, over the present system of road hauling. The report did not favor the erection of a union station, or an electric railway, stating that a considerable annual loss could be expected.

Canadian Pacific Railway Honor Roll 43.

Armstrong, James Henry	Agent	Lemberg	Wounded
Astbury, Charles	Painter	Winnipeg	Wounded
Bareham, Arthur	Wiper	Moose Jaw	Wounded
Birkhead, George J.	Sectionman	Inglewood	Killed in action
Bogeya, George	Car cleaner	Toronto	Wounded
Bougie, Joseph	Boilermaker	Kenora	Presumed dead
Clifford, Arthur	Carpenter	Winnipeg	Wounded
Coffey, George	Apprentice	North Bay	Wounded
Costello, Patrick C. L.	Clerk	Calgary	Wounded
Cox, Percy Alexander	Acting agent	Yokohama	Wounded
Dando, Arthur Orchard	Helper	Ogden	Wounded
Disbrey, William	Stower	Regina	Wounded
Emery, Nelson Victor M.	Stenographer	Saskatoon	Died of wounds
Fairbairn, Howard A.	Coalman	Bobcaygeon	Wounded
Foley, Herbert	Foreman	Lethbridge	Wounded
Gardner, Jack	Helper	Glen Yard	Killed in action
Gilchrist, Robert B.	Carpenter	Ogden	Wounded
Harvey, Fred Adam	Trainman	Revelstoke	Wounded
Horsfield, Albert	Air brake tester	Ogden	Shell shock
Ireland, James Henry	Yardman	Wnnipeg	Wounded
Kinnear, George Watson	Elevator operator	Calgary	Killed in action
Lingwood, Alfred	Ashpitman	Sault Ste. Marie	Wounded
Loutit Walter	Brakeman	Kenora	Wounded
McHugh, George Cecil	Porter	Toronto	Wounded
McRitchie, Donald	Clerk	Montreal	Wounded
Macario, Herbert G.	Apprentice	Angus	Wounded
Menzies, Harold A.	Checker	London, Ont.	Wounded
Mongrain, Frederick	Trainman	Kenora	Wounded
Murray, Robert Hamilton	Inspector	Calgary	Wounded
Pallet Lawrence C.	Clerk	Vancouver	Wounded
Patterson, William	Watchman	Ayr	Wounded
Reid, Philip Burton	Foreman	Bassano	Died of wounds
Reade, William	Car repairer	West Toronto	Wounded
Roy, George Henderson	Clerk	Calgary	Died of wounds
Sargood, Timms Augustus	Locomotive fireman	B.C. Dstrict	Wounded
Sharpe, John William S.	Clerk	Montreal	Gassed
Skinner, George Clark	Linen handler	Calgary	Wounded
Smith, William James	Teamster	Strathmore	Believed killed
Spinney, Arthur G.	Car repairer	St. Thomas	Wounded
Stevens, Harry G.	Locomotive fireman	Montreal	Wounded
Stewart, Charles A.	Locomotive fireman	New Brunswick Dist.	Wounded
Sutherland, Walter S.	Transportation student	Toronto	Wounded
Thorndike, Stanley	Brakeman	Manitoba District	Wounded
Tiffen, Harry H.	Clerk	London, Eng.	Wounded
Tweedle, Robert C.	Wiper	East Calgary	Wounded
Ward, John	Porter	Lethbridge	Killed in action
White, Frederick	Helper	London, Ont.	Wounded
Williams, Edward S.	Levelman	Strathmore	Wounded
Wilson, Gordon	Trainman	Minnedosa	Wounded

Shown on honor lists to date: Killed, 904; wounded, 1,951; total, 2,855.

Electric Railway Department

Electric Railway Operating Statistics for Year Ended June 30, 1918.

The figures in the following table are reproduced from statistics issued by the Railways Department at Ottawa. The following abbreviations are used in the names of railways: E., electric; E.R., electric railway; E.S.R., electric street railway; S.R., street railway. The minus mark (—) in the column for net income or deficit, shows that there was a deficit in the operation of the line to the extent of the figures given.

The figures in the first column of figures show the first main track mileage. In addition there are 453.11 miles of second track, making a total of 2,069.47 miles of main line track. An explanation of errors made in previous returns issued by the Railways Department will be found under "Notes to Electric Railway Statistics, on another page of this issue.

Name of Railway	1st Main track mileage	Gross earnings from operation	Miscellaneous income	Operating expenses	Taxes funded debt, etc.	Net income or loss	Total car mileage	Fare passengers carried	Freight carried tons
Berlin and Waterloo S.R. (Now Kitchener and Waterloo S.R.)	3.28	$ 57,926	$ 163	$ 37,529	$ 7,585	$ 12,975	$ 199,334	1,315,037	
Berlin and Northern Ry.	3.15	8,159		7,909	3,121	—2,870	35,254	161,266	
Berlin, Waterloo, Wellesley & L. Huron Ry. (Operated as Grand River Ry.)	17.81	221,339	1,960	165,341	31,663	26,295	299,569	1,294,337	176,949
Brandon Municipal Ry. (1)	10.31								
Brantford and Hamilton Ry.	23.19	207,233		119,071	94,766	—6,605	374,463	711,848	5,337
Brantford Municipal Ry.	14.61	111,301		81,361	1,653	28,285	401,859	1,909,750	82
British Columbia E.R.	244.22	3,218,697	1,148,953	2,708,513	941,087	718,049	13,069,050	52,853,373	365,426
Calais S.R. (2)	7.00	41,926		33,021	6,072	2,833	183.960	748,697	
Calgary Municipal Ry.	55.50	612,029	16.542	424,558	112,383	91,630	2,912,502	14,519,256	8,945
Canadian Resources Development	1.75	95		942		—847	6,388	1,913	
Cape Breton E.R.	30.59	286,902	116,435	203,460	120,720	79,175	720,355	5,466,012	
Chatham, Wallaceburg & Lake Erie Ry.	38.05	130,585		97,590	39,736	—6,742	348,650	258,776	97,250
Cornwall E.R.	4.00	35,263	25	38,184	1,218	—4,113	227,255	440,851	89,733
Edmonton Radial Ry.	31.09	499,023		360,370	236,966	—98,213	1,862,699	10,214,019	200
Fort William S.R.	19.88	147,988		107,485	86,205	—45,703	730,107	3,430,129	
Guelph Radial Ry.	8.03	50,149	2,565	41,280		11,434	220,350	1,125,552	23.712
Halifax Tramways Co. (Now Nova Scotia Tramways and Power Co.)	12.29	421,692	202,378	275,423	188,280	160,366	1,371,352	9,537,172	
Hamilton and Dundas E.R.	6.98	83,746		57,891	6,240	19,613	161,181	1,002,355	352
Hamilton, Grimsby & Beamsville E.R.	22.60	152,022		135,048	15,287	1,687	413,519	739,386	40.921
Hamilton S.R.	17.40	787,429		549,204	105,022	133,202	2,754,918	18,303,824	
Hamilton Radial Ry.	22.86	173.489		169,250	56,608	—52,369	501,867	1,167,273	47,746
Hull Electric Co.	15.67	207,244	32,990	147,802	87,289	5,143	854,215	3,278,032	7.270
International Transit Co.	4.30	140,771	1,711	87,402	9,777	45,302	261,528	2,258,563	
Kingston, Portsmouth & Cataraqui E.R.	7.00	49,809	503	42,517	4,976	2,819	199,680	1,049,697	
Lake Erie and Northern Ry.	51.00	211,237		154,974	115,612	—59,350	412,772	440,508	64,802
Lethbridge Municipal Ry.	7.00	54,144		47,246	26,911	—20,013	259.983	1,086,813	
Levis County Ry.	11.75	96,732		113,306	16,783	—33,356	438,521	1,964,291	2,130
London S.R.	27.48	442,713		345,161	37,918	59,633	1,913,047	11,987,965	
London & Lake Erie Ry. and Transportation Co. (3)	29.75								
London & Port Stanley Ry.	24.50	368,914		255,670	75,983	37,260	833,567	842,641	614,351
Moncton Tramways, Elec. and Gas. Co.	4.47	15,215		22,117		—6,901	79,792	351,698	
Montreal Tramways Co. (4)	124.26								
Montreal and Southern Counties Ry.	52.20	303,216	174	316,580	72,989	—86,178	909,348	2,263,702	12,467
Moose Jaw E.R.	9.00	107,182		85,685	4,072	17,423	458,226	2,414,341	
Nelson S.R.	2.13	14,596		13,626	3,807	—2,838	60,750	332,234	
Niagara Falls Park and River Ry.	11.91	113,514	7,504	90,377	36,970	—6,329	274,328	1,155,160	
Niagara, St. Catharines & Toronto Ry.	61.58	766,422		569,960	88,094	108,367	1,362,084	5,788,656	429,703
Niagara, Welland & Lake Erie Ry.	1.87	31,606	470	17,716	3,597	15,762	84,566	680,515	
Nipissing Central Ry.	15.37	97,426	212	83,552	10,287	3,798	253,864	1,179,920	
Oshawa Ry.	9.00	172,990	1,912	99,316	6,730	68,856	84,706	307,112	227,064
Ottawa Electric Ry.	28.11	1,294,187		760,955	123,991	409,239	4,998,041	29,347,692	
Peterborough Radial Ry.	6.55	74,864		62,074	12,238	651	433,782	1,575,652	
Port Arthur Civic Ry.	12.43	144,746		108,234	70,825	—34,312	641,992	3,626,722	
Quebec Ry., Light and Power Co.									
Citadel Division	16.75	545,546		363,727	2,289	170,530	2,138,959	12,671,372	
Montmorency Division	28.60	208,914		183,643		25,270	438,704	1,781,609	
Regina Municipal Ry.	25.34	244,013		207,630	96,722	—60,339	933,423	5,167,522	32,636
Sandwich, Windsor and Amherstburg Ry.	41.37	331.419	31,564	222,744	57,975	82,234	1,102,308	6,544,570	
Sarnia S.R.	8.25	68,954		59,311	5,452	4,190	209,196	1,254,647	156,581
Saskatoon Municipal Ry.	12.63	208,098		156,843	39,650	11,604	752,100	4,111,042	
St. Thomas S.R.	6.25	20,497		20,706		208		441,620	
Schomberg and Aurora Ry.	14.40	17,892		18,675	29,394	—30,178	61,642	39,109	12,532
Shawinigan Falls Terminal Ry.	3.75	61,365		50,233	12,145	—1,013			
Sherbrooke Ry. and Power Co.	9.00	65,280	67,928	61,007	68,523	3,679	408,797	1,481,892	
Suburban Rapid Transit Co.	17.26	110,439	32,918	110,206	38,916	—5,765	826,624	2,625,703	844
Sudbury-Copper Cliff Suburban E.R.	9.00	41,523	26	32,046	5,486	4,018	128,256	506,818	
Three Rivers Traction Co.	7.10	86,004		60,466	22,338	3,199	390,347	1,578,601	
Toronto Ry.	61.86	6,511,303	86,885	4,124,059	1,577,093	897,035	20,676,608	164,142,462	

(Continued on page 386).

Electric Railway Operating Statistics for Year Ended June 30, 1918. (Continued from page 385).

Name of Railway	1st Main track mileage	Gross earnings from operation	Miscellaneous income	Operating expenses	Taxes funded debt, etc.	Net income or loss	Total car mileage	Fare passengers carried	Freight carried tons
Toronto and York Radial Ry	72.17	710,253	....	529,141	147,435	33,675	1,594,849	7,464,032	44,502
Toronto Civic Ry	10.26	306,921	....	270,005	87,891	—50,975	1,460,204	18,232,979	....
Toronto Suburban Ry. (5)	19.54	277,412	856	224,212	137,459	—83,403	649,572	4,119,109	4,002
Windsor, Essex and Lake Shore Rapid Ry.	36.17	158,643	....	121,237	59,383	—21,977	373,961	549,057	26,858
Winnipeg Electric Ry	63.26	2,180,298	520,235	1,569,537	840,855	300,140	10,154,286	56,065,534	....
Winnipeg, Selkirk and Lake Winnipeg Ry.	38.48	145,166	26,176	101,076	43,895	26,371	435,403	1,181,083	5,189
Yarmouth E.R.	3.00	45,397	78	16,709	13,901	14,864	90,660	246,955	....
	1,616.36	$24,299,889	$2,311,176	$17,535,974	$6,150,074	$3,645,624	84,435,323	487,365,456	2,497,530

For additional mileage figures obtained by Canadian Railway and Marine World, see under "Notes to Electric Railway Statistics."

Less deficits .... —720,606

Total net income........ $2,925,017

Notes to Electric Railway Statistics.

The following notes refer to the statistical table on page —.

(1) The Brandon (Man.) Municipal Ry., has not reported its earnings for the year.

(2) The Calais S.R. is the line reported in previous years as the St. Stephen S.R. of New Brunswick, Calais being the contiguous town in Maine, where the line is owned and from which it is operated.

(3) The London and Lake Erie Ry., and Transportation Co. ceased operations, Oct. 15, 1918, and the lines being dismantled. No report of its earnings has been made since 1916.

(4) The mileage given in the table for the Montreal Tramways Co. is that reported by the Railways Department as at June 30, 1915, but the company's first track at June 30, 1918 was 132.50 miles. In recent years the Railways Department's statistical report has contained figures of receipts and expenditures taken from the company's annual report. They are omitted from the table this year, and the company's annual report is published in a different form than formerly, and the information formerly given is therefore not now available. The company does not report to the Railways Department.

(5) The mileage given for the Toronto Suburban Ry., 19.54, is palpably incorrect, as the company during the greater part of 1917-1918 had more than double that mileage in operation—the extension from Lambton to Guelph also being itself 46.3 miles long.

In addition to the mileage given in the table, the Edmonton Interurban Ry., which has not been operated for a couple of years, owns 8.13 miles of track.

The New Brunswick Power Co., St. John, N.B., is omitted from the Railways Department's table as it does not make reports to the department.

The Pictou County Electric Co. is omitted from the Railways Department's table as it does not report to the department.

Errors in Railways Department's Statistics.—When the Railways Department's statistics for 1916-1917 were issued, it was apparent that mileage figures given for certain railways were incorrect. As an example, the Winnipeg Electric Railway was shown as having 110.20 miles of first main track, and no second main track. Canadian Railway and Marine World called the attention of the Railways Department's Comptroller of Statistics to this and to some other similar errors in regard to other companies, in consequence of which he said he would issue a special circular to the campanies so the figures for 1917-18 may be considered more reliable than those for previous years. The following table shows the figures published by the Railways Department for 1916-1917 respectively.

	1916-1917	1917-1918
Length of 1st main track	1743.54	1616.36 miles
Length of 2nd main track...	345.72	453.11 "
Total length of main track	2089.26	2069.47 "

In referring to this matter the Railways Department's report says "There was not an actual reduction of first track mileage in 1918. There was merely an accurate statement of second track mileage, following special correspondence with units which had been making incorrect returns, the immediate effect of which was to reduce the first track mileage. The mileage of all tracks remain practically unchanged."

Mileage Actually Operated—The following additional figures of first main track mileage operated have been obtained by Canadian Railway and Marine World to supplement those given by the Railways Department:—

	Additional miles
Montreal Tramways Co	8.24
New Brunswick Power Co	18.15
Pictou County Electric Co	9.10
Woodstock, Thames Valley and Ingersoll Ry.	11..50
	46.99
Mileage given by Railways Department	1616.36
To be first main track mileage operation	1663.35

British Columbia Electric Ry. Men's Strike.

Platform and shop men of the B.C. Electric Ry.'s Vancouver and North Vancouver city systems ceased work on June 5 in a sympathetic strike, outbreaks of which have spread with revolutionary aspects throughout Western Canada. The union men took a ballot May 31 and registered three to one against the sympathetic strike. The Vancouver Trades and Labor Council held a mass meeting of all unions on June 2 and in spite of a majority of the unions of the city being against the strike and, it is believed, a majority of union men being of the same opinion, this council called the unions of the city to walk out on a general strike, the street railway men and electrical workers included. The street railway men individually were strongly opposed to the strike. The issue was not a local one. It was well known by that time that the general strike in Winnipeg and throughout the west was engineered by the so-called "one big union" with the intention of overthrowing the government and precipitating a revoluton.

The strike began in Vancouver June 9 at 11 a.m. The street railway men decided to hold a mass meeting the following night. In the meantime, strikers are alleged to have intimidated car men with threats of violence if they did not stop work. It is felt certain that this was the cause of the street railway men at the subsequent mass meeting voting two to one in favor of a strike. On that occasion, only two thirds of the men who had previously voted against the strike voted the same way, the others presumably having gone over to the other side.

A Vancouver correspondent writing us on June 7, said:—"Transportation is being provided by means of jitneys and private automobiles. The Vancouver City Council repealed the bylaw prohibiting jitneys for the time being, much to the anger of the strikers. Cars on all interurban lines are still being operated. Central Park and Burnaby Lake lines are operating to their connections with city lines, the men attached to the New Westminster Trades and Labor Council, which has registered against a sympathetic strike. New Westminster city system is also operating. The Fraser Valley and Lulu Island interurban lines are also operating, the trainmen being attached to the Brotherhood of Railway Trainmen, which is not countenancing the sympathetic strike. Electrical workers have voted to strike, but only linemen have gone out. Substation operators are still at work."

A press report of June 19, stated that the employes still continued on strike, and that no action had been taken by the heads of the union in favor of a return to work.

Service at Cost Favored in Manitoba.

The St. Boniface, Man., Board of Trade, passed a resolution recently expressing the opinion that fares should be fixed on a basis of the cost of street railway service, plus a reasonable return on the value of the property used and useful in the public service, such return to be fixed by the Manitoba Public Utilities Commission.

The Winnipeg Electric Ry., which operates in St. Boniface, favors the adoption of the service at cost plan.

The Levis County Ry. has bought 12 standard safety cars, specially fitted for the local climate, from the American Car Co., St. Louis, Mo.

The Electric Railways' Present Disastrous Position.

By Prof. L. A. Herdt, D.Sc., E.E., Vice Chairman, Montreal Tramways Commission.

Electric railway transportation stands face to face today with the greatest crisis in its history. This crisis is not due to some new competitor bidding for the first place as a common carrier; the electric railway is, and will be for some time the most economical urban and suburban carrier; jitneys, busses and others will not succeed against it. The crisis is a financial one and the problem of today concerns the method of saving an industry whose entire economic basis has been undermined.

In 1918, 4,900 miles of electric railways, more than one-tenth of the total mileage in the United States, went into receivership, representing a value of more than $500,000,000, and 750 miles of electric railways abandoned their service, representing a value of $80,000,000. A great many electric railway properties have grown weary from hope long deferred and are considering dismantlement at present day scrap prices rather than prolonged existence as losing ventures.

Brooklyn Rapid Transit, with 755 miles of track and an funded debt of $120,000,000 and $75,500,000 of outstanding stock is in the hands of a receiver. A fare of 8c is in effect, and has so far proven insufficient to pay the cost of service. The Pittsburg Ry., operating 605 miles of track is in the hands of a receiver. Hundreds of others could be cited. Roads which before the war were considered the strongest financially in the country cannot any longer withstand the economic conditions which face them.

The suggestion is sometimes made to the effect that the companies should carry on their own burdens by borrowing money, if the street car operations are now unprofitable. Let anyone go out and attempt to borrow money on an afflicted company's credit. Credit only comes from prosperity.

The whole structure of the franchise relationship between the electric railway and the various communities has broken under the strain of war. The rapid increase in the cost of everything which is used in operating street railways, the extraordinary demands of labor for high wages, made necessary by the rise in the cost of living, the alarming decrease in the purchasing power of the dollar, has brought the electric railways face to face with bankruptcy. The fundamental fact exists that under the present costs of material and labor, the majority of the street and interurban railways are furnishing, in response to the demand of the public, a service which costs more than they collect in fares.

Electric railway fares or rates are in the majority of cases regulated by law, or are established by existing franchises. With fixed fares, fixed 25 or 30 years ago, no avenue of automatic escape from rising costs lays open to the electric railway industry. In fact, the electric railways have staggered for years under inadequate rates, so that in the majority of cases, their credit has been destroyed, service impaired, equipment deteriorated to the brink of destruction.

The electric railways (not in Montreal alone), but everywhere, are asking for higher fares. These appeals have been met by a storm of rebuke. The public seems to be willing to permit this great industry to stagger on under the burdens thrown upon it, with inadequate relief in the way of increased rates, while exposed to the full brunt of the extraordinary increases in cost of labor and material. The public must be brought to realize that its interest in the electric railways of the country is greater than that of the stockholders or bond holders. The electric railways must be placed in a position to continue to discharge their essential service.

The public condemns the street car company without a hearing. Why? What is this due to? I believe that the unfairness of the public is due to the public's blissful ignorance. The public knows nothing about the street car company's troubles, because the street car company does not make a confidant of the public. Public utilities, like some other big interests, rush into print only when some calamity is about to befall them. They make some sort of plea. The public, which is the plaintiff, stands by its guns. It doesn't realize the good that the defendant has done, because it has heard only the bad. The public, someone has said, is the fairest being on earth, but it must be talked to, it must be told the facts.

A community with adequate and efficient street car service is busy, growing and prosperous, while the city, large or small, which has inadequate local transportation is dull, dead or dying. Efficient local transportation, adequate to he needs and welfare of the community is imperative. The public utility, tied by contract and franchise, with heavy financial obligations, and with definite essential responsibilities, must work constantly and continuously to fulfil its obligations—it is tied down hand and foot over long periods of time, and is held down at best to small financial returns, yet the public calls the company impertinent and worse, if it asks for a nominal increase for its products. Food has increased 100%; shelter 20%; clothing 90%—it is paid. But a public utility asks 20%—this is impertinence carried to its limit.

It is plainly evident that whether the public shall decide to operate the street railways, whether it assumes greater control over them, or whether it allows them to remain in the hands of private investors, the unit of their fares, the price at which their product is sold, must be sufficient to operate the roads. The fares should be restored to the level which prevailed in past years. The ticket dropped in our fare boxes today bears an impress "5 cents," but as compared with the 5c of a few years ago, it is 2½c and no more. The street railway franchise, or the statute or agreement calling for the 5c unit called not for an impress or a coin, but for a certain value of purchasing power. The equivalent of the 5c coin in the decade 1890 to 1900 purchasing power is the 10c fare. The purchasing power of the dollar has declined at least 50% since the early nineties. In other words, the 50c of that period bought what it requires $1 for today. The decreasing purchasing power of the dollar is not a product of the war alone. The war but gave it an additional, although a mighty, impetus. The various little things that we used to pay 5c for are now up with an advance of 2 to 4c 4c articles are now 6c, and 2c little things are now 4c. If we get right down to the cent, the newspaper that used to sell for 1c is now selling for 2c, an increase of 100%. This is all fair and just, it appears, but street car fares must remain where they are—any increase will not be tolerated.

Does the public pay high prices for electric transportation service? No—decidedly no. A tabulation of the income accounts of 388 electric railways, representing more than 63% of the electric railway mileage of the United States and Canada, shows a falling off in net income of 82% in 1918 compared with the corresponding period of 1917. Many companies are facing actual operating deficits in spite of increased fares and increases in gross receipts. In any other business the manager provides for increased costs by advancing his selling price. The electric railway company with fixed fares cannot do this; only when on the brink of destruction will the community admit that there is a justification for the readjustment of rates, and even then the increased fares have in a majority of cases caused a falling off in traffic and resulted in little, if any, actual increase in gross revenue.

Is there a remedy for the conditions facing public utilities today? Let us see how the cost of street railway service is made up. Cost of electric transportation service is made up of three main items:—1. Cost of operation, including platform wages (motormen and conductors), power for cars, heating and lighting and taxes. 2. Maintenance and renewals of the system as a whole. 3. Fixed charges, i.e., interest on the moneys invested in the system, including city rental for use of streets.

In the City of Montreal, for the period from July 1 to Dec. 1, 1918, the operating expenses per revenue passenger were in round figures 2.6, or 58% of the revenue. For maintenance and renewals. 75c or ¾c per revenue passenger was spent, that is 3.35c or 75% of the revenue was disbursed for operating expenses, maintenance and renewals. For this same period the average return per revenue passenger was 4.45c. Of this remaining 1.1c average return per revenue passenger, 1c in round figures is required to meet the company's financial obligations, that is, to meet the interest on the bonds and debentures, leaving 0.1c or a little over one-tenth of a cent per revenue passenger to meet the city rental and shareholders' dividend. In other words, in the last six months of 1918, 75% of the fare collected was paid out by the company for operating, maintenance and taxes; of the remaining 25%, 23% went to interest on bonds, mortgages and debentures; the remaining 2% goes to the city, the balance, if any, to the shareholders.

Of the total revenue in 1918, not less than 38% went to labor and 37% to material. In 1918, over $3,000,000 was paid in wages; less than one-tenth of this was paid to shareholders. An increase of 10% in wages would therefore wipe out all dividend payments for one year.

The Montreal Tramways in the year ended June 30, 1914, just prior to the war, spent in operating expenses, including maintenance and renewals, 58.89%, of its revenue. In 1918, as stated above, the operating expenses, including maintenance and renewals, amounted to 75% of the revenue. It may also be stated that the expenditure for maintenance and renewals was below the average spent in previous years. Increased wages and increased cost of materials are responsible for this large increase in operating cost. Municipal ownership is urged by many as a panacea. One year of public ownership of railways in the U.S. has proved the absolute danger of such control. It should be borne in mind that whether the public operate the street railways under public ownership, or whether they are operated by officials—the servants of private investors—the unit of the fares, that is, the price at which the product is sold (in this case transportation), must be such as will be sufficient to meet the total operating costs.

The management of an electric railway is not as blind as to refuse an extension of facilities or an improved service if it is likely to bring an increase in revenues, but it costs money to run cars and certain revenues must be obtained to keep the cars running. The real cost of service per passenger depends on the length of time that he occupies space on a car and hence the traffic conditions of high cost are: Slow average speed and long average ride.

If we divide the company's passenger revenue per annum by the number of revenue passengers per annum we obtain the average return per revenue passenger. With fixed fares, this return per revenue passenger is constant. In Montreal, the return per revenue passenger before the increase of fares, was on an average, 4.1c; it is now 4.8c, an increase slightly less than 0.7c per passenger or, an increase of 18% over the previous rate of fares. For every revenue passenger carried the company now receives 4.8c, irrespective of the distance travelled by the passenger. The dweller in Notre-Dame de Grace, or Ahuntsic, or Cartierville who rides 5, 6 or 10 miles, pays no more than the dweller in Hochelaga, or St. George or St. Denis Wards, who rides only half a mile to destination.

I have stated previously that the real cost of service to a passenger depends on the length of time that he occupies a space on a car, and hence the traffic conditions of high cost of service are: Slow speed and long average ride; the largest item of expenditure is labor as it absorbs from 38 to 40% of the total revenue.

The labor charge amounts to a fixed quantity per hour that a car is in operation, that is, the labor charge is not proportionate to the distance travelled by the car, hat is, to the mileage, but the higher the average speed of the car, the lower will be the labor cost for a given distance travelled by the car. Economy demands the largest possible car mileage in proportion to car hours and this makes the speed at which cars are operated very important. Every effort must be made to increase the average speed. Not only does a high speed make the service attractive, but it also makes possible lower prices. It is the speed and cheapness of operation which makes 5c rapid transit in subways and elevated roads possible.

The previous discussion has pointed out that to provide proper service the earnings per passenger must be sufficient to allow a liberal allowance for operating expenses per passenger, that is, an adequate car mileage per annum varying with the total number of passengers must be provided. Funds must also be provided for the proper maintenance and repair of the tracks and equipment. Annual fixed charges of the capital invested in the system must also be paid.

Under the new contract, the Montreal Tramways system is operated under a service at cost plan whereby the fare is automatically adjusted to meet the cost of service, including in this cost a fair return to capital invested in the enterprise. The new tramways contract embodies primarily the control of the fares, that is, the control of the fares in order to prevent unreasonable profits to the company from exploitation of the need of the public for tramways service. The cost of service principle is embodied in this contract.

The principle of controlling the fare in order to prevent such exploitation, or in other words, imposing a limit to the company's profits, involves in equity the provision also of means to guarantee to the company a minimum fair return on is investment. As the chances of excessive profits are removed, so the chances of loss must be minimized. It is clear, therefore, that at any time the fare must be sufficient on the average to pay for the cost of operation and proper maintenance of the system, with such other legitimate charges against revenue as may be agreed on, including a fair minimum profit on the invested capital of the company. This return is a preferred charge on the company's revenue after paying for the operation and proper maintenance of the system. If a guaranteed return is provided, the company must allow of a measure of outside control on such deductions from revenue as have priority over this return on the capital invested. It follows, that the various items of the cost of service must externally controlled.

In order to provide service to the public, the Montreal contract provides continuous control of the car service. This necessitates the provision of sufficient cars to carry the traffic under average conditions and special provision for rush hour conditions. It is impossible to formulate clauses in a contract to provide for control of his nature; a controlling body must be empowered to order such changes as from time to time may become desirable after careful study of the traffic requirements. Apart from rush hour conditions the service bears a simple relation to the average number of passengers per car mile, carried per annum, that is, the density factor. The cost of operation and maintenance are passenger varies almost inversely as this density factor. Thus a high value of this factor results in a low cost per passenger, but the cars will be crowded. At present, when the base costs of operation and maintenance are high, it is necessary to allow a high value for this ratio, in order to keep the cos per passenger within reasonable bounds. This limit is imposed by the average fare per passenger collected. With a decrease in base costs it may be desirable to reduce this factor, giving improved service at the same maximum cost and fare.

After all the charges have been paid, viz: operating expenses, maintenance and renewals, fixed charges, city rentals, the remaining surplus is to be divided in the proportion of 20% to the company, 30% to the city and 50% to a special fund devoted to the reduction of fares. The sum total of this fund is used as the indicator of the adequacy of the fare charged to meet the charges of the company. If this fund becomes depleted, due to drafts to make up shortage in the contingent reserve fund, it will be evident that the succeeding year's operation would show a further drain of reserve which would not be replenished from the tolls reduction fund. All the charges against income would not be fully guaranteed for the succeeding year and since such guarantee is a primary condition of the contract, it will be necessary to revise the fare schedules to replenish the contingent reserve fund. At any time when, owing to there being a large balance to the credit of the tolls reduction fund, the same being sufficient to make up the estimated decrease in gross earnings at a lower fare for a period of several years, it is provided that the controlling body may order a reduction of fare. This method of obtaining a readjustment of fares, being based on the total of a fund to which, when any surplus exists, money is added each year, prevents the possibility of postponing a reduction of fare by excessive expleniture undertaken to reduce the annual surplus. In this respect the scheme of the proposed contract is different from any that have been in use.

It will be seen from the above discussion that the permanent controlling body is necessary. It is obvious that outside control, as above provided for, is in the interest of the travelling public. Since the city shares in the profits and responsibilities of the tramways system, it is a partner in the enterprise. It is desirable, therefore, that such controlling body should be independent of the City of Montreal and of the Montreal Tramways Co., and should be an entirely independent body.

The agreement provides for a proper return on the fair value of the property and guarantees efficient service to the community. Ou such a basis the matter of fares readily adjusts itself and such questions as the extension of service into unproductive territory, increase of service, and other questions that have caused irritation in the past, will present themselves for consideration in an entirely new aspect. All unnecessary burdens and additional burdens imposed upon the electrim railways must inevitably and logically be reflected sooner or later, either in the rate of fare, or in the impairment of the service rendered. The familiar protests against the crowding of cars, antiquated equipment, infrequent service, poor service, transfer privileges, etc., will now come back to the car riders themselves and the remedy is obvious. The people of Montreal or any other city can ride in discomfort or in luxury according to the bill which they are willing to pay.

The foregoing paper was read before the Montreal Publicity Association recently.

The Detroit Wages and Fare Situation—Employes of the Detroit, Mich., United Rys., returned to work June 12, after having been on strike from June 7 to enforce a demand for an advance of wages. The plan of settlement involves the increase of wages to 50c an hour for the first 3 months; 55c an hour for the next 9 months, and 65c an hour thereafter, to date from May 16, with the abolition of the 5c fare, and the 8 for 25c workmen's tickets, from June 21. The fare to be charged as fixed by the city council is 5c.

The Winnipeg Sympathetic Strike and the Winnipeg Electric Railway.

A correspondent wrote Canadian Railway and Marine World from Winnipeg, June 15, as follows:—

At the time of writing, June 15, Winnipeg has been in the throes of a general strike for just over 4 weeks. This strike, which affects 35,000 workers, was aimed at depriving this city, of 200,000 people, of its public utilities and necessities of life, and is very generally acclaimed to be an attempt on the part of radical leaders who control the local trades and labor council, to establish Bolshevism and the rule of the soviet here. That the strike has extended over so long a period, is due to the very wholehearted manner in which the citizens have banded together, in an effort to defeat what even ministers of the crown have described as a revolutionary attempt to overturn proper governmental authority and to supplant sane progressive trades unionism with the "one big union" idea, which is akin to the I.W.W. and Bolshevist movements in other countries.

A dispute between metal trades employers and employes was seized upon by the trades and labor council as the casus belli. The metal trades employers, while prepared to negotiate schedules with committees of their own employes, or international representatives of the latter, refused to recognize the metal trades council, a combination of unions, including several with which the metal trades employers had no dealings with whatever and nothing to discuss. The metal trades council, which is composed of very radical socialists, insists on being recognized as the official negotiating body for all metal trades workers. The employers, however, refused to recognize any extraneous body. In spite of the fact that the employers were prepared to negotiate with unions or committees of their own employes the metal trades council received the support of the trades and labor council, on the plea that the employers refused to recognize the principle of collective bargaining, and in order to force the employers to accept the definition of collective bargaining, as drawn up by the metal trades council, a general sympathetic strike of all unions, including firemen and policemen, associated with the trades and labor council was called. A vote of the unions was taken first and 8,000 voted in favor of the strike, as against only a few hundred opposed. Misrepresenting this as a majority vote of all workers, the general strike went into effect on May 15, and 35,000 workers became idle. Before the strike, and since, strenuous efforts have been made by provincial and Dominion authorities to effect a settlement. The strike leaders, holding that they could not arbitrate a principle, which in this case is collective bargaining, refused to refer the dispute to arbitration.

Printing pressmen, stereotypers and locomotive firemen, locomotive men and trainmen were also called out. For a week Winnipeg was without a daily newspaper, but the international organizations of these various unions refused to countenance a sympathetic strike, and the local unions which did strike, have in consequence been punished. The newspapers have now got their full staffs, while the train service has not suffered much interference. Incensed at the attempt to deprive the city of fire and police protection, transportation, water, light, milk and bread, etc., the citizens banded together into a "Committee of One Thousand" and issued the edict that before a settlement of the metal trades dispute is made the question of the sympathetic strike must be settled once and for all. Volunteer forces were organized to man the police and fire brigades, the light and water plants, and the milk plants and bakeries. Having thus successfully nullified the attempt of the strike committee to reduce the city to starvation, the citizens expressed determination that the sympathetic strike weapon, as it applies to various utilities, shall not be resorted to every time there is a dispute between a private employer and his employes. Permanent staffs for the fire, police, and other utility departments have to sign a "loyalty" oath before being taken on, in which they declare they will not become members of any union affiliated with an outside body, and that they will not participate in sympathetic strikes.

One of the principal sufferers in connection with the strike has been the Winnipeg Electric Ry. Co., which operates light, power, gas and transportation utilities. Fortunately the company was able to keep its light, power and gas plants in full service, but the transportation utility has been completely tied up since May 15. The 1,700 motormen, conductors, and shop employes, struck in sympathy with the metal trades employes and not through any dispute with the company. At the time the strike was called a board of conciliation was engaged in arbitrating the demands of motormen and conductors for 70c an hour (maximum) and an 8-hour day. Several sessions of this board had been held, but A. Scoble, business agent of the street railwaymen's union, had told the board that no matter what its decision was, unless the demands of the men were met they would go out on strike. The union refused to name a representative on the board, and refused to put in its case. Three days before the sympathetic strike was called, the street railwaymen were asked, by their union officials, to vote on the question: "Are you in favor of a strike to enforce your demands?" No reference was made to conciliation, and the result of the vote was 97% in favor of a strike. No vote, however, was taken on the sympathetic strike issue, but the men responded to the trades and labor council's call and went out on strike on the morning of May 15. Meantime the board of conciliation investigating the men's demands had suspended until the strike is over.

No action was taken with regard to resuming street car service until June 9, when the city council passed a resolution requesting the company to resume operation immediately. Several conferences were held between officials of the company and the city with regard to the provision of police protection. In response to the city council's demand, A. W. McLimont, Vice President and General Manager of the company published an advertisement in all local papers asking the men to report for work at their respective barns on June 12 at 8 a.m. This advertisement closed with the following appeal: "I wish to convey to you men my personal feeling that you are not now aiding the cause for which the general strike was called by continuing to deprive the people of Winnipeg of transportation. On the contrary, you are injuring your personal standing in the community and getting the authorities and the public alike down upon the Winnipeg Electric Railway Co.'s employes. Remaining on strike now only results in seriously injuring the company which employs you and depriving it of revenue it must have to conduct its business, and provide the wherewithal to pay your wages, in order that you in turn may support your families and yourselves."

On June 11 members of the street railwaymen's union held a meeting to consider this new development, and after discussion they decided unanimously to remain out on strike in sympathy with the other workers. Strong pickets were placed at the respective barns, the following morning, and only two employes reported for duty. Resumption of service, of course, was impossible.

In a letter to Mr. McLimont, the president of the street railwaymen's union, after giving the result of the meeting, said: "We regret that we are unable to comply with your request that we appear for work at 8 o'clock on Thursday morning to operate cars. We would be very pleased to do so if the question that caused the suspension was eliminated, but instead of it being eliminated, other complications have been added that make in our opinion operation of cars a serious mistake at this time. We are hopeful, with your co-operation, that the time of operation will be extended until the matters in dispute are satisfactorily adjusted to all concerned. We appreciate the spirit in which your letter is couched and we hope that in the very near future we will be able to resume our former positions, and continue our past amicable relationship, and we would request that you use your good offices with the many other influential interests that are working, with the object in view of restoring to our fair city that spirit of good fellowship and brotherly love that should permeate every man and woman that has the welfare of the community at heart. Try with us to again establish the spirit: 'Do to others as we would have them do to us.' "

At a city council meeting on June 14 the question of permitting jitneys to ply the streets just so long as the street car service might be tied up, was discussed. The City Solicitor suggested that the council might ask the Winnipeg Electric Ry. Co. to waive the agreement with the city prohibiting jitneys for the time being. Some of the aldermen, however, argued that the company had broken its agreement through not providing street car service when requested by the council, and was, therefore, out of count. After discussion the City Solicitor asked for time to study the question, before making a statement as to what rights the city had to permit jitneys to run under the circumstances.

As the Winnipeg Electric Ry.'s passenger revenue averaged about $10,000 a day previous to the strike, its loss has, of course, been very heavy..

Owing to the fact that on June 12 only two out of the whole of the men on strike reported for work, no attempt was made to operate any cars. The element seemed [illegible] with the strikers in preventing the cars running, for on June 14, the city was visited by a severe cyclonic storm, which did very considerable damage to the electric railways and power transmission lines, etc., it being reported that on the Winnipeg, Selkirk and Lake Winnipeg Ry. alone, there were eight miles of poles demolished. Owing to the effects of the storm no attempt was made to run the cars until June 18, when 13 cars were put in operation early in the morning. The power was soon afterwards mysteriously shut off, and later was turned on again. It was reported June 18 that cars would be operated on the Portage Ave. route only in the meantime. Subsequent report stated that additional men were returning to duty, that additional lines were being restarted, and that it was hoped before very long to restore a full service. On June 25 it was announced that the sympathetic strike had been called off unconditionally and that normal electric car service would be restarted at once.

Quebec Railway, Light & Power Co. Orders Double Truck Cars.

The Quebec Railway, Light & Power Co. has ordered 10 double truck steel cars for its city street railway division, the same to be fully equipped and ready to operate, and to be numbered 610 to 619, both inclusive. Five have been ordered from Ottawa Car Manufacturing Co. and 5 from Preston Car & Coach Co. Following are the principal particulars:

[illegible]	about 42 persons
[illegible]	about 15,000 lb.
[illegible]	about 36,000 lb.
[illegible]	29 ft. 88 in.
[illegible] front vestibule	4 ft. 6 in.
[illegible] rear vestibule	6 ft. 0 in.
[illegible] over all (not to exceed)	8 ft. 0 in.
[illegible] (not to exceed)	7 ft. 8 in.
[illegible] bumpers	0 ft. 6 in.
[illegible] (not to exceed)	11 ft. 2 in.
[illegible]	18 ft. 0 in.
[illegible]	mahogany finish
[illegible]	agasote
[illegible]	single arch
Air brakes	Westinghouse S.M.E.
[illegible]	Peacock
[illegible]	4½ in. diam.
Car trimmings	Ottawa Car Co.
[illegible]	" "
[illegible] end	Westinghouse K-35-D
[illegible]	Nat. L. W. Co.
[illegible]	Fabrikoid
[illegible]	H.B. life guard
[illegible]	15-69-5 in. face
[illegible]	Nuttal b.f.
[illegible]	Con. Car Heating Co.
[illegible]	Crouse Hinds
[illegible]	Brill
[illegible] Westinghouse [illegible]	40 h.p. each
[illegible]	outside hung
[illegible] center of car	
[illegible] at iron stanchions	
[illegible]	4 longi- [illegible] seats
[illegible]	rattan
[illegible] wheel [illegible]	Brill 76-E-2
[illegible]	rolled [illegible] flange
[illegible]	[illegible] honeycomb

[illegible]

[illegible] type).

Motorman and conductors' seats.

[illegible] standard double roller bearing [illegible] and ball center bearings.

[illegible] gongs, p.a.y.e. stand.

[illegible] tube, Nuttal trolley [illegible]

[illegible] same as Montreal Tramways [illegible]

Construction underframe and carbody to be of similar design to that of Montreal Tramways Co., 1550 class cars, eliminating folding steps and doors feature on rear vestibule end. Front vestibule to be short, and equipper with folding door and step, with operating lever convenient to motorman. There to be no bulkhead at front end of car, but 2 iron pipe stanchions and a panel installed up to the height of the belt rail, also a long cross seat to be installed across the front end of car to seat 3 persons. Rear vestibule to be circular at end, and equipped with heavy bronge p.a.y.e. rails, no doors on entrance or exit to platform. There are to be 11 double sash windows in each side of car body, top sash to be stationery, and bottom sash made to raise, to open. Roof to be of arch type, with 3 honeycomb ventilators at each side. Bulk head at rear end, with one sliding door at exit side, and one folding door at entrance side.

Car to be equipped in accordance with specifications with seats bumpers, drawbars, curtains, grabhandles, p.a.y.e. rails, folding step at front vestibule, push buttons, buzzers, signal bells, alarm gongs, hand straps, ventilators, brakes, track sanders and other minor fittings and appliances found on cars of this type generally. Six iron pipe guard rods with fittings to be put on windows on devil strip side of car body 3 in. apart. Also a 3-rod brass window guard on vestibule windows and seats for the motorman and conductor.

The specifications cover the construction of car bodies, equipments, trucks, special fittings and appliances mentioned therein, cars to be furnished ready for operation. Minor details suggested by the purchaser during the construction of the cars to be carried out without extra charge, providing such suggestions are made in time not to interfere with the construction.

British Columbia Electric Ry.'s Housing Plans.

As a practical instance of what may be done by a company for the benefit of its employes in the way of enabling them to own their own homes, the project recently put in operation by the British Columbia Electric Ry. is of interest. The company made a start with its office employes, and to assist them in buying or building houses, set aside recently $50,000 to be loaned at 6% repayable in instalments. The details of the plan, which were worked out by a committee of the Office Employes' Association, fix the maximum amount to be loaned to any one employe at $2,500, and the repayment term at 12 years. Over 80 applications, totalling $160,000, were received, and the committee selected 25 of the applicants. The first cases handled are purchases of houses already built. The applicant is required to provide cash or security equal to 10% of the loan, so that on a $2,000 property, the company will provide $1,800, and the employe $200. The company's legal and other departments give their services free in carrying out the plans.

American Electric Railway Association Convention—Owing to war conditions this association did not hold a convention in 1917 or 1918, but it will revive its annual convention this year, and that of its affiliated associations, viz: American Electric Railway Accountants' Association, American Electric Railway Engineering Association, American Electric Railway Claims Association and American Electric Railway Transportation & Traffic Association. The convention will be held at Atlantic City, N.J., from Oct. 6 to 10, both inclusive, and there will be an electric railway appliance exposition on Young's Million Dollar Pier, where the associations' meetings will also be held.

Electric Railway Finance, Meetings, Etc.

British Columbia Ry. and allied companies:—

	Apr., 1919	Apr., 1918	10 mons. to Apr. 30, 1919	10 mons. to Apr. 30 1918
Gross	$631,988	$515,417	$6,022,107	$5,010,688
Expenses	458,674	385,420	4,449,003	3,848,134
Net	173,314	129,997	1,573,104	1,162,554

The gross and net for Apr., 1919 include $16,185, representing 1c out of every 6c fare collected in Vancouver, and held in suspense under the Public Utilities Act, pending the commission's decision.

Electric locomotive for Hydro Electric Power Commission of Ontario's Niagara Power Development Construction Railway.

Cape Breton Electric Co.:—

	Apr., 1919	Apr., 1918	4 mons. to Apr. 30, 1919	4 mons. to Apr. 30, 1918
Gross	$46,455.82	$37,674.04	$184,534.25	$154,913.56
Expenses	33,316.47	27,985.85	136,732.30	120,365.48
Net	13,139.35	9,688.19	47,801.95	34,548.08

Regina Municipal Ry.—A Regina, Sask., paper says:—"During May the street railway deficit took a jump from $9,152 to $17,324. In other words the deficit for May was nearly as great as that of the four preceding months." Superintendent Houston is reported to have pointed out that cheques for back pay for the increase of wages granted by the council were paid in May. He estimates that the increase will amount to $11,000 or $12,000 a year, so that $5,000 of the increased deficit would be accounted for in this way. This added to the normal increase in the deficit for the month at the first four months of the year would practically make up the difference of the deficits.

Sandwich, Windsor and Amherstburg Ry.—It was reported May 30 that negotiations were in progress for the purchase by the Hydro Electric Power Commission of Ontario of the lines in Canada, owned by the Detroit United Rys. and operated by the Sandwich, Windsor and Amherstburg Ry. A subsequent statement was to the effect that the negotiations had been broken off owing to the decision of the municipalities to submit bylaws authorizing the company to charge increased rates in order to pay its employes higher wages on a scale agreed upon. The bylaws will, it is said, be voted upon by the ratepayers of the City of Windsor, the Town of Walkerville, and the municipality of Sandwich, on July 5.

Toronto Ry.—At a recent meeting of the Toronto board of control, the mayor moved that a bylaw be submitted to the ratepayers at the election in Jan., 1920, authorizing the provision of $5,000,000 to prepare the way for the taking over of the Toronto Ry. by the city in 1921. The matter was referred to the city council's transportation committee.

Toronto Ry., Toronto and York Radial Ry. and allied companies:—

	Apr., 1919	Apr., 1918	4 mons to Apr. 30, 1919	4 mons. to Apr. 30 1918
Gross	$1,051,960	$1,065,766	$4,257,882	$4,229,490
Expenses	573,597	565,038	2,476,143	2,285,928
Net	478,363	500,728	1,781,739	1,943,562

Winnipeg Electric Ry. and allied companies:—Net earnings after operation April were $94,570.69, and after deducting fixed charges, $34,284.97.

Montreal & Southern Counties Ry. Franchise Renewed.

The Montreal City Administrative Commission on June 3, passed a bylaw extending the Montreal and Southern Counties Ry.'s franchise for 10 years from June 15, 1918. The company's track in the city is 2,697 ft. long, and for the use of the streets on which it is laid the company is to pay a rental of $1,400 a mile, plus the cost of sprinkling, and cleaning streets, the removal of snow, and certain repairs to pavements. The total of these items is to be revised every three years, the cost for the first period under the new franchise being, at the rate of $4,167.40 a year. The company may be called upon to put its power conductors underground; it must lay track on any lines authorized under the franchise by Nov. 1 of this year; it may take up passengers with their baggage, as well as freight and parcels, at its terminal station, but it must not operate a local service within the city limits. (May, 1918, pg. 211).

Toronto Street Car Questions.

The Toronto Bureau of Municipal Research asked the following questions recently:—

Should the citizens at large be compelled to make good annually, through the tax rate, the deficit created by the operation of city-owned utilities?

What percentage of the passengers carried on the civic car lines reside outside the city limits?

Why should the citizens of Toronto furnish transportation at a loss to these people who are not even taxpayers?

If the basis of municipal ownership is service at cost, why not charge the cost of service to those who receive same?

Should not the civic car lines be put on a better revenue-producing basis so that our civic officials may have a fair chance to demonstrate their ability to handle civic transportation?

Does not the annual deficit from the operation of the civic car lines provide one of the most potent and damaging arguments urged against municipal ownership? Is not this argument being used today?

If the city were to charge the present rate of fares on the proposed North Yonge St. and Mount Pleasant lines, by what amount would the annual deficit be increased.

Are the real advantages to the community of encouraging people to live outside the area served by the Toronto Ry. of importance enough at this critical time to counterbalance the dangers of operation by deficit (to be made up from general taxation)?

Do the citizens wish the present policy of fares below cost continued?

Mainly About Electric Railway People.

T. Ahearn, President, Ottawa Electric Ry., entertained his fellow directors of the Bell Telephone Co. at luncheon, at the County Club, near Ottawa, recently, after they had held a directors' meeting in Ottawa.

Miss E. M. Carr, daughter of C. E. A. Carr, of the C. E. A. Carr Co., railway supplies, etc., Toronto, and formerly General Manager, Quebec Ry., Light, Heat & Power Co., was married recently at Toronto, to E. M. V. Fielding of Niagara Falls.

Mrs. G. R. G. Conway, wife of the General Manager, Mexican Light & Power Co., and one of her children, is visiting Scotland for a few months; Mr. Conway and their other two children remaining in Mexico.

Lorne C. Webster, President, Quebec Ry., Light, Heat & Power Co., has been elected a director of the Merchants Bank of Canada.

G. Gordon Gale, Vice President and General Manager, Hull Electric Co., and Mrs. Gale, are spending the summer at their country house at Aylmer, Que.

Sir Wm. Mackenzie, President Toronto Ry., left Toronto, June 14, for England, expecting to return about the end of July.

Mrs. Henry Smith, who died in London, Ont., June 10, was the widow of a former Superintendent of the London St. Ry., in the old horse car days, previous to its electrification in 1895, and for some time afterwards, and who died in 1905.

Jurisdiction Over Grand River Railway Co.

The Grand River Railway Co. applied to the Dominion Parliament, at its recent session, to repeal sec. 3, chap. 47, Dominion Statutes of 1904. An act respecting the Berlin, Waterloo, Wellesley & Lake Huron Railway Co. which provided as follows:

"The acquisition by purchase or lease by the company, of the line of either, or both, of the street railway companies mentioned in sec. 2 of this act (viz: Galt, Preston & Hespeler St. Ry. Co. and Preston & Berlin St. Co.) which have been incorporated by charter of the Province of Ontario, or any agreement for amalgamation by the company with either or both of the said street railway companies shall not make such line or lines of street railway companies shall not make such line or lines of street railways or any extension or extensions thereof hereafter constructed under such charter or charters subject to the Railway Act, 1903, or works for the general advantage of Canada, but they shall be and remain subject to the legislation and control of the Province of Ontario."

The bill has passed both houses of parliament and now only requires the Governor General's assent.

Electric Railway Notes.

The Hamilton St. Ry. at the city council's request, inaugurated near side stops on June 1, instead of stopping on the far side of crossings as theretofore. The Toronto Ry. is reported to be ordering electrical and other equipment for 50 cars to be built in its own shops.

The Weston, Ont., Town Counsel is reported to be considering taking steps to compel the Toronto Suburban Ry. to put on a 10 minute service between Keele St., West Toronto, and Weston, in accordance with a recent order by the Ontario Railway and Municipal Board.

The British Columbia Electric Ry. had one of its cars damaged recently in a collision with a Great Northern Ry. train at Georgia St. crossing, Vancouver. In an action in a B.C. court, the B.C.E.R. has been awarded $593 damages; the judge holding that if the emergency signals had been given by the train foreman the accident would not have happened.

The Cape Breton Electric Co. is reported to have begun June 1 to sell metal tickets for use on its cars. These tickets can be purchased singly or in any reasonable quantity, and are to be used on all lines exclusively, except on the Sydney and Glace Bay interurban line, where the requisite coins may also be used in payment of fares. The metal tickets sell for 6c each.

The Montreal Tramways Co. was on June 8, directed by a Quebec court, to pay $192 with costs to W. Cochram, as damages for injuries received while a passenger on one of the company's cars. The car on which he was travelling was so crowded that he had to stand on the lower step of the car platform. While crossing the elevated bridge near Blue Bonnets, he was struck by a guard or cantilever of the bridge. The court held that the company was not only responsible for the overcrowding of the car, but for the placing of the guard at the bridge at a point too near passing cars.

Three passengers on a Montreal Tramways Co.'s car on Oct. 10, 1915, engaged in a quarrel, which resulted in a Mrs. McDonald, who was also a passenger, receiving some injuries. Her husband, P. McDonald, sued the company for damages, and a court awarded $1,000 therefor. The companys thereupon entered an action against John Couti, N. and E. Beauregard, the three passengers who engaged in the disturbance, to recover the amount of the damages and costs awarded McDonald. Justice Greenshields decided, June 21, in the company's favor and gave judgment against the men jointly and severally for $1,000 and costs.

Electric Railway Projects, Construction, Betterments, Etc.

Calgary Municipal Ry.—We were officially advised June 18, that there is under construction about a mile of single track line in the city, all the material for which is on hand. This material is being removed from the line built to serve the military camp on the Sarcee Indian Reserve, which is no longer required. The labor is to be paid for out of revenue account. This is apparently an extension of the center street line, which was under discussion in Jan.

At a recent city council meeting, the proposal for the extension of the Killarney St. line was held over pending the giving of a written opinion by the City Solicitor as to how the two-thirds council vote to reject the commissioners' recommendations affected capital expenditures. The commissioners recommendation was for the extension of the line from 17th Ave. andn 29th St., south to 23rd Ave., 1,700 ft., turning east on 23rd Ave. and back to 17th Ave. or 28th St., but the council decided that the line be carried to 25th Ave., 1,200 ft. (June, pg. 324).

Guelph Radial Ry.—A press report states that the Guelph, Ont., city council proposes to issue bonds to provide funds for the construction of an extention from Hespeler St. north to Mount Forest St.

The International Transit Co. is, we are officially advised, relaying with 85 lb. rails between 6,300 and 6,400 ft. of track on Main St., Sault Ste. Marie, Ont., and will also lay a second track alongside as well as renewing the present sidings. The joints will be electrically welded. The company has bought 70 tons of 85 lb. rails from the Algoma Steel Corporation, and 4,500 cedar ties. This work is being done in advance of city permanent paving. A. E. Pickering is General Manager. (June, pg. 324).

The Lethbridge Municipal Ry. is, we are officially advised, putting in new ties on three miles of track.

Lunenburg Electric Ry.—The Nova Scotia Legislature has amended the company's act of incorporation, principally by granting an extension of time within which the projected lines may be built. The company was incorporated in 1911 to build an electric railway within the municipalities of Lunenburg and Chester. W. Duff, clerk of Lunenburg municipality, was one of the original incorporators.

Montreal Tramways Co.—We are offically advised that the company either has in hand, or proposes to carry on, construction on the following extensions and renewals during the current year: Extensions—St. Patrick St. and Monk Boulevard to Allard St., 2.20 miles; Cote des Neiges Road, from Westmount Boulevard to Queen Mary Road, 1.50 miles. Relaying with 115 lb. rails the following: St. Lawrence from Ontario to Craig, one [illegible] St. Denis St., Ontario to St. Catherine, half a mile; St. James St., Place d'Armes to McGill St., quarter of a mile; Notre Dame St., Berri to La[illegible] St., one-fifth of a mile; Notre Dame St., Craig to Frontenac, 0.8 mile; [illegible] Mount Royal to Bernard, [illegible], Craig to Ontario, [illegible] atherine St., Laurier to Bellingham, 1.70 miles; St. Catherine St. [illegible] miles. The company also proposes to rebuild certain other parts of its tracks, using the same rails, and also renewing a number of small intersections. The company also proposes to put up an addition to its Youville substation, to make various renewals to car barns, and to rebuild and strengthen bridge and viaduct on one of its outside lines. W. F. Graves is Chief Engineer, Montreal.

At a meeting of the city council, June 9, the following resolution was proposed by Alderman Elie, but consideration of it was deferred to a future meeting:—"Whereas the needs of traffic require a more efficient tramway service than the Montreal Tramways Co. can possibly give under present circumstances; whereas, whatever may be the number of cars placed at the disposal of the public by the company, congestion cannot be avoided, the number of lines not being sufficient and the service being delayed, owing to the fact that the tramways of several lines have to run on the same streets, as is the case in the vicinity of Place d'Armes; whereas the construction of underground tramway lines would be, in the council's opinion an efficient remedy for the present state of things; Be it resolved, that the administrative commission be requested to consider the advisability of including in the amendments to the charter which may be submitted at the next session of the legislature, a clause amending the tramway contract, or to adopt any other measure so as to provide for the establishment of an underground tramway service with the shortest possible delay." (June, pg., 324).

Nova Scotia Tramways and Power Co.—Special meetings of the holders of the company's preferred and common stock were called to be held at Halifax, June 24, to authorize the issue of $2,000,000 of unsecured 3-year notes, one-half of which are to be put on the market as soon as approved by the Nova Scotia Public Utilities Commission. The proceeds of the proposed issue are to be utilized for the purchase of additional cars and other equipment, and for improvements and repairs.

Ottawa Electric Ry.—At a meeting of the Ottawa Board of Control, May 28, the question of the construction of a loop around Cobourg, Murray, Charlotte and St. Patrick Sts., came up for consideration. A press report says the company's proposal to build the loop with a guarantee that it would replace any pavement damaged or torn up, and would maintain a proper service, was recommended to the council for approval. (Sept., 1918, pg. 403).

Quebec Ry., Light and Power Co.—The Quebec City Council accepted tenders recently for paving Beauport Road, provision being made for a double track electric railway in the center of the roadway, and for the paving of the western side of Charlesbourg Road, the street railway tracks occupying the western side. Subsequently the matter was discussed with a view of having the location of the railway changed on Beauport Road from the center to the side, and to make a boulevard along the center of both roads. A press report of June 11, stated that the paving contracts had been held up, pending a settlement of the matter. (June, pg. 324).

We are officially advised that the company is building about a mile of track on Beauport Road, from the Canadian Northern Ry. tracks to the city limits.

Toronto Civic Ry—Works Commissioner Harris, in a report to the Toronto civic works committee, recently reported against any immediate construction of the proposed Mount Pleasant Road civic car line. The estimated cost of building of such a line from Yonge St. to the city limit with bridges, etc., of a permanent character, is $2,224,164. Other estimates showing the cost of the line with partly permanent construction were also submitted. The committee decided, June 12, not to take any action in regard to the construction of the line until the question of acquiring the portion of the Toronto and York Radial Ry.'s Metropolitan Division on Yonge St., within the city limits has been settled. The residents of the Mount Pleasant area, which the line would serve, held a meeting June 12 and called upon the city council to pass a bylaw, authorizing the construction of the line.

Toronto Eastern Ry.—As stated in Canadian Railway and Marine World for June, pg. 322, President Hanna, of the Canadian National Rys., which now holds this company's charter, announced that it was intended this year to electrify the line from Bowmanville easterly to Pickering, on which track has been laid, and that it was intended to proceed with the construction of the line easterly to Toronto as soon as possible. On June 24 we were advised that no steps had been taken to go on with the work indicated above, on account of negotiations being in progress for the sale of the charter, property, etc., to the Hydro Electric Power Commission of Ontario.

London and Lake Erie Ry. and Transportation Co.'s Line Being Dismantled.

We were officially advised, June 6, that the whole of the rails on the line between London and Port Stanley, had been lifted and sold; 2,000 tons being sold to A. G. Kidston and Co., Montreal, through Jno. J. Gartshore, Toronto, who is taking the balance of the rails, some 800 tons, and selling them to various parties. The power has been shut off at St. Thomas, and the company is taking down the overhead work.

A steel bridge at London, Ont., has has been sold to the London City Council, but otherwise none of the real estate or buildings has been sold.

A St. Thomas press dispatch of June 11, states that a special committee of the City Council had arranged to buy the company's car barns, freight house, substation and other real and personal estate in the city, for $25,000, subject to the ratepayers' approval, payment to be made in 20-year city debentures. The despatch says the property to be acquired includes the tracks within the city, and the spur connecting with the Michigan Central Rd., together with the overhead work of the same; and the car barns, substation, freight house and other buildings on Talbot St. E. The company claims that this property cost $50,000 and could not be duplicated for $75,000. The city will use the newly acquired property in connection with the St. Thomas Municipal Ry.

Marine Department

The Minister of Marine on Dominion Government's Shipbuilding Programme.

In moving an amendment to the budget resolutions in the House of Commons, June 9, A. R. McMaster, M.P., for Brome, Que., criticized the government's shipbuilding programme. In replying, Hon. C. C. Ballantyne said: "I agree with one point Mr. McMaster made, and that is the necessity of Canada expanding her trade and reaching out for foreign markets. Now is the opportune time for this country to do this. But I was amazed to hear him say that he is opposed to the government's shipbuilding programme, that he considers it a waste of public money. I take sharp issue with him on that ground; I do not consider the policy a waste of public money. I am the minister responsible for recommending to the government the policy of creating a Canadian merchant marine. I think that policy is sound, the government is of the same opinion, and I believe the large majority of the people of Canada also think so. The gentleman overlooks the fact that a large transcontinental railway, such as the government owns and operates at present would be in a sad plight if it did not have ships to complete its transportation chain. The gentleman apparently does not understand that Canada is in need of shipping very badly at the present time. Lloyd Harris, when he was overseas as chairman of the trade commission, sent me a cablegram to that effect from London. He also stated in the press when he returned that the problem before Canada at present is one of shipping. If the government had every one of the 45 merchant ships for which it has planned with a total tonnage of 264,000 tons, in service at present, we could use every one of them and more. Every day I have people coming to me begging for tonnage. And still the gentleman states that the government shipbuilding programme is an unwise policy and involves practically a reckless expenditure. No one finds fault with good old England, which is still supreme as far as her mercantile fleet is concerned, for looking after her own commercial interests first; and she would be the first to applaud one of her overseas dominions for following her example and looking after our own interests with the same keenness that the mother country herself does. What is the United Kingdom doing at present with regard to shipping coming to Canadian ports? She declares that 70% of the available cargo space is reserved for the British Minister of Shipping. I would like the house to take note of this: only 30% of the available cargo space is left for the products that Canada wishes to export. That amount is totally inadequate. In addition to that handicap, our trade commission found, when it visited the United Kingdom, and other European countries, that discriminating freight rates exist against Canada.

"Canada has been for years handicapped in her export trade, and would be in the future also if it were not for the fact that we are building our own merchant marine. It works out like this, that if the United Kingdom has products to ship to South Africa, we will say, Canada, without ships, cannot compete with the mother country, because she gives such a favorable rate from the United Kingdom to South Africa. But now that we have our own merchant marine, D. B. Hanna, who has charge of the ships, intends to meet the competitive rates of the old country in order that the manufactured products of Canada can be put on the markets of the other overseas dominions and then on the foreign markets on an equality with the mother country as far as freight rates go. Would it therefore be an unwise expenditure for Canada to build up a mercantile marine?

"As I said before, we first of all required our mercantile marine to work in conjunction with our railway system. We hope to see Canadian merchant ships carrying cargoes to all parts of the world and bringing back raw materials required by Canadian manufacturers. I hope in the very near future, as I am sure all the people of Canada do, to see our splendid merchant ships running to Australia and to New Zealand—excellent markets are available there—also to the Orient, from Vancouver; and to South America, the West Indies, South Africa and the United Kingdom.

"There is another point that I would like to drive home. The millions of dollars that the government is putting into ships is expected to come back again into Canada's exchequer. When a year ago I introduced in this house our merchant marine policy I stated that while the rates of freight would probably go down—as they have done since the armistice was signed—that owing to the great loss in the world's tonnage as a result of the enemy's submarine warfare, the rates would still remain sufficiently high to reduce the cost of these ships that we are building, if not to entirely wipe off their initial cost. I am very pleased to say that the nine ships we have in service at present are earning very good gross profits, and I believe that within a year, or at least not more than a year, the initial cost of each one of those ships will be entirely wiped off. The other ships as they are ready to go into service from time to time, are going to make good gross profits, and net profits also, so that the money really is only being put out at the present time temporarily and will again return to the public exchequer. Therefore, I am at a loss to understand the member for Brome being so opposed to the government's shipbuilding programme. I am very glad that so many members on his side of the house have given their unqualified consent to our policy, and I do not believe that he has very much of a following in his opposition to it.

"We hear again and again that England, Scotland or Ireland can build ships cheaper than Canada; and, if the United Kingdom cannot build ships cheaper, then that Australia can do so. When I brought down my estimates I took the precaution to be well posted on shipbuilding costs, and I have a further supplementary estimate to bring down. I stated at that time, and I reiterate now, that all the yards in the United Kingdom are filled up with orders for shipbuilding on what is known as "cost and line." No one can get a fixed price per ton for a finished ship such as the Canadian Government is getting here, and their prices range anywhere from £28 to £33 a ton. I have the prices and the estimated cost on time and line for ships that are being built in the yards of the old country, i.e., cargo ships just the same as the Canadian Government is building, of 8,000 and 5,000 tons. I have not yet asked for prices until the supplementary estimate is approved by parliament, but I have good reason to believe that this government and the people of Canada will be able to have similar ships built in our Canadian ports at just as low a price as they can be built for in England, Ireland and Scotland—built just as well, and a better type of ship."

Shortage of Tonnage for Maritime Provinces Coal Shipments.

In reply to a question in the House of Commons, June 16, the Minister of Marine stated that the High Commissioner in London, Eng., has been requested by cable to urge on the British Ministry of Shipping, the necessity for the release of requisitioned steamships, and additional representations were being made through the Secretary for the Colonies. The government, he stated, was aware of the difficulty being experienced in delivering Nova Scotia coal at Montreal, owing to lack of tonnage. The majority of the steamships used in the coaling trade are registered in Great Britain, and are, practically, under the British Ministry of Shipping's control.

A London, Eng., press cablegram of June 15, says:—"Sir John Anderson, Secretary of the British Shipping Control, emphatically denies alleged discrimination against Canadian coal interests with respect to the release of tonnage. He says:—'We are concerned with ships, not charterers. We steer a perfectly straight course. Our only possible guiding rule is the public interest. We are bound to work to schedule. Certain ships are arriving, and certain work needs to be done, and the most suitable ships are allocated. It is like a game of chess. If we allowed our moves to be affected by individual interests we should lose the game. If we were guided by our own personal convenience we should long ago have released these ships, because extraordinarily powerful influences have been brought to bear. We do not lack sympathy with the charters, but are bound to place the public interest first. You may rest assured these ships will be released at the earliest possible moment.'"

The Marine Navigation Co. of Canada's barque Inversnaid, registered at Montreal, official no. 99,639, has had her name changed to Garthsnaid

Specifications for Machinery for 8,100 ton d. w. Steamships for Canadian Government Merchant Marine Ltd.

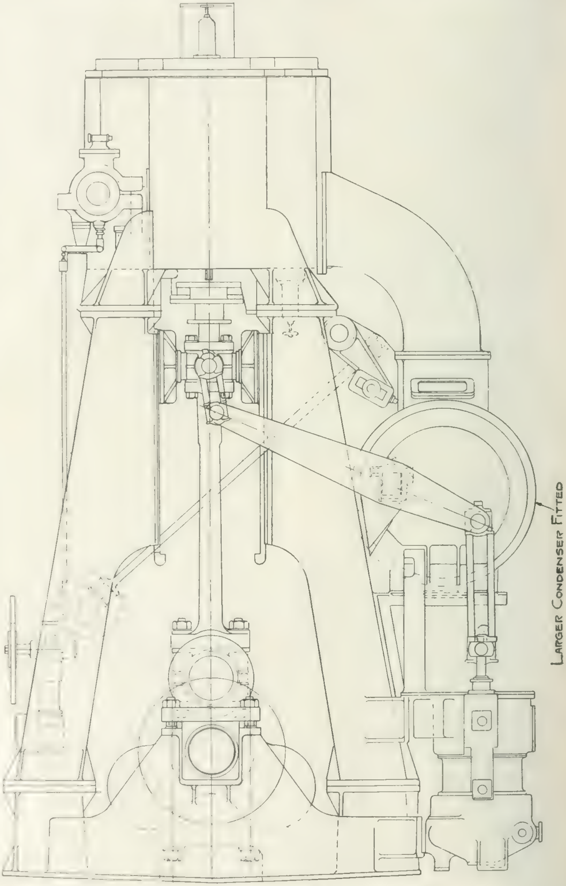
Of the 45 steel cargo steamships which the Marine Department has ordered, to be operated by Canadian Govt. Merchant Marine Ltd., 16 are to be of 8,100 tons d.w. each, representing a total dead weight carrying capacity of nearly 130,000 gross tons. These orders have been placed as follows: Canadian Vickers Ltd., Montreal, 6; J. Coughlan & Sons, Vancouver, 4; Halifax Shipyards Ltd., Halifax, N.S., 2; Prince Rupert Drydock & Engineering Co., Prince Rupert, B.C., 2; Victoria Machinery Depot Ltd., Victoria, B.C., 2. Canadian Vickers Ltd., launched the first of these steamships, Canadian Pioneer, at Montreal, Dec. 3, 1918, the second, Canadian Ranger April 19, 1919, and the third, Canadian Seigneur, May 7, 1919. They have laid keels for five others. Halifax Shipyards Limited has laid keels for two, and J. Coughlan & Sons have also laid keels for two. Following are the specifications for the machinery of the s.s. Canadian Pioneer, the first of the 8,100 ton ships built:—

1. **General Description.**—The propelling machinery to consist of one set of inverted, vertical, direct acting, triple expansion, surface condensing engines, having 3 cylinders working on separate cranks placed at angles of 120 degrees with each other, supplied with steam from 3 multitubular boilers, at a working pressure of 180 lb. a sq. in. The machinery and boilers to be Lloyd's and Canadian requirements and inspection.

2. **Cylinders.**—To be cast of hard, tough, close grained iron and smoothly bored, fitted together and of the following dimensions: High pressure cylinder 27 in. diar.; intermediate pressure cylinder 44 in. diar.; low pressure cylinder 73 in. diar.; stroke of each 48 in. diar. H.p. cylinder to have hard cast iron liner. The piston valve chambers of h.p. and l.p. cylinders to have separate liners of hard cast iron. Stuffing boxes for i.p. and l.p. piston rods and valve rods to have brass neck rings, and cast iron glands bushed with brass. Gland studs to have double nuts and split pins. Escape valves with hoods to be fitted to i.p. and l.p. steam chests, and to top and bottom of h.p. and i.p. cylinders, and bottom of l.p. cylinders. Drains to be provided for the cylinders, and steam chests arranged to drain through pipes, the h.p. cylinder to the bilge, and the m.p. and l.p. cylinders to the condenser. Drains from m.p. and l.p. casings to be led to the hot well. Indicator cocks and pipes to be fitted to each cylinder, and levers for working the indicators to be fitted to the columns and crossheads. The sides of the h.p. cylinder and steam chest to be cleaded with silicate cotton or magnesia blocks, and the m.p. and l.p. with felt, the whole of the cleading to be neatly covered with sheet steel, secured with button headed screws to ribs or snugs cast on the cylinders.

3. **Cylinder and Steam Chest Covers.**—The cylinder chests are to be of cast iron, strongly ribbed, to be turned on [illegible], and to be corrugated on top. Holes for [illegible]ts and starting screws to be bored and tapped. Steam chest covers to be corrugated on top, and to be made sufficiently strong by deep ribs cast on [illegible]. Eyebolts to be supplied for all cylinder and steam chest covers to suit the lifting gear.

4. **A Steam Stop Valve** of Cockburn-MacNicoll, or other approved type, to be fitted on the h.p. steam chest, with a rod and wheel leading to a starting platform, convenient to quadrant for starting levers. Valve chest to be of cast iron, with valve, valve seat, and gland of brass. The control valve also to be fitted with gear, led to lever in quadrant for convenience in handling engines.



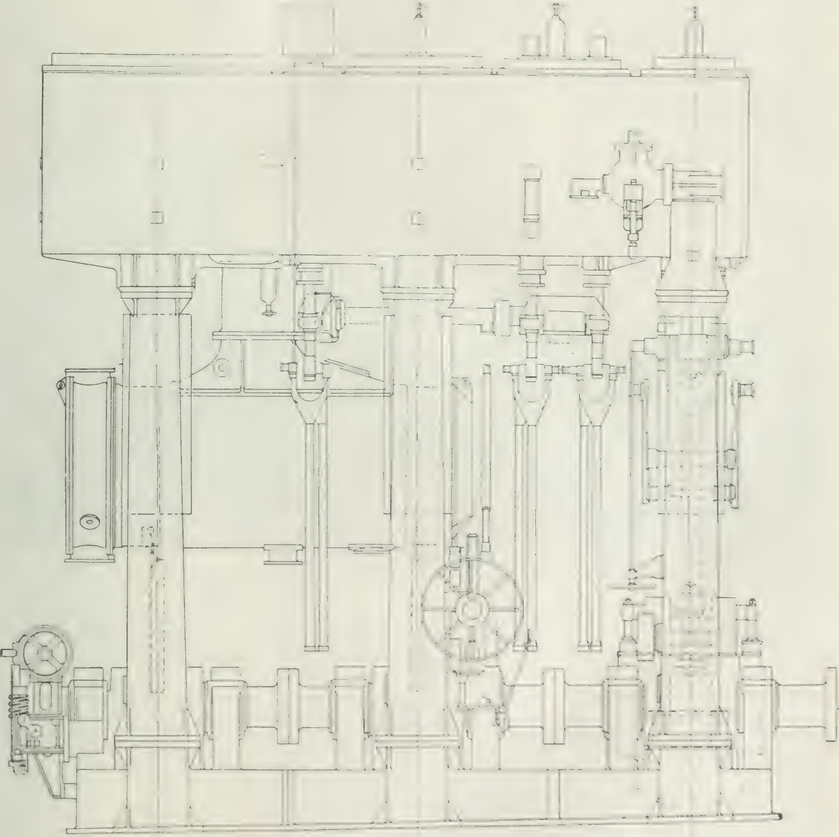
Engine arrangement, steamship Canadian Pioneer.

5. **The Pistons** to be of hard, close grained cast iron, of box form, having strong internal ribs. The core holes to be in the top, and the plugs firmly screwed into them, with red lead, each plug being fitted with a set screw to prevent slacking back. The junk rings are to be secured by collar studs, screwed into the pistons, and split pins fitted to prevent nuts slacking back. H.p. and l.p. to be fitted with Ramsbottom rings and l.p. of Lockwood and Carlisle or other approved packing.

6. **Packing Rods** to be of forged steel, and secured to pistons by a coned end

and nut, to have detachable crosshead, fitted with shoes of hard cast iron, fitted on ahead side and astern with white metal for working on the guide bars. H.p. piston rod to have U.S. metallic packing.

7. **Guide Bars** to be bolted to columns. Fitted with oil boxes at bottom, combs and pipes to lubricate each of the working parts. Water circulation to be arranged at the back of the go-ahead guides.



Engine Arrangement, Steamship Canadian Pioneer

8. **Connecting Rods** to be of forged steel, with forked top ends fitted with adjustable bearings. The bottom end fittted with cast steeel bearing, lined with white metal, and secured by bolts, nuts, and steel set pins.

9. **Slide Valves.**—The h.p. valve to be a piston valve, steam to be admitted on inside edges. I.p. valve to be a piston valve, piston valves to be fitted with rings. The l.p. valve to be a double ported slide valve, truly faced to the cylinder face, and kept in place by 2 guides, one on each side of the center line. Springs to be provided at the back of the valve to prevent it being thrown off its face.

10. **Slide Rods** to be of ingot steel, with solid forged eye at bottom, and fitted with adjustable brass bush. Valves to be secured to spindles, by large washers at bottom, and double nuts at top. The spindles to be guided at the lower end by a cast iron guide bracket with brass bush. The h.p. and m.p. valve spindles to be guided at the top end by cast iron domes lined with brass. Balance piston to be provided for l.p. valve. H.p. rod to have U.S. metallic packing.

11. **Reversing Links** to be of double bar type, with pins for the eccentric rods and drag links shrunk into the bars. Sliding blocks to be of ingot steel, with adjustable brass bearings top and bottom.

Eccentric Rods to be of best forged steel; each rod to have a T end forged on bottom to take the eccentric strap, and a forked end forged on top to take two adjustable brass bearings for the pins on the reversing links.

Eccentric Straps to be of steel, lined with white metal. To be secured in the eccentric rods by studs left long enough to admit liners.

Eccentrics, 6 in number, to be of cast iron, securely keyed to the crank shaft.

Eccentric Troughs of galvanized plate to be fitted under eccentrics.

Drag Links to be fitted with adjustable brass bushes at each end.

Wyper Levers to be securely keyed to the shaft, and each lever arranged with a slot and screw adjustment, to enable the cut-off in each cylinder to be altered independently. The variations in the cut-off to be marked on the levers.

Wyper Shaft to be of forged iron or steel and provided with adjustable bearings.

12. **The White Metal** throughout the machinery to be Stone's navy white bronze or Parson's no. 2 star white metal, or other approved metal.

13. **The Reversing Gear** to be of the "all round" type arranged for steam and hand power. To have a screw cut worm, working in a cast iron worm wheel. Reversing engine to be reversible, and to have single cylinder, piston rod and connecting rod, fitted with adjustable bearings, and slide valve worked by an eccentric. A compound regulating valve to be fitted, arranged to simultaneously shut off steam and exhaust, so as to bring the engine quickly to rest. A large polished iron hand wheel to be fitted to the crank shaft of the reversing engine, and the whole to be conveniently arranged within easy reach of the starting platform, with all necessary arrangements for draining and lubricating.

14. **The Bedplate** to be of cast iron, of box section, with recesses for 6 main bearing bushes. All joining surfaces to be accurately faced and fitted metal to metal. The main bearing bushes to be of cast iron, lined with white metal, to have square sides, accurately fitted to the recesses in the bedplate, metal to metal, without fitting strips and to be secured in position by keeps, with bolts, nuts and set pins. The bottom of the bedplate to have strong well ribbed flanges, secured to the heavy plating on the tank top, upon fitted cast iron chocks and teak filling wedges, by holding down bolts screwed through tank top and made waterproof by nuts and washers.

15. **The Columns** for supporting the cylinders to be firmly bolted to sole plate and cylinders, and to be of cast iron. Front columns to be fitted as oil tanks, with cleaning doors, lock cocks, and coupling at top for filling from deck. Go-ahead guide faces to be cast separate, and so bolted to the columns that crosshead shoes may be readily withdrawn. Go-ahead guide faces to have passages at the back for circulation of cold water. The guides to be marked to show the clearance of the pistons in the cylinders, and to be fitted with a strong plate, for supporting piston rods when the connecting rods are disconnected from the crank pins.

16. **Condensers** to be approved design, and of circular cast iron or built type, with rolled steel shell and cast iron ends. Cooling surface not less than 3,000 sq. ft. Tube plates to be of rolled brass. Tubes of brass, ¾ in. external diameter, and to have screwed brass ferrules. The ferrules at the end opposite to that at which the water enters, to be flanged inward to prevent the tubes moving endways. Perforated plate, for supporting the tubes, to be placed at about the middle of the condenser. Condenser doors to have snugs for lifting, cast on. All bolts in contact with sea water to be of brass. Plugs to be fitted in bottom of condenser. Division of condenser to be arranged so that water shall pass twice through it. A manhole for internal examinations to be provided. A supplementary feed cock to be fitted.

17. **Circulating Pump** to be of centrifugal type, driven direct by a vertical enclosed forced lubrication engine by Goldie and McCulloch Co., or other approved maker. Pump to have cast iron case, gunmetal impeller and bronze spindle, pipes 12 in. bore.

18. **The Air Pump** to be Edwards type, 24 in. dia. x 24 in. stroke, single acting. Valves to be of multiplex type, with brass guards, and seats of ample area, brass studs, brass nuts, and locking arrangement. Pump liner to be of brass, bored true and smooth, and fitted with a deep bucket arranged for water packing. Pump rod to be secured to the bucket, by a brass nut, with locking arrangement, and to work through a stuffing box, with brass neck bush and cast iron gland, lined with brass. The gland to have four studs, with locking nut. A soda cock with funnel to be provided for supplying soda to the boilers.

19. **Feed Pumps** to be 2 in number, 4 in. diar. x 24 in. stroke. Barrels to be of strong tough cast iron, with stuffing boxes, brass lined glands and brass neck bushes. Rams to be of steel, securely attached to pump crosshead. Chests to be of cast iron, fitted with brass valve seats, and flat brass valves, of the multiplex type. Each pump to be fitted with spring relief valve and pet cock. Shut off valves to be fitted on suction and delivery sides, so arranged that one pump may be overhauled while the other is working. Pumps to be arranged to draw from hotwell direct, and to discharge through an air vessel into the feed regulating valves on boilers.

20. **Bilge Pumps** to be 2 in number, 4 in. diar. x 24. in. stroke. Barrels to be of strong, tough, cast iron, with deep stuffing boxes, brass lined glands and brass neck bushes. Chests to be of cast iron, fitted with valve seats and valves of brass. Rams to be of steel, securely attached to pump crosshead. Pumps to be fitted with air vessel, spring relief valves and pet cocks. Shut off valves or cocks to be fitted on suction and delivery sides, so arranged that one pump may be overhauled while the other is working. Pumps to be arranged to draw separately or together from any compartment of the vessel and to discharge overboard. One of the pumps to be arranged to draw from the sea and to discharge to deck when required.

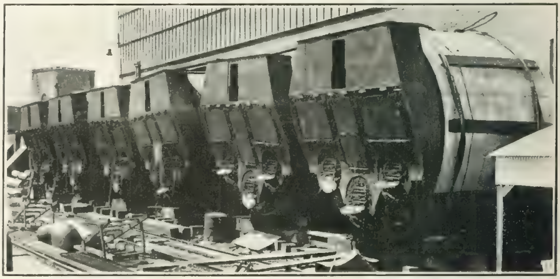
21. **Pump Gear.**—The air, feed, and bilge pumps to be worked from the engine crosshead by levers and links. The levers to be of the single plate stype, of forged iron or steel. The center gudgeon to work in 2 adjustable bearings of brass. The links to be fitted with adjustable bearings of brass at each end, secured by double nuts and split pins. One feed and one bilge pump to be at each end of crosshead.

22. **Turning Gear.**—A turning gear of cast iron to be securely keyed to the after end of the crank shaft, and to have geared into it a screw cut worm, fitted on the shaft of a second motion wheel having a worm arranged to be turned by a separate reversible steam engine. An arrangement to be provided for quickly throwing the first motion worm in and out of gear. A ratchet to be provided for turning the engines by hand.

23. **Crank Shaft** to be of the built type, in 3 sections, having solid flange couplings, secured together by carefully fitted bolts. The crank shaft and pins to be of best forged scrap iron or ingot steel, and the webs to be of forged iron or ingot steel. To be made without a coupling at the forward end.

24. **A Steam Starting Valve** to be fitted from boiler side of main stop valve, and gear to be held by starting quadrant. The steam branches to be placed so that steam can be admitted to the m.p. and l.p. steam chests.

25. **Thrust Shaft** to be forged with solid couplings at each end, and to have collars carefully turned out of the solid.


Boilers for steel cargo steamships for Canadian Government Merchant Marine Ltd., built by Canadian Vickers Ltd., Montreal.

26. **The Tunnel Shafting** is to be forged of ingot steel, with solid couplings in each piece, a guard to be fitted at each coupling.

27. **The Propeller Shaft** to be of forged ingot steel and to be fitted with a continuous brass liner extending the full length from the propeller boss to the forward end of the gland. To be shrunk on the shaft, and to be afterwards trued up in lathe. A ring of soft rubber to be fitted between the propeller boss and the end of liner, to protect the shaft in the boss. A bearing lined with white metal in top and bottom to be provided immediately forward of the stern tube gland.

28. **The Stern Tube** to be of cast iron, carefully fitted into the aperture of the stern frame, and secured to it by a nut, and the forward end to have a flange jointed to the peak bulkhead and secured by bolts and nuts. The after end to be fitted with a brass bush, lined with lignum vitae strips, arranged with channels. The forward end to be fitted with a brass neck bush and cast iron gland. The gland studs to be of brass, two of them being

long enough to allow the stuffing boxes to be packed without the gland leaving the studs. A cock, connected by a pipe to the inside of the stern tube, to be fitted to the forward side of the peak bulkhead, for running water on to the top of the gland.

29. **The Propeller** to be of bronze, having 4 blades secured to the boss, with steel studs fitted with capnuts. C.i. boss to be secured to the propeller shaft, on a carefully fitted taper, by a nut and a key extending the entire length of the boss. The propeller to be righthanded, and the nut lefthanded, the latter to be provided with snugs for driving and with a stop to prevent it slacking back.

30. **The Thrust Block** to be placed in the engine room in a recess aft of the engine room bulkhead. To be of cast iron, of box form, arranged for holding oil and water, for the thrust shaft collars to revolve in. A cleaning door to be provided, and means for draining the oil and water. The bottom of the block to have thick well ribbed flanges, secured to a strong built seat, provided by the shipbuilders, to be carefully bedded on cast iron chocks and teak filling wedges and held in place by holding down bolts. Strong knees to be fixed to the seat at the end of each block. The shoes to be of cast iron, cast hollow, and arranged for internal water circulation, and lined on both ahead and astern sides with white metal, and carefully fitted to the collars of the thrust shaft. Each of the shoes to be provided with an oil box with a hinged lid. Two bolts of forged iron or steel to be fitted, one on each side of the block, with a series of double brass nuts arranged so that each of the shoes may be independently adjusted for wear. A bearing to be provided at each end of the block, to take the weight of the thrust shaft.

31. **The Tunnel Shaft Bearings** to be of cast iron, lined with white metal, and provided with shell covers, having an oil box on top, divided so as to keep oil and water separate. The bearings to have a trough cast on each side, under the shaft, to prevent the oil running to waste. To be bedded on hardwood and securely bolted to the seat provided by the shipbuilders.

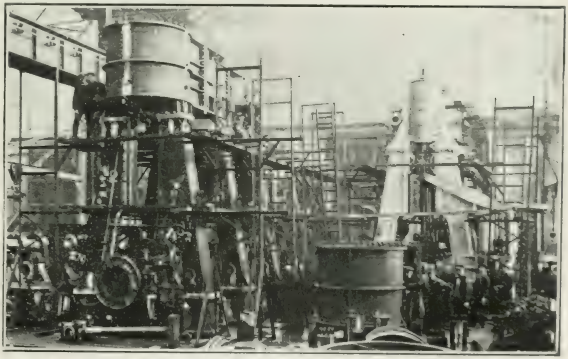
32. **The Bulkhead Stuffing Box** to be of cast iron, made in halves. To be fitted round the shaft, and bolted to the aft engine room bulkhead. The gland to be in two pieces bolted together.

33. **Water Service for Bearings Guides, etc.**—A main pipe to be fitted at convenient height above the bearings, a valve to be fitted to supply water from the sea. A telescopic pipe, with universal joint and stopcock, to be fitted for each main bearing, and cocks and pipes for supplying water to the ahead guides. A wrought iron pipe, connected to a branch on the main service pipe, to be led to the after end of the tunned, and arranged to serve as a hand rail. Cocks and swivel jointed pipes to be provided for thrust shoes and each of the tunnel bearings. A 2 in. cock or valve to be fitted to the donkey discharge, and provided with a coupling and hose of sufficient length to reach all the engine bearings, including thrust.

34. **Lubricators** to be provided for all the working parts. Four cast iron oil boxes with a hinged lid, to be fitted on the top of each main bearing keep, each box having syphon pipes. Oil boxes with syphon pipes to be provided for supplying oil to the top and bottom ends of the connecting rods. A sight feed impermeator to be secured to the engine room casing,, with a copper pipe leading to the h.p. steam chest.

35. **Engine Room Grating Platforms and Ladders.**—The top platform and middle oiling platforms to be steel rung gratings, with stanchions and hand rails. The main entrance ladder to have steel sides, neatly fluted cast iron steps and steel hand rails. The engine room floor to be of wood, supported on wooden bearers from the floors of the ship, and supplied and fitted by shipbuilders. Chequered plates to be fitted at front of engines. Splash plates to be fitted round crank and eccentric pits, and guard plates at sides of gratings, in way of moving parts. A wood platform to be fitted along the tunnel by the shipbuilders.

36. **Pipes and Connections.**—Main steam pipes to be of wrought iron or mild steel. Main and donkey feed pipes and boiler blow off pipes to be of copper, steel or iron. Steam and exhaust pipes to and from each donkey to be of copper, steel or iron. Winch exhaust pipes inside casing to be of cast iron with bands for expansion. Pipes connecting main and donkey pumps with the distribution boxes and valves on ship's side to be of cast iron, with bands to allow for expansion. Waste steam pipe up funnel to be of wrought iron, lengths inside casing to be of cast iron, with bands for expansion. Bilge and tank suction pipes to be of cast iron, with bands of lead where necessary. Lead pipes to have iron rings behind flanges and bolted, no plumber's joints. Strum boxes to be provided for the bilge pipes. The area through the holes in strum boxes to be well in excess of the area of pipe. Bilge and ballast distribution boxes to be of cast iron, to be bolted to the bulkheads or otherwise conveniently placed to suit the pumping arrangement. The bilge valve boxes to be fitted with brass valves, valve seats and spindles. A plate to be fitted to the hand wheel of each valve, with the name of the suction clearly shown upon it. Bilge connections to be entirely independent of the ballast, and so arranged that it will be impossible to run water from the sea into the bilges.



Engines for steel cargo steamships for Canadian Government Merchant Marine Ltd., being erected by Canadian Vickers Ltd., Montreal.

Main Injection and Tank Filling Valves to be of cast iron, fitted with brass valve, and valve seat and wrought iron bridge on cover, with screw for spindle. Each of these valves to be secured to a strong cast iron box on the ship's side, provided with a suitable strum. Discharge valves to be of cast iron, with brass valves, valve seats and spindles, the valves being arranged to lift by pressure of water from the inside or by hand.

Sea Cocks on ship's side to be of brass, and fitted with lock guards and keys. Suction cocks to be fitted with strums. Blow off cocks to be fitted with compound glands. To be secured by brass nuts and brass studs with conical heads screwed into the ship's plate from the outside. Each cock to have a spigot passing through the ship's plate, and fitted with a washer on the outside, the holes in the washer to be countersunk to take the heads of the studs.

Steering engine steam to be taken from main reducing valve, exhaust to be fed to engine room change valve box, and independent of winch exhaust. Dynamo engine steam to be taken from high pressure auxiliary steam range and provided with an independent reducing valve

37. **Feed Donkey.**—A vertical, double acting, single feed donkey to be provided and placed in a convenient position in the engine room. Diameter of steam cylinder, 9½ in.; diameter of water cylinder, 7 in.; stroke of pump, 18 in. The pump liner, bucket, valve seats and guards to be of gunmetal. The valves to be of bronze. The pump rod to be of manganese bronze. Steam cylinder to be covered with planished steel. To draw from hotwell, condenser, sea and double-bottom tanks. To discharge to main boilers, through main and auxiliary feed lines.

38. **General Donkey.**—A vertical, double acting, single donkey, to be provided and placed in a convenient position in the engine room. Diameter of steam cylinder, 9½ in.; diameter of water cylinder, 7 in.; stroke of pump, 18 in. The pump liner, bucket, valve seats, and guards to be of gunmetal. The valves to be of bronze. The pump rod to be of manganese bronze. Steam cylinder to be covered with planished steel. To draw from sea, double bottom tanks, hotwell and bottom of boilers To discharge to boilers, auxiliary condenser, wash deck pipe and sanitary tank, overboard

39. **Ballast Donkey.**—A vertical,

double acting single ballast donkey, to be provided and placed in a convenient position in the engine room. Diameter of steam cylinder, 10½ in.; diameter of water cylinder, 14 in.; stroke of pump, [illegible] in. The pump liner, bucket, valve seats and guards to be of gunmetal. The pump rod to be of bronze, and the valves of rubber. Steam cylinder to be lagged with composition and covered with planished steel. To draw from ballast tanks, sea, main bilge suction pipes, direct suction from engine room bilge. To discharge overboard, to e.r. hose, to main and auxiliary condensers, to ballast tanks.

40. **An Evaporator** to be provided, capable of supplying 25 tons of fresh water per 24 hours.

41. **Hotwell and Feed Filter** of approved design. The feed water to be filtered in a compartment of the hotwell, after it has left the air pump, and before it is taken by the feed pumps. The filtering material to be contained in an easily removable case, so that it may be renewed when required.

42. **Feed Water Heater** of approved design. Feed water to be heated in surface heater situated between feed pump and boiler.

43. **Winch Condenser** of approved design. A surface condenser, of approved make, of non-vacuum type, having a cooling surface sufficient to condense exhaust from all winches, to be provided and placed in a convenient position in the engine room. The body to be of cast iron, with door at each end, and hand holes where necessary. Tubes to be of solid drawn brass, tube plates of rolled brass, secured by brass studs and nuts and fitted with screwed ferrules. Supplementary feed and drain cock on water end to be provided. All auxiliaries to be of a make to be approved by the Marine Department.

45. **Steam Whistle** to be secured to forward side of funnel, and connected by a pipe to the main boilers, to have a spring valve and lever with cord led to bridge.

46. **Pressure Gauges.**—One steam gauge for each boiler to be fitted in the stokehold. One steam gauge in connection with all main boilers, one steam gauge for m.p. steam chest, one compound gauge for l.p. steam chest, and one vacuum gauge for condenser, to be arranged in a group and placed in a conspicuous position in the engine room, convenient to the starting platform. A steam pressure gauge to be provided for each reducing volve.

47. **Painting.**—Main engines and donkey engines, to be rubbed down with oil. Boilers, smokeboxes, funnel, etc., to have one coat of oil paint in works, the one coat on board vessel. Funnel to be painted with funnel paint.

48. **Main Boilers.**—Number in ship, 3; diameter, 15½ ft.; length, 11½ ft.; working pressure, 180 lb. per sq. in.

49. **Forced Draft.**—Air to be supplied by one 87 in. fan, driven by one single cylinder engine of James Howden & Co's. or other approved make.

50. **Plates** to be of Siemens-Martin mild steel. Edges to be planed and caulked, both inside and outside. To be flanged where necessary, and no angles to be used except where required to strengthen surfaces.

The shell plates to have longitudinal joints, with double butt, straps, treble riveted; the circumferential joints to be lapped and double riveted.

51. **Furnaces.**—Each boiler to have 3 corrugated furnaces, 46 in. least internal diameter, flanged at the back ends to take the tube plates, and carefully fitted to the front end plates which are to be flanged to receive them. Each furnace to be fitted with a separate combustion chamber. Furnaces to made withdrawable on the Gourlay-Stephen principle.

52. **Tubes** to be 3 in. external diameter, of solid drawn steel. Stay tubes to be screwed into both front and back tube plates. All tube holes to be carefully bored and plain tubes expanded at both ends. Retarders to be fitted in tubes.

53. **Stays.**—The boiler end plates to be stayed by round steel bars, secured by nuts both inside and outside. Combustion chamber stays to have continuous thread and to be tightly screwed into the combustion chamber plates and back and or circumferential plates. The tops of the combustion chambers to be fitted with girder stays. All flat surfaces are to be thoroughly and efficiently stayed, without unduly interfering with accessibility to all parts of the boiler.

54. **Manholes.**—Suitable manholes to be provided, the plates being flanged inward, or otherwise compensated for strength. To be provided with doors of mild steel, held in place by strong dogs and bolts.

55. **Testing.**—The boilers to be tested by hydraulic pressure, before leaving the works to 360 lb. per sq. in., to the satisfaction of the surveyors.

56. **Boiler Covering.**—The boilers to be covered with non-conducting mattresses or slabs, secured by steel wire. The covering to be carried down to about 5 in. from the top of the boiler seats, terminating with an angle fastened to the boiler, to which the wires are to be secured. The back of the boiler to be covered with mattresses or slabs all over. The covering on top and in way of foot traffic to be covered with sheet steel. The bottom of the boilers to be covered with same material.

57. **Boiler Seating.**—The boilers to be carefully bedded to the seats provided by the shipbuilders, and to be thoroughly secured in place at the bottom by knees at each end, and at the sides by strong stays secured to the seats.

58. **Smoke Box** to be firmly secured to the front of the boilers, the back of the box, above the tubes, being kept clear of the boiler end. Air heater to be arranged in smokebox. The smokebox to be constructed of double plates. The doors to be constructed in the same way, and in addition each door to have a baffle plate on the inside, and to be provided with all necessary hinges, catches and rings. The necessary chains and pulleys for opening and securing the doors when cleaning the tubes to be provided.

59. **Uptakes** to be constructed of double plates, with an air space between them. Strong plates, secured to the top of the boilers, to be arranged as struts, to take the weight of the uptake and funnel. Separate damper for each boiler to be fitted in uptake.

60. **Funnel.**—To be of single type and oval in section. An air casing to be provided on the top of the boiler hatch, covered by a neatly shaped cape riveted to the funnel. Pulleys to be provided at the top of the funnel, and all necessary studs and rings fitted for the stays supplied by the shipbuilders.

61. **Furnace Fittings.**—Fronts to be of cast iron arranged for forced draft. To be James Howden & Co's. or other approved make. Each furnace to be complete with dead plate, fire bars, and bearers of cast iron.

62. **Boiler Mountings.**—The following to be provided for each boiler:—

1 double safety valve with casing gear led to engine room, and drain pipe to tank in stokehold; main steam stop valve of cast iron, gunmetal fitted; steam stop valve for winches and auxiliary engines; main feed check valve, with renewable gunmetal seat and internal pipe; donkey feed check valve, with renewable gunmetal seat and internal pipe; bottom blow-off valve with internal pipe; scum valve with internal pipe; set of asbestos packed gauge glass fittings; set of asbestos packed test cocks; asbestos packed salinometer cock; asbestos packed pressure gauge cock. Main and donkey check valves to have screw down valve between check valve and boiler, and arranged to be operated from lower platform.

63. **Ash Valve and Hose.**—One ash valve, with screw nozzle for hose, to be provided and conveniently placed in stokehold, with connection to sea. A suitable length of hose pipe to be supplied, with director and coupling.

64. **Ventilators.**—Two 30 in. diameter ventilators to be fitted in fidley, each fitted with a pulley for steam hoist and one with a hand ash hoisting gear. To have large moveable cowls, carried well above deck erections and having turning gear to work from fidley. To be provided with all necessary doors, chains and hooks, and the insides to be fitted with guides for ash buckets. Two derrick posts, of 24 in. diar., to be extended down into wings of stokehold, and to be fitted with large moveable cowls having turning gear to work from deck. Two ventilators, with movable cowls, to be fitted at engine room skylight, for engine room.

65. **Ash Hoist.**—One double cylinder steam ash hoist, of approved make, to be provided and fitted fidley, with swivel pulley and wire rope to work in either ventilator.

66. **Stokehold Gratings Ladders and Floors.**—Rung gratings, ladders, and hand rails to be provided where necessary. Fidley gratings to be provided, with storm covers of steel plate. Stokehold floor to be of chequered steel plate. To rest on wood planks, supported by wood bearers, fitted by the shipbuilders. A row of cast iron floor plates, ⅝ in. thick, to be provided at the front of the boilers.

67. **Spare Gear.**—2 connecting rod top end bolts and nuts; 2 connecting rod bottom end bolts and nuts; 2 main bearing bolts and nuts; 3 crank shaft coupling bolts and nuts; 3 tunnel shaft coupling bolts and nuts; 3 tunnel shaft coupling bolts and nuts; 1 feed pump suction valve; 1 feed pump discharge valve; 1 bilge pump suction valve; 1 bilge pump discharge valve; 3 main feed check valves; 3 donkey feed check valves; 24 bolts and nuts, assorted; 6 cylinder cover studs and nuts; 6 steam chest covers studs and nuts; 12 junk ring studs and nuts; 5 bars round iron, ⅜ in., ½ in., ⅝ in. and 1 in. each, about 15 ft. long; 3 bars flat iron, 1 in. x ¼ in. 1½ in. x ¾ in., 2½ in. by ½ in., each about 15 ft. long; 2 propeller blades; 1 h.p. piston valve (solid cast iron); 18 ordinary boiler tubes; 6 boiler stay tubes; 24 main condenser tubes; 12 auxiliary condenser tubes; 50 condenser ferrules; 1 set fire bars for one boiler; 1 cwt. white metal, 1 cwt. rivets, 2 plates. A suitable amount of spare gear to be supplied for

forced draft installation and engine room auxiliaries.

68. **Tools and Outfit.**—Overhauling gear. 1 strong beam, running fore and aft in engine room, securely fastened at the ends to casing by strong brackets. To be provided with a runner and all necessary tackle for lifting covers of cylinders and slide valves; 1 pair 3 sheaf blocks; 1 pair 2 sheaf blocks; 2 manilla falls for blocks, 25 ft. drift each; 1 three-ton differential block and chain, 12 ft. drift; 1 beam grab; 1 set of eyebolts for pistons, cylinder covers, valve spindles; 1 screw jack, 2 in. screw.

A complete set of spanners for all nuts in connection with machinery and boilers, with suitable rack fixed in engine room; 1 shifting spanner, about 15 in.; 1 shifting spanner, about 8 in.

Oil Tanks. 1 tank, to contain 100 gallons engine oil; 1 tank, to contain 40 gallons cylinder oil; 1 tank to contain 40 gallons colza oil; 1 tank to contain 40 gallons paraffin oil; each tank to be fitted with a lock cock and drip tray. Pipe to be arranged for filling tanks from deck, with hose connection to tanks. 1 daily supply tank with lock cock and drip tray; 1 tank to contain 1 cwt. tallow; 1 tank to contain 2 cwt. soda; 1 gall. oil measure, tin; 1 quart oil can tin; 5 oil feeders, ¾ pin, with spring; 1 swabbing pot, tin; 1 oil filler, tin; 1 syringe; 1 tallow kettle and stand.

Lamps, etc. 2 globe lamps; 3 engine lamps; 2 boiler water space lamps; 4 hand lamps, with screw top and chain; 1 pair lamp scissors.

Engineers' Tools, etc. 3 chipping hammers; 1 sledge hammer; 1 flogging hammer;1 lead hammer, 7 lbs.; 1 copper hammer, 5 lbs.; 6 chipping chisels, assorted; 6 files, assorted; 3 file handles; 2 valve scrapers; 1 half round valve scraper; 6 drills, assorted; 1 ratchet and brace, about 18 in.; 1 ratchet knee; 1 ratchet clamp, 6 in. gap; 1 drilling post; 6 steel wedges, assorted; 3 steel drifts, assorted; 1 set boiler caulking tools; 1 set taps and dies, ¼ in. to 1¼ in. in case, 3 taps to each size; 1 bow saw and 3 blades; 1 grindstone and trough; 1 vise bench, with 6 in. staple vise, portable; 1 vise bench, with 6 in. staple vise, fixed in engine room; 1 pair lead vise grips; 1 pair copper vise grips; 1 hand vise; 1 pair cutting pliers, 7 in.; 1 pair calipers, inside, 12 in., and one pair outside, 12 in.; 1 set square, 12 in. blade; 1 pair compasses; 1 hand brace for condenser tube packing; 4 gland packing screws, assorted; 6 gland packing sticks, assorted; 1 gland packing knife.

Joiners' Tools. 1 hatchet; 1 screw driver, about 14 in.; 1 auger, to suit oil cock; 1 cross cut saw; 1 chisel, 1½ in.; 1 gouge, inside 1 in.; 1 gouge, outside ⅝ in.; 1 oil stone; 1 gouge slij.

Plumbers Tools. 1 soldering bolt; 2 lb. soft solder; ½ pint spirits of salts; 1 pair tin shears; 1 melting pot; 1 ladle.

Smiths' Tools. 1 bellows hearth, 24 in.; 1 anvil and hardy; 3 pairs tongs, assorted; 6 smiths' tools, assorted.

Painters' Tools. 2 paint brushes; 2 sash tools; 1 varnish brush; 2 paint pots.

Stokehold Outfit. 4 ash buckets; 2 water buckets, galvanized; 1 drinking can; 1 coal measure; 1 coal hammer, with iron shaft; 6 firing shovels; 6 trimming shovels; 2 long rakes; 2 short rakes; 1 rake, extra long, for back end; 1 rake for smokebox; 2 long slices; 2 short slices; 4 wire tube brushes; 2 handles for brushes; 2 tube scrapers; 6 scaling hammers; 6 scaling tools; 6 boiler tube stoppers, screw and washer; 6 patent tube stoppers; 1 tube expander.

Cleaning Utensils. 4 coir brooms and handles; 2 hand brushes, steel; 4 scrubbing brushes; 1 dusting brush.

Sundries. 1 clock; 1 copper salinometer and case; 1 copper dipper; 1 thermometer, for hot water. Any article specified twice to be supplied only once.

69. **General Conditions.**—The engines and boilers generally to be of suitable material and workmanship, in accordance with the foregoing specification, and to be guaranteed against all breakages arising from proved imperfect workmanship or bad materials, which may be discovered, and of which notice has been given, within 6 months of the completion of the engines. The engine builders not to be responsible beyond the repairing or replacing of such breakages at their works. The engineers of the ship during the time the engine builders are responsible for the engines to be approved by them and to be paid by the owners of the ship, the usual and customary wages, and if displaced, the responsibility of the engine builders under this clause to cease. The chief engineer to commence his duties at least 14 days previous to trial trip. The engine builders not to be liable for the detention of the ship, or consequential damages, accidents caused by the carelessness of the engineers in charge, whether appointed by them or not, or expenses of any description attendant thereon under any circumstances whatever. Before delivery, the machinery to be tried at moorings and afterwards at sea, the builders finding engine room crew, coal, oil, tallow, etc., for all purposes. If on trial any defects are observable the same to be made good by the builders.

70. **Plans** of engines, boilers, piping arrangement, and pumping arrangement to be submitted for approval before work is put in hand. Complete pipe and pumping arrangements (mounted on cloth), in tin case, to go with the vessel.

Welland Ship Canal Construction.

The Minister of Railways and Canals, Hon. J. D. Reid, during discussion on a vote of $35,000,000 for Welland Ship Canal construction in the House of Commons, June 5, stated that in order to build the canal between Lake Ontario and Lake Erie, the work was divided into 8 sections. Contracts have been awarded for 4 of these sections, chiefly consisting of lock work, which takes twice as long as other construction work. The intention is to commence the other sections when the lock work is about half through, so that it will be completed at the same time. Apart from the lock work the other work is somewhat like dredging and will have to be completed when prices are fairly reasonable. The prices of material and labor are so high at present that the work should not be proceeded with too rapidly, and it is only to give employment that it is now being gone on with. The depth of the canal is being made 25 or 30 ft., which is greater than the present depth of the St. Lawrence canals, so that a vessel can go to Kingston or Prescott, but it cannot go on to Montreal because there is only a depth of 14 ft. in the St. Lawrence canals. The original Welland Canal had a depth of 9 ft., which was later deepened to 12 ft. and later again changed to the present depth.

There are 63 engineers engaged on the work of whom 57 are returned soldiers. On May 2, 11,099 men of all classes of labor were engaged and of these, 228 were returned soldiers, 681 were skilled laborers and of the latter, 219 were returned soldiers.

Legislation re Pilotage and Harbor Masters.

Following is the full text of an act to amend the Canada Shipping Act, as passed by the House of Commons, June 5:—

1. Section 432 of the Canada Shipping Act, Revised Statutes of Canada, 1906, chapter 113, is repealed and the following is substituted therefor:—

"432. Notwithstanding anything in this part, the Governor in council may, when it appears to him to be in the interest of navigation, appoint the Minister to be the pilotage authority for any pilotage district, or for any part thereof; and the said Minister shall thereupon supersede the then existing pilotage authority for that district or part of a district: provided that nothing in this part shall authorize the Minister to sit as a tribunal for the trial of offences of which pilots may be accused before the pilotage authority; but such Minister may, in any case not provided for by part x of this act, designate a tribunal or officer to try any such offence."

2. Paragraph (h) of section 862 of the said act is repealed, and the following paragraphs are added at the end of the said section:—

"(h) for every ship over 700 tons and not over 1000 tons register, $5;

"(i) for every ship over 1000 tons register, $7."

3. Section 865 of the said act is repealed and the following is substituted therefor:—

"865. The salary or remuneration of each harbor master shall from time to time be fixed by the Governor in council, but shall not exceed the rate of $1,200 per annum, and shall be subject to the conditions hereinafter contained."

The Dominion Government's s.s. Lady Evelyn was sold recently to the St. Lawrence Shipping & Trading Co. for $40,000, of which $30,000 has been paid, the balance being held pending settlement of a claim that complete equipment was not delivered with the vessel. The Lady Evelyn was built at Tranmere, Eng., in 1901 for the West Cornwall Steamship Co., and purchased by the Dominion Government in 1907 for use as a mail tender at Rimouski, Que. She is a steel twin screw steamer of 83 tons gross, 39 tons register. Her dimensions are: Length, 189 ft.; breadth, 26.1 ft.; depth on hold, 9.5 ft.; draft, 8½ ft. She has triple expansion engines, with cylinders 16, 24 and 38 in. diam., by 24 in. stroke and is supplied with steam by 2 return tubular boilers at 160 lb., and one ton of coal an hour. She can steam 14 to 15 knots, and with forced draft can make 16 knots. The hull is divided by 5 watertight bulkheads, and she has 2 decks, the promenade deck being 150 ft. long. She is equipped with complete electric light plant, wireless telegraph, steering gear, etc.

Sorel Shipbuilding and Dry Dock Co. Ltd. has been incorporated under the Dominion Companies Act, with $750,000 authorized capital and office at Sorel, Que., to carry on shipbuilding and ship repairing.

Canadian Pacific Railway Steamships and Canadian Registry.

London, Eng., Press Cablegram, June 12.—What it is hoped may prove the foundation of a Canadian mercantile marine is the application by the Canadian Pacific Ry. for the transfer of its ships to Canadian registry. The rumor of such a step has been current in shipping circles for some time. Sir George McL. Brown admitted to your correspondent that he had heard of it, and it is understood the company has laid its case before the government. What it desires is the same privileges under Canadian registry as it at present enjoys under English registry, and there appears no reason why it should not be able to receive them. G. M. Bosworth, chairman of the Canadian Pacific Ocean Services Ltd., has sailed for Canada to discuss the matter with the company's head office.

Canada, if it is ever to attain its status as a great nation, must develop its shipping facilities and ultimately a merchant marine of its own. If the C.P.R. takes the first step, it is hoped others will follow. It is, of course, the only purely Canadian company involved and if any of the other steamship concerns decided to follow suit a division of their fleets between English and Canadian registry would be necessary. However, there are all sorts of possibilities in the shipping world, and the organization of a new company which aims to handle Canadian trade is not the least of them. Among the advantages which would accure to the C.P.R. under Canadian registry would be better control of their shipping space, 50% of which is still used by the British Ministry of Shipping.

We were officially advised June 17 that the C.P.R. Co. had not then made application for the transfer of its ships to Canadian registry.

Demountable Wooden Ships to Be Built in British Columbia.

A cargo of timber which is to built in British Columbia in the form of a ship will be self propelled, and will it is claimed be unsinkable. The craft will be something unique in the annals of marine architecture. The cargo will be the ship and the ship will be the cargo. The ship will consist, when completed, of about 5,000,000 board ft. of timber in the form of great sticks of Douglas fir, hemlock, and cedar from B.C. forests. Within the framework the timber will be laid in three tiers, with cross beams, and on top will be the main deck with forecastle and poop and room accommodation for officers and crew. Crude oil motor engines, driving twin screws, will supplement the sails. The length of the craft will be 250 ft., the beam 60 ft. and the depth 36 ft., with a displacement of about 9,500 tons. Her maiden voyage from British Columbia to England will be her last for she will be broken up to supply much needed timber. The vessel will be not merely a raft, but a demountable wooden structure of approximately ship shape form.

Vickers Ltd., London, Eng., are interested in the project and it is said that several of the ships will be built. The Furber Lumber Co. has been formed for the purpose of building them, being named after Percy N. Furber, President Oil Fields of Mexico Co., New York. J. H. Price, Price Shipbuilding Co., Seattle, Wash., has undertaken the construction.

We were advised June 14 that arrangements were being made to start building the first ship and that Mr. Furber would leave New York, June 16, for British Columbia in connection therewith.

The War Beryl-Beaujeu Collision.

A wreck commissioner's enquiry was held at Quebec, Que., May 27, before Capt. L. A. Demers, Dominion Wreck Commisioner, assisted by Capts. C. Lapierre and A. Hope, as nautical assessors, into the causes which led to the collision of Canadian Pacific Ocean Services' s.s. War Beryl and the Marine Department's dredge Beaujeu, while the latter was anchored in the St. Thomas Channel, River St. Lawrence, May 21. The court found that the master of the War Beryl erred in being absent from the bridge when the vessel was being navigated in such a narrow channel, but having regard to the straightforward evidence which he gave, and his long and successful career, the court cautioned him to be more careful in future, and to bear in mind that whether he can be useful or not, or whether his vessel is in charge of a competent pilot and officers, whilst navigating narrow waters, he is expected to be at his post. The first officer, by his evidence, gave the impression that he did not exercise all the judgment expected of him, and his action in ringing the telegraph, stop, instead of, slow, as ordered by the pilot, he thinking that it would be more expedient in such a crucial moment, caused the court to caution him only, to be more watchful in future. His error was all a question of seamanship and judgment, and not a matter of local knowledge. The certificates of the master, Capt. R. McKillop, and the first officer, H. A. More, were returned to them.

With regard to Pilot Delisle, the court stated that it could not use the same leniency as to the master and first officer. He attempted, unsuccessfully, to lead the court astray as to his motive for the order, slow. He erred gravely in judgment in maintaining such a speed, under the impression that the light which appeared dim was that of an overtaken vessel, and in view of the notice he had read the night before that buoys had been placed to indicate dredging operations, he should have been on the alert for the possible presence of the dredge in the area defined in the notice. Owing to the evidence that the War Beryl's movements were neutralized by the cable or wire of the dredge Beaujeu, the court felt that it could not be so severe as it otherwise would have been, and therefore suspended his license from May 28 to Oct. 1.

As to the master of the dredge Beaujeu, the court found that he should have had an officer on duty as well as a watchman, but as this did not contribute to the casualty, it is regarded as a lack of discipline, for which the master was severely reprimanded. The court considered that the dredge invited collision by remaining so close to the middle of the channel when not operating, merely to avoid trouble in raising the anchors, as stated. In view of the fact that there were no written orders given to the master of the dredge for his guidance, and that there exists, to a great extent, a difference between the responsibility of a master of an ordinary ship and the master of a vessel engaged in such special work as the Beaujeu, the master, Capt. Bourget, could not, in this instance, be criticized for his vessel's position.

Capt. A. Hope, one of the nautical assessors, dissented from the judgment in general, holding that the responsibility for the collision rested entirely on the dredge Beaujeu, on the ground that no measures whatever were taken by the master to ensure the safety of his vessel in case of accident.

Aids to Navigation on the Skagway Route—The Minister of Marine, in reply to a question as to negotiations with the U.S. Government, respecting the provision of aids to navigation on the Vancouver-Skagway route, following the loss of the C.P.R. s.s. Princess Sophia in Oct., 1918, stated in the House of Commons recently, that no negotiations were in progress. The loss of the vessel occurred on a part of the coast which is under U.S. control, and over which Canada has no jurisdiction. The Canadian coast line extends northward to the entrance to the Portland Canal, near Port Simpson, follows the Portland Canal to its head, and thence proceeds inland in a northwesterly direction.

Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marine Canals during May, 1919:

Eastbound.

Articles		Can. Canal.	U.S. Canal.	Total.
Lumber	M. ft. b. m.	430	28,325	28,755
Flour	Barrels	359,990	550,534	910,524
Wheat	Bushels	8,277,554	20,818,562	29,096,116
Grain, other than wheat	Bushels	2,500,139	6,870,235	9,370,374
Copper	Short tons	1,851	2,091	3,942
Iron Ore	Short tons	1,059,790	5,562,437	6,622,227
Pig Iron	Short tons	35	...	35
Stone	Short tons	4,290	3,450	7,740
General Merchandise	Short tons	2,297	11,569	13,866
Passengers	Number	441	158	599

Westbound.

[illegible]	Short tons	26,548	2,213,190	2,239,738
[illegible]	Short tons		248,263	248,263
[illegible]	Short tons		11,665	11,665
[illegible]	Short tons	3,749	24,757	28,506
[illegible]	Short tons	3,604	14,250	17,854
[illegible]	Short tons		44,302	44,302
[illegible]	Short tons	663	14,603	15,266
General Merchandise	Short tons	40,389	25,801	66,190
Passengers	Number	551	45	596

Summary.

Vessel Passages	Number	657	1,957	2,614
Registered Tonnage	Net	1,191,917	6,456,185	7,648,102
Freight:				
Eastbound	Short tons	1,410,426	6,485,116	7,895,542
Westbound	Short tons	62,953	2,607,831	2,670,784
Total freight	Short tons	1,473,379	9,092,947	10,566,326

General Shipbuilding Matters Throughout Canada.

Bigelow Bros., Canning, N.S., launched the tern schooner Cape Blomidon May 29. She is of 408 tons register, classed for 12 years, and is iron kneed throughout, and equipped with hoisting engines. A slight accident marred the launching, but, apparently, no damage was done to the vessel. She is owned by H. McAloney and others, Parrsboro, N.S., and will probably load deals there, for Great Britain.

Dominion Shipbuilding Co., Toronto, launched a full sized canal freight steel steamship, June 14, for private owners. Following the plan with some of its previous vessels the name of some Canadian General taking part in the war was given, in this case, General Williams being the one adopted. She is classed 100 A1, at Lloyds for Transatlantic service. Her dimensions are: Length over all, 261 ft.; breadth moulded, 43½ ft.; depth moulded, 28 ft. 2 in.; d.w. capacity, 4,300 tons. She is equipped with triple expansion engines, 1,400 i.h.p., by John Inglis Co., Toronto.

Harbor Marine Co. Ltd., Victoria, B.C., was incorporated under the British Columbia Companies Act, Mar. 28, 1919, with an authorized capital of $500,000, the directors being: President, C. J. V. Spratt, President Victoria Machinery Depot Co.; O. C. Bass, J. S. Clark, M.I.N.A., and J. W. Lennox. B. L. Robertson is Secretary-Treasurer. Its yard is on the north side of Victoria harbor, between the Foundation Co.'s lumber yard and the Cholberg shipyard. The Harbor Marine Co. is said to have been organized principally to build two steel cargo steamships of 8,100 tons d.w. each for Canadian Government Merchant Marine Ltd. for which the Victoria Machinery Depot Co. has contracts from the Marine Department, and further information about which is given under "Canadian Government Merchant Marine Ltd., Shipbuilding, Operation, Etc." on another page of this issue.

Midland Shipbuilding Co., Midland, Ont., Midland press dispatch, June 17:—After 10 days of negotiations between the striking iron workers and the company's officials, the plant has closed down. The strike started June 6, when 175 men walked out because the company refused to grant a 44-hour week and an increased scale. Two proposals were made by the company: first, that the men take over the ship now under constructon for the British Government and work such hours as they decided upon, the ship to be completed by a named date, the men to receive their present wages in the meantime and a bonus at the appointed date. The other proposal was that the iron work should be completed for a lump sum, to be divided as the employes saw fit. Both offers were refused, and the plant is therefore closed down, affecting 305 men, who were drawing weekly wages totalling $9,000.

National Shipbuilding Co., Levis, Que.—The successful completion of the transformation of the Dominion Government dredge Galveston into an ocean freight steamship, was marked by the launching of the s.s. Pomone at this company's yard, May 31. Several interesting features in connection with this work were fully described and illustrated in Canadian Railway and Marine World for January.

New Westminster Construction and Engineering Co., New Westminster, B.C.—It is reported that this shipyard at Popular Island, which was organized to build wooden steamships for the British Government under orders from the Imperial Munitions Board, will probably close entirely, as the terms under which it was to be taken over from the board do not appear to be satisfactory. The price named by the board was considered by the company to be much too high and it was agreed to submit the matter to arbitration, but nothing further has been done. The company built 4 wooden steamships for the British Government, these being namer, War Comox, War Edensaw, War Kitimat and War Ewen and it has under construction 3 wooden steamships of 3,200 tons d.w.. each for the Belgian Government. The last of these vessels was to be launched during June, after which it was expected the plant would be closed down.

Polson Iron Works, Ltd., Toronto—G. T. Clarkson, receiver and liquidator, has issued a statement of this company's affairs, showing assets consisting principally of real estate, buildings, machinery, plant, etc., of $1,938,993.43, unsecured liabilities, $1,727,208.58, and a nominal surplus of $211,784.85. The following is a summary:—

Assets.	
Real estate and buildings	$1,398,668.36
Machinery and plant	335,011.39
Patterns and drawings	50,000.00
Materials and supplies	438,295.30
Accounts receivable	9,000.00
Cash on hand	1,008.97
	$2,231,984,02
Less Bank of Nova Scotia claim, secured by first mortgage bonds..........	292,990.59
Nominal equity	$1,938,993.43
Liabilities.	
Preferred	$ 87,938.98
Direct	349,269.60
Unsettled claims..	1,290,000.00
	$1,727,208.58
Secured claim, Bank of Nova Scotia....$	292,990.59

The unsettled claims are as follows:—

C. Hannevig, New York, N.Y., and Aalesund Steamship Co., Aalesund, Norway. Advances against costs of construction of steamships 151 and 152, $568,000. Contractors claim ownership of materials and supplies on hand, to an inventory value of $312,487.43, which claim is not admitted.

Imperial Munitions Board estimated costs, in excess of contract price, for construction of six steamships for Imperial Government, $600,000; less amount claimed from board is respect of contracts for boilers, $13,000, net $587,000.

Heistein & Sons, Kristiansand, Norway. Damages for delays claimed in respect of delivery of s.s. Asp, $70,000, less deposit as security for fulfilment of contract, $15,000, net $55,000. This claim is disputed.

Toronto Harbor Commissioners. Claim for use and occupation of real estate, lease of which has not been executed, and claim for which is disputed, $67,500.

Sir Henry M. Pellatt, Toronto, claimed as having advanced to company, $80,000. Claim not admitted, pending investigation.

The Quebec Shipbuilding and Repairing Co. has gone into voluntary liquidation, and Maxham and Co., have been instructed to dispose of the plant, which is located at the Louise Docks, Quebec. The company was organized prior to the outbreak of war, and built the schooner M. P. Connolly, which was lost at sea during the war. The company also built two wooden steamship hulls for the British Government, under orders from the Imperial Munitions Board, viz: War Quebec and War Sorel, of 3,080 tons d.w. each, and which were launched June 28 and Sept. 7, 1918, respectively.

St. John Drydock & Shipbuilding Co., St. John, N.B. In a discussion in the House of Commons recently, it was stated that a large ship repairing plant is to be established in connection with the drydock which this company is building, and we are informed that the plans for this plant provide for an expenditure of at least $1,125,000, and that the equipment will be a very complete one. We are also advised that the company is still considering the possibility of establishing a large shipbuilding plant in connection, but that nothing definite has been decided on.

St. Martins Shipbuilding Co., St. Martins, N.B. The three masted auxiliary powered schooner, Quaco Queen, was launched by this company at the end of May for A. F. Bentley and others.

Wallace Shipyards Ltd., **Vancouver**, B.C.—The Public Works Department has awarded a contract to Wallace Shipyards Ltd., for docking, cleaning, painting and overhauling the dredge P.W.D. 305 (King Edward), for $5,885.

The Steamship Turbinia — Canada Steamship Lines s.s. Turbinia was offered for sale by public auction in London, Eng., June 17, by C. W. Kellock & Co., on behalf of the owners, as she lay at Southampton. She was built at Hebburn-on-Tyne, Eng., in 1904 for the Turbine Steamship Co., controlled by Hamilton, Ont., interests, and later owned by T. Eaton Co., Toronto, and for several years operated on Lake Ontario in the summer passenger trade. Towards the end of 1911 the vessel was acquired along with others by the Niagara Navigation Co., which later formed a part of Canada Steamship Lines, Ltd. During the period she was operated on Lake Ontario she lost money each year, except the first year, when a profit was shown. In the winter of 1905-06 she was chartered to Canada—Jamaica Steamship Co. and was operated on a day line between Santiago, Cuba, and Kingston, Jamaica. She crossed the Atlantic in the early stages of the war and has since been used carrying troops, etc., between England and France. She is equipped with three compound turbines of the Parsons type, one high pressure in the centre, one low pressure on each side, each operating a shaft carrying one propeller. The engine is about 500 n.h.p. Her dimensions are: length, 250 ft.; breadth, 33.2 ft.; depth, 12.6 ft.; tonnage, 1,064 gross; 603 register. She is equipped with wireless telegraph.

L'Heureux Lifeboat Launching Co. Ltd. has been incorporated under the Dominion Companies Act, with $250,000 authorized capital, and office at Montreal, to build and deal in steam and other vessels, and other means of transportation, and vessel equipment of all kinds. The incorporators are, F. Sidgwick, naval architect; H. S. Mathews, naval transport officer, W. F. Fletcher, engineer and naval architect; T. Hall, engineer; C. E. Gault, L. A. Lavallee and J. L. Bergeron, Montreal, E. M. Dechene and P. Paradis, Quebec, Que.

Canadian Government Merchant Marine, Ltd., Shipbuilding, Operation, Etc.

Launchings of Steamships.—Since the launchings of steel cargo steamships for Canadian Government Merchant Marine Ltd., particulars of which were given in Canadian Railway and Marine World for June, the following additional ships have been launched:—
Montreal, May 7, 1919.

Marine Department Contract 25; builder's yard no. 69; s.s. Canadian Seigneur, 8,100 tons d.w., by Canadian Vickers Ltd.,

Marine Department contract 5; builder's yard no. 106; s.s. Canadian Trooper, [illegible] tons d.w., by Wallace Shipyards Ltd., Vancouver, B.C., May 31, 1919.

Marine Department contract 20; builder's yard no. 40; s.s. Canadian Sailor, 3,400 tons d.w., by Port Arthur Shipbuilding Co., Port Arthur, Ont., May 31, 1919.

Transfer of Steamships to Canadian National Ry.—The Dominion Government passed the following order in council, June 2.—The committee of the Privy Council have had before them a report, dated May 4, 1919, from the Minister of Marine, stating that he has had under consideration a memorandum from the Deputy Minister, submitting as follows: That contracts have been placed with shipbuilding firms in Canada by the Marine Department for the construction of 45 steamships of a total deadweight tonnage of approximately 263,950 tons, at an average cost of $199.62 a ton. That four of the vessels so contracted for have been completed and delivered to the department, viz: Canadian Voyageur, 4,300 tons; Canadian Pioneer, 8,100 tons; Canadian Warrior, 3,750 tons; Canadian Ranger, 8,100 tons. That the remainder of the vessels alluded to will be completed and delivered to the department at intervals during the present and next years.

That several plans for the disposition and operation of these vessels have been considered, viz:—(a) By the regular steamship operators on a basis of hire or commission to be agreed upon; (b) by an organization to be formed within the department subject to and under instructions from the Minister; (c) by the Canadian National Ry.; (d) sale to private interests on terms to be agreed upon and subject to the condition that they should be available for Canadian trade so long as any such trade is offering.

That he has been advised that the intention of the government is to have some or all of these vessels operated by the Canadian National Ry. The Minister therefore recommends as follows:—That any or all of the vessels may, on completion and delivery to the Marine Department be transferred to the Canadian National Ry. for operation and maintenance.

That the terms upon which the vessels shall be so transferred shall require repayment to the Consolidated Revenue of Canada by the Canadian National Ry. of the total amount of the cost of each vessel so transferred with interest at 5½% in the manner following:—1st year, 20%; 2nd year, 15%; 3rd, 4th, 5th, 6th and 7th years, 10% each year; 8th, 9th and 10th years, 5% each year. That the title to every vessel so transferred to the Canadian National Ry. shall remain in the Minister of Marine on behalf of the government until such time as the total cost of each such vessel with interest as aforesaid is fully paid; thereafter the title to be vested in the Canadian National Ry. The committee concurs in the foregoing recommendations, and submits the same for approval.

Management of Steamships.—As stated in Canadian Railway and Marine World previously, the management of the steel cargo steamships which have been built, and are being built, under the Marine Department's orders, has been placed in the hands of the Canadian National Ry. Co.'s directors, of which D. B. Hanna is President. Canadian Government Merchant Marine Ltd. was incorporated by Dominion letters patent, Dec. 30, 1918, with an authorized capital of $1,000,000. At present the company has five directors, all of whom are directors of the Canadian National Rys., as follows, viz: D. B. Hanna, President; A. J. Mitchell, Vice President and Treasurer; Major Graham A. Bell, C.M.G., acting Deputy Minister of Railways; Robt. Hobson and E. R. Wood. Four additional directors will probably be elected in the near future. The Secretary is R. P. Ormsby.

The supervision of the management of the fleet has been delegated to R. C. Vaughan, Assistant to President, Canadian National Rys. R. B. Teakle, formerly Manager of the Allan Steamship Co.'s Boston service, and latterly Manager of the France-Canada Line at Philadelphia, has been appointed Manager, Canadian Government Merchant Marine Ltd. H. Milburne continues as Superintendent. Thos. Todd, formerly Chief Accountant and Purchasing Agent, Allan Steamship Line, Montreal, and subsequently loaned by the C.P.R. to the Canadian Cheese Commission, has been appointed Auditor, Canadian Government Merchant Marine Ltd. These three officials have their offices at 230 St. James St., Montreal.

The s.s. Canadian Ranger, 8,100 tons d.w., built for the Marine Department by Canadian Vickers Ltd., Montreal, and launched Apr. 19, was delivered to Canadian Government Merchant Marine Ltd., May 23; sailed from Montreal with cargo June 1 for Liverpool, Eng., and arrived there June 14.

The s.s. Canadian Recruit, 3,750 tons d.w., built by Collingwood Shipbuilding Co., for the Marine Department and launched at Collingwood, Ont., May 3, ran her trial trips June 3, was transferred to Canadian Government Merchant Marine Ltd. and left Collingwood for Toledo, Ohio, to load for Montreal, where she took on a general cargo for Jamaica and Havana.

The s.s. Canadian Warrior, 3,750 tons d.w., was stated in Canadian Railway and Marine World for June to have left Collingwood, Ont., Apr. 30, for Port Huron, Mich., to load coal for Montreal. We were officially advised that she had left for Port Huron and concluded that it was Port Huron, Mich., but have since been advised that she went to Huron, Ohio, where she loaded about 1,200 tons of Pittsburg no. 8 three-quarter coal consigned to Canadian National Rys., Montreal and from there took a general cargo for Barbadoes, Trinidad and Havana.

The Minister of Marine stated in the House of Commons recently, in answer to a question, that the cost of the s.s. Canadian Warrior was $818,975 delivered.

British American Shipbuilding Co., Welland, Ont., which, as stated previously in Canadian Railway and Marine World, has contracts for 2 steel cargo steamships of 4,350 tons each for Canadian Government Merchant Marine Ltd., and which laid the keel for Marine Department contract 44; builder's yard no. 4; Mar. 29, advised us June 9 that the keel for Marine Department contract 25; builder's yard no. 5; had not been laid,

Launching of steel cargo steamship Canadian Sailor, 3,400 tons d.w., for Canadian Government Merchant Marine Ltd., by Port Arthur Shipbuilding Co., at Port Arthur, Ont., May 31, 1919.

owing to the yard having been closed since the middle of May, the workmen being on strike.

The Collingwood Shipbuilding Co., Collingwood, Ont., on June 3, ran the trial trips of the s.s. Canadian Recruit, 3,750 ton d.w., built for the Marine Department, June 3, after which she was transferred to Canadian Government Merchant Marine Ltd. and left Collingwood June 7 for Toledo, Ohio, to load coal for Montreal. The company advised us June 20, that it expected to launch the s.s. Canadian Signaller, also 3,750 tons d.w., on June 28.

J. Coughlan & Sons, Vancouver, B.C., who, as stated in Canadian Railway and Marine World for June, laid keels on Apr. 26 and May 3, respectively, for two of the 8,100 ton d.w. steel cargo steamships for Canadian Government Merchant Marine Ltd., advised us June 9 that they were unable to give any idea as to the launching dates, as a general strike was on in Vancouver, which had stopped operations in their yards. For the same reason they were unable to give any idea as to when keels would be laid for the two other similar vessels for the Marine Department.

Halifax Shipyards Ltd., Halifax, N.S., which, as stated previously in Canadian Railway and Marine World, has contracts for 2 steel cargo steamships of 8,100 tons d.w. each, and 2 for 10,500 tons d.w. each, for Canadian Government Merchant Marine Ltd., and which laid the keels of the two 8,100 ton ships, viz: Marine Department contract 21; builder's yard no. 1; s.s. Canadian Mariner, Feb. 24, and Marine Department contract 22; builder's yard no. 2; s.s. Canadian Explorer, Mar. 15, advised us June 6 that the erection of buildings for its plant was completely stopped, owing to a building trades strike; consequently the programme for the building of ships 1 and 2 had been altered, and could not be definitely rearranged until the settlement of the strike and recommencement of work. The keels for the two 10,500 ton steamships had not been laid and it could not then be stated when they would be. The company further advised us June 13 that the construction of its buildings was re-started on June 9, the few bricklayers and carpenters who had been on strike having returned to work, on the understanding that their wages would be readjusted, in accordance with the finding of the conciliation board, which was established to arbitrate the difference between the Halifax Shipbuilders' Exchange and the different unions interested.

Harbour Marine Co. Ltd., Victoria, B.C., particulars about the incorporation, officials, etc. of which are given under "General Shipbuilding Notes Throughout Canada," on another page of this issue, is said to have been organized principally to build two steel cargo steamships of 8,100 tons d.w. each, for Canadian Government Merchant Marine Ltd., for which the Victoria Machinery Depot Co. has contracts from the Marine Department. We were officially advised June 10 that neither of the keels had been laid and that no dates for their laying had been fixed, but that the first shipway had been completed, that keel blocks were being placed, that the second shipway was nearly finished, and that the erection of buildings, installing of plant, etc., was being gone on with.

The Port Arthur Shipbuilding Co., Port Arthur, Ont., launched, on May 31, the steel cargo steamship Canadian Sailor, 3,400 tons d.w., Marine Department contract 20; builder's yard no. 40; Miss Emmeline Paige, daughter of J. F. Paige, the company's General Manager, performing the christening. The Canadian Sailor is of steel, screw, single deck type, with a straight stem and semi-elliptical stern built on the transverse system with poop, bridge and forecastle; the principal dimensions being: Length over all, 260 ft.; length between perpendiculars, 251 ft.; breadth moulded, 40½ ft.; depth moulded, 23 ft.. She is built to British Lloyd's 100 A1 classification, and fitted out in accordance with British Board of Trade Rules. The propelling machinery is placed amidships. The main engine is of the triple expansion vertical inverted type, with cylinders 20½, 34, 56 x 40 in. stroke, developing about 1,500 i.h.p. The auxiliary machinery includes a feed pump evaporator of 15 tons capacity per 24 hours; auxiliary condenser, with attached air and circulating pumps; vertical duplex ballast pump and auxiliary feed pump. A steam ash hoist is located in boiler room. Steam supplied by 2 Scotch boilers, 15 x 11 ft., constructed according to Lloyd's and Canadian Rules, having working pressure of 190 lb.

The Canadian Sailor is the second ship to be launched out of an order for 4 precisely similar steamships, which the company has from the Marine Department; the first, Canadian Trader, having been launched May 5. The keels for the other 2, Canadian Adventurer and Canadian Cadet, were laid Mar. 31.

Port Arthur Shipbuilding Co., Port Arthur, Ont., launched on May 31 the steel cargo steamship Canadian Sailor, 3,400 tons d.w. for Canadian Government Merchant Marine Ltd., Marine Department contract 20; builder's yard no. 40.

Wallace Shipyards Ltd., Vancouver, B.C.—The second of the steel steamships being built for Canadian Government Merchant Marine Ltd., Marine Department contract 5; yard no. 106; Canadian Trooper, 4,300 tons d.w., was launched May 31, and christened by Mrs. R. Pemberton, wife of the overseer of the government steamship building there.

Newfoundland Coastal Service.

In our last issue particulars were given of the acceptance, by the Newfoundland Government, of the tender of Bowring Bros. for two steamship services between St. John's and northern coast ports, and St. John's and southern and western ports. Similar service has been rendered by the firm for the past 15 years, and the tender referred to was for a continuance of the service for a further 10 years, of course at new rates. After the acceptance of the tender there was a change of government, without a contract having been signed, and considerable opposition arose to the concluding of the contract by the new government. In the meantime, Bowring Bros. withdrew their tender, and are reported to have sent in an amended tender at an enhanced price, providing for increases in passenger and freight rates, necessitated by increases in operating expenses. The former contract expired in April, and it has been announced that, pending a settlement of the matter, the government has seized the steamships Portia and Prospero, under the War Measures Act, and is operating them under the Government Shipping Department, at rates for passengers and freight which the contractors charged under the last contract.

Details of the Different Types of Steamships for Canadian Government Merchant Marine Ltd.

The following are comparative details of the six different types of steamship being built for Canadian Government Merchant Marine Ltd.:

	2,800 ton.	3,400 ton.	3,750 ton.	4,300 ton.	5,100 ton.	8,100 ton.	10,500 ton
Length, overall	....	260 ft.	260½ ft.	333 ft. 7 ins.	344 ft.	413 ft. 1 in.	445 ft
Length, bet. perpendicular	270 ft.	251 ft.	251 ft.	320 ft.	331 ft.	400 ft.	430 ft
Breadth, moulded	38 ft.	43½ ft.	43½ ft.	44 ft.	46½ ft.	52 ft.	56 ft
Depth, moulded	20½ ft.	23 ft.	26 ft.	25 ft.	25½ ft.	31 ft.	38 ft.
Draft, loaded	17¼ ft.	20 ft.	22 ft. 2 in.	21 ft. 2 ins.	21 ft. 8 ins.	25 ft. 1 in.	29 ft
Type	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	Lake, s.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	2d., p.b. & f'c's'le	3d., p. & f'c's'le
Engines, Type	[illegible] compound	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion
Cylinders, diar	[illegible] x 47 ins	20½ x 34 x 56 ins.	18 x 30 x 50 ins	25 x 41 x 67 ins.	25 x 41 x 68 ins.	27 x 44 x 73 ins.	29½ x 50 x 80 ins.
Stroke	[illegible]	40 ins.	36 ins.	45 ins.	45 ins.	48 ins.	54 ins.
Ind. h.p.	[illegible]	1,300	1,200	1,800	2,500	3,000	4,000
Boilers, Type	Single ended	Single ended	Single ended	Single ended	Single ended	Single ended	Single ended
No.	2	2	2	2	3	3	4
Diar. and length	12¾ x 10¾ ft	15 x 11 ft.	14 x 10¾ ft.	15½ x 11½ ft.	14 x 11½ ft.	15½ x 11½ ft.	15½ x 11¾ ft
Working pressure	[illegible] lbs.	190 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.
Furnaces, No.	[illegible]	6	6	6	9	9	......
Grate surface	[illegible] sq. ft	135 sq. ft.	100 sq. ft.	132 sq. ft.	156 sq. ft.	198 sq. ft.	
Heating surface	[illegible] sq. ft	4,670 sq. ft.	3,900 sq. ft.	5,162 sq. ft.	7,275 sq. ft.	7,743 sq. ft.	
Speed	8½ knots	9 knots	9 knots	11 knots	11 knots	11 knots	12 knots
Classification	Lloyd's	Lloyd's	Brit. Corp.	Lloyd's	Lloyd's	Lloyd's	Lloyd's

Orders for Steel Cargo Steamships for Canadian Government Merchant Marine Ltd.

The following is a complete list of steel cargo steamships which the Dominion Marine Department has been authorized, by order in council, to place orders for, and which orders are to be carried out. The following contractions are used in the column giving the type of the vessels to be built: s.d., single deck; 2.d., two deck; 3.d., three deck; lake, lake type; p., poop; b., bridge; f'c's'le, forecastle.

Contract	Contract date	Builder	Yard no.	Tons d.w.	Price per ton d.w.	Total price	Type	Classification	Speed, knots	Approximate delivery date	Keel laid	Launched	Name
1	Mar. 4, 1918	Canadian Vickers Ltd., Montreal	66	4,300	$207.	$ 890,100	S.d., p., b. and f'c's'le	Lloyd's	11	Dec. 31, 1918	June 11, 1918	Nov. 23, 1918	Canadian Voyageur
2	May [illegible], 1918	" "	67	8,100	180.	1,458,000	2.d., p., b. and f'c's'le	"	11	Jan. 31, 1918	July 17, 1918	Dec. 3, 1918	Canadian Pioneer
3	May 18, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	61	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	May 1, 1919	—	Dec. 21, 1918	Canadian Warrior
4	Mar 15, 1918	Wallace Shipyards Ltd., Vancouver, B.C.	100	4,300	207.	890,100	S.d., p., b. and f'c's'le	Lloyd's	11	Mar 31, 1919	Oct 1, 1918	Apr. 5, 1919	Canadian Volunteer
5	Nov. [illegible], 1918	" "	106	4,300	217.	933,100	S.d., p., b. and f'c's'le	"	11	May 31, 1919	Nov. 15, 1918	May 31, 1919	Canadian Trooper
6	Nov. 25, 1918	" "	101	5,100	210.	1,071,000	S.d., p., b. and f'c's'le	"	11	July 31, 1919	Apr 5, 1919		Canadian Aviator
7	Nov. [illegible], 1918	" "	102	5,100	210.	1,071,000	S.d., p., b. and f'c's'le	"	11	Sept. 30, 1919			Canadian Scout
10	July 5, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	62	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	May 15, 1919	June 3, 1918	May 3, 1919	Canadian Recruit
11	Oct. 17, 1918	" "	63	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 15, 1919	Jan. 16, 1919		Canadian Signaller
12	Oct. 17, 1918	" "	64	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	Feb. 10, 1919		Canadian Gunner
13	Aug. 9, 1918	Tidewater Shipbuilders Ltd., Three Rivers, Que.	5	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	Lloyd's	11	Aug. 1, 1919	Jan. 8, 1919		Canadian Settler
14	Aug. 9, 1918	" "	6	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Sept. 1, 1919	Jan. 10, 1919		Canadian Rancher
15	Jan. 24, 1919	" "	7	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 15, 1919			Canadian Fisher
16	Jan 24, 1919	" "	8	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	May 15, 1920			Canadian Forester
17	Sept. 4, 1918	Davie Shipbuilding & Repairing Co., Lauzon, Que.	459	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 1, 1919	Mar. 11, 1919		Canadian Trapper
18	Sept. 4, 1918	" "	460	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 8, 1919	Mar. 28, 1919		Canadian Hunter
19	Sept. 4, 1918	Port Arthur Shipbuilding Co., Port Arthur, Ont.	39	3,400	205.	697,000	Lake, s.d., p., b. and f'c's'le	"	9	June 1, 1919	Dec. 9, 1918	May 5, 1919	Canadian Trader
19a	Mar. 1, 1919	" "	41	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Sept. 30, 1919	Mar. 31, 1919		Canadian Adventurer
20	Sept. 4, 1918	" "	40	3,400	205.	697,000	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	Dec. 10, 1918	May 31, 1919	Canadian Sailor
20a	Mar. 1, 1919	" "	42	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Oct. 31, 1919	Mar. 31, 1919		Canadian Cadet
21	Sept. 13, 1918	Halifax Shipyards, Ltd., Halifax, N.S.	1	8,100	195.	1,579,500	2.d., p., b. and f'c's'le	"	10	Dec. 19, 1919	Feb. 24, 1919		Canadian Mariner
22	Sept. 13, 1918	" "	2	8,100	195.	1,579,500	2.d., p., b. and f'c's'le	"	10	Apr. 1920	Mar. 15, 1919		Canadian Explorer
23	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	73	4,300	215.	924,500	S.d., p., b. and f'c's'le	"	11	May 27, 1919	Jan. 22, 1919		Canadian Navigator
24	Oct. 11, 1918	" "	68	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	May 1, 1919	Aug. 26, 1918	Apr. 19, 1919	Canadian Ranger
25	Oct. 11, 1918	" "	69	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	June 1, 1919	Nov. 30, 1918	May 7, 1919	Canadian Seigneur
26	Oct. 11, 1918	" "	70	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	July 1, 1919	Dec. 2, 1918		Canadian Miller
27	Oct. 11, 1918	" "	71	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	Aug. 1, 1919	Apr. 23, 1919		Canadian Spinner
28	Oct. 11, 1918	" "	72	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	Sept. 1, 1919	May 10, 1919		Canadian Planter
29	Jan. 24, 1918	Victoria Machinery Depot Co., Victoria, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Jan. 31, 1920			
30	Jan. 24, 1919	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Nov. 30, 1920			
31	Dec. 11, 1918	Collingwood Shipbuilding Co., Kingston, Ont.	15	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	Nov. 1, 1919	Apr. 7, 1919		Canadian Beaver
32	Mar. 1, 1919	Port Arthur Shipbuilding Co., Port Arthur, Ont.	43	4,300	215.	935,250	S.d., p., b. and f'c's'le	Lloyd's	10¼	Nov. 1, 1919			
33	Mar. 1, 1919	" "	44	4,300	215.	935,250	S.d., p., b. and f'c's'le	"	10½	Nov. 15, 1919			
34	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	11	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	July 31, 1919	Apr. 26, 1919		Canadian Importer
35	Nov. 22, 1918	" "	12	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Aug. 31, 1919	May 3, 1919		Canadian Exporter
36	Nov. 22, 1918	" "	13	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Sept. 30, 1919			Canadian Inventor
37	Nov. 22, 1918	" "	14	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Oct. 31, 1919			Canadian Prospector
38	Dec. 10, 1918	Halifax Shipyards Ltd., Halifax, N.S.	3	10,500	197¼	2,073,750	3.d., p., and f'c's'le	"	12	Aug. 1, 1920			
39	Dec. 10, 1918	" "	4	10,500	197½	2,073,750	3.d., p., and f'c's'le	"	12	Nov. 1, 1920			
40	Mar. 31, 1919	Nova Scotia Steel & Coal Co., New Glasgow, N.S.	5	2,800	210.	588,000	S.d., p., b. and f'c's'le	"	8¼	Oct. 1919	Mar. 27, 1919		
41	Mar. 31, 1919	" "	6	2,800	210.	588,000	S.d., p., b. and f'c's'le	"	8½	Nov. 1919	Mar. 31, 1919		
42	Feb. 21, 1919	Prince Rupert Dry Dock and Engineering Co., Prince Rupert, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Feb. 1920			
43	Feb. 21, 1919	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	June 1920			
44	Jan. 23, 1919	British American Shipbuilding Co., Welland, Ont.	4	4,350	215.	935,250	S.d., p., b. and f'c's'le	Brit. Corp.	10	Nov. 1919	Mar. 29, 1919		
45	Jan. 23, 1919	" "	5	4,350	215.	935,250	S.d., p., b. and f'c's'le	"	10	June 1920			
				263,850		$52,691,450							

Cargo Steamship Building in Canada for British Government.

Engines for s.s. War Fundy, Etc.—In a description of the wooden cargo s.s. War Fundy, built for the British Government by Grant & Horne, St. John, N.B., which appeared in Canadian Railway and Marine World for May, it was stated that the boilers and engines were installed by the Union Foundry Co., under an Imperial Munition Board's officer's superintendence. We have since been advised that, while the engines were installed by the Union Foundry Co., as stated, they were built by Robb Engineering Works Ltd., Amherst, N.S., which also built 4 other engines of the same size for ships built for the British Government at different points.

Steamships Launched and Under Construction—Since the information given in our last issue respecting launchings of steamships under construction in Canada for the British Government, was published, the wooden steamship, s.s. War Moncton, 3,080 tons d.w., was launched, May 29, by Grant and Horne, St. John, N.B. This completes all orders for wooden steamships placed in Canada for the British Government by the Imperial Munitions Board. Orders for 2 steel steamships, from Canadian Allis-Chalmers, Ltd., Bridgeburg, Ont., of 3,500 tons d.w. each, and for which, the names War Wallaby and War Wombat were selected, have been cancelled by the Imperial Munitions Board. This leaves 7 steel steamships still under construction with a total tonnage of 35,000. The total of steel steamships launched remains at 34 with tonnage of 169,300, and 46 wooden steamships have been launched with total tonnage of 141,680; an aggregate of 80 vessels of 310,980 tons. Following is a list of the steel steamships still under construction.

Builder.		Tons d.w.
British American Shipbuilding Co. Welland, Ont.	War Racoon	3,500
Canadian Allis-Chalmers, Ltd., Bridgeburg, Ont	War Vixen	3,500
J. Coughlan & Sons, Vancouver, B.C.		
"	War Chariot	8,800
"	War Company	8,800
Midland Shipbuilding Co., Midland, Ont	War Fury	3,400
Polson Iron Works, Ltd., Toronto, Ont.		
"	War Algoma	3,500
"	War Halton	3,500
	7 steel steamships	35,000

Canadian Allis-Chalmers, Ltd., Bridgeburg, Ont.—The Imperial Munitions Board has cancelled orders given this company for 2 steel cargo steamships of 3,500 tons each, viz: builder's yard no. 302, s.s. War Wallaby, and builder's yard no. 303, s.s. War Wombat. Canadian Allis-Chalmers Ltd. had orders for 4 steel cargo steamships of 3,500 tons each, one of which, the s.s. War Magic, was launched Mar. 3, and another one, the s.s. War Vixen, is being built.

Grant & Horne, St. John, N.B.—The s.s. War Moncton was launched at this yard May 29. This is the last of the wooden steamships to be built in Canada for the British Government under orders from the Imperial Munitions Board, and is the second one built by this firm, the first one, the s.s. War Fundy, having been launched in August, 1918. The War Moncton is of the standard type of wooden steamship adopted by the board; full descriptions of which, with equipment, have been given in previous issues.

Steamship War Moncton, built for British Government by Grant & Horne, St. John, N.B., launched May 29.

Imperial Investigation Board on Maritime Transport, Etc.

Ottawa press dispatch, June 6—Sir George Perley, High Commissioner for Canada in England, will, on the recommendation of the Minister of Marine, represent Canada on the Imperial Investigation Board to be appointed by the Crown to review questions relating to maritime transport and to the development of the Empire's sea communications.

The board is to consist of an independent chairman appointed by the Crown; of eight official members nominated by the Colonial Office, India Office, Board of Trade, Dominion of Canada, Commonwealth of Australia, Dominion of New Zealand, Union of South Africa and Dominion of Newfoundland, and of four unofficial members, two experienced in shipping and two experienced in commerce, appointed by the Board of Trade, after consultation with the Dominions. The duties of the board are to be:

To enquire into complaints from persons and bodies interested with regard to ocean freights, facilities and conditions in the interimperial trade, or into any question of a similar nature referred to it by any of the nominating authorities, and to report its conclusions to the governments concerned.

To survey the facilities for maritime transport on such routes as appear to it to be necessary for trade with the Empire, and to make recommendations to the appropriate authority for the coordination and improvement of such facilities, whether with regard to the type, size and speed of ships required for particular routes or purposes, the depth of water in locks or channels, the construction of harbor work, or similar matters. For this purpose the board is to appoint, where necessary, in consultation with the appropriate authority, standing or temporary committees, including persons with expert knowledge, to investigate particular problems.

The board is empowered to announce its conclusions publicly or otherwise as it thinks fit. Any published report to be signed by the concerning members of the board, and any dissenting opinion of a member or members to be published at the same time.

Care to Be Exercised in Lake St. Clair Flats Canal.

The United States District Engineer, at Sault Ste. Marie, Mich., has issued the following notice to vessel owners:—"The revetment on the channel side of the east dike, Lake St. Clair Flats Canal, has deteriorated markedly in the last two seasons. Several sections have collapsed, the timber work swinging out into the channel. This condition exposes anchorages adjacent to the portions collapsed to undue strain, and the backfilling to the effects of wash incident to the disturbances of water created by passing boats. Suitable repair is anticipated as funds become available and arrangements can be made. Meantime, it is highly desirable, in order to minimize further deterioration, that additional strain and disturbance be avoided as far as practicable. To this end it is requested that your vessel masters be instructed to check speed in passing through the east canal, reducing to about 8 miles an hour when weather conditions are suitable for that speed. It will, of course, be understood that it is not suggested that vessels check in storm, or when conditions to any extent render control uncertain, but only that throughout the variety of conditions encountered speed be reduced in reasonable accord therewith, and solely for the purpose above expressed, that further deterioration of the revetment be minimized."

Ships Built in Canada in 1918.

The Marine Department has issued the following statement, subject to revision, of ships built in Canada during 1918:

Wood	Sail.	Steam.	Gas
Number	81	43	18
Gross tonnage	31,012	86,479	9,757
Net tonnage	29,334	54,198	7,856
Steel			
Number		79	
Gross tonnage		137,004	
Net tonnage		[illegible]	
Totals			
Number			[illegible]
Gross tonnage			[illegible]
Net tonnage			[illegible]
Deadweight tonnage			[illegible]

La Cie. Canadienne Trans-Atlantique Ltee., the incorporation of which was announced in our last issue with $1,000,000 authorized capital and office at 9 Victoria Square, Montreal, was formed to operate a line of freight steamships between Montreal and Havre, France, and for this purpose is a consolidation of the interests of Canada Steamship Lines, Ltd., and La Cie. Generale Trans-Atlantique of France. It is intended to operate about 6 steamships in the service, 3 of which will be owned by Canada Steamship Lines and 3 by the French company, these companies acting, respectively in Canada, and France, in the interests of the new owners. The President is Pellerin Latouche, Paris, France, and the Vice President and Managing Director is J. W. Norcross, President and Managing Director Canada Steamship Lines, Montreal.

The United States Government's Shipbuilding Work, Its Costs, Etc.

E. N. Hurley, Chairman United States Shipping Board, wrote the Chairman of the House of Representatives' appropriations committee, June 4, as follows:—

In presenting to you the request of the U.S. Shipping Board for funds, I feel it my duty to give an outline of our shipping problem as a whole. The interrelation of the shipbuilding and ship-operating industries is very close, an dthe unprecedented conditions which the war has imposed upon both of them cannot safely be adjusted to normal without carefully considered action by the government, at whose call they abandoned the normal limitations of commercial organization and adjusted themselves to the abnormal conditions of war. Moreover, the importance of these two great industries to the prosperity of the U.S. people is so great that the necessity for establishing them upon a healthy commercial basis is widely recognized as a prime matter of national policy.

During the 19 months in which our country was actively engaged in the war, the U.S. Shipping Board Emergency Fleet Corporation, expanded the shipbuilding capacity of the U.S. from an unimportant position among the world's producers of ocean-going tonnage to first place. At the same time it has increased the U.S. overseas merchant fleet from a negligible quantity to second place. Our programme has been moulded, and its closing-out has been planned, with the idea of leading the two industries congress consigned to our administration during the war up to the point at which they may strike out and develop on a commercial basis. The consummation of our efforts is dependent upon and now awaits the action of congress in granting our request for funds, and in directing the manner in which we shall dispose of the government fleet.

Congress has authorized $3,671,000,000 and appropriated $2,625,451,000. We shall need all the money which has been appropriated, and in addition we shall require $673,368,301. However, the total of these two amounts ($3,298,819,301) is $372,180,699 less than the amount congress already has authorized us to spend. The shipbuilding programme has been greatly reduced since the signing of the armistice. We have suspended or cancelled contracts for 754 ships, aggregating 5,797,825 tons d.w., which would have cost $797,564,276 to complete. The cost of cancelling these contracts will be about $202,853,456, and the saving effected by cancellations will approximate $594,710,820.

The following is an account of our financial operations to date: Actual expenditures and net commitments for shipyard construction, housing, transportation, etc., $270,482,975, and it is estimated that the salvage will be $81,272,700. This means that we shall have to charge off from our shipyard, housing and transportation investment, $189,210,275, which is 5.6% of the total amount congress has appropriated and is requested to appropriate. On March 31 we had spent in the administration of the home office, the field establishment, and the district offices, $24,173,000. By July 1, this item will reach $29,[illegible]0. It will require an additional [illegible] to complete the programme. This makes a total administration outlay of $45,000,000, or 1.37% of the total amount congress has appropriated and is requested to appropriate.

The three net expenditures described above total $437,063,731. The subtraction of this amount from $3,298,819,301, the total appropriations made and requested, leaves $2,861,755,570 to be accounted for in ships. For this we have built and expect to build, 2,434 vessels, aggregating 13,885,106 tons d.w. On its face, this ratio of tonnage to monetary outlay would indicate a cost of $206 a ton d.w. However, the actual cost of the ships to the government is considerably less than this amount, for the following reason. Some shipbuilders have paid into the U.S. Treasury income and excess profit taxes aggregating $40 a ton d.w. on the vessels they have constructed. Others have paid the equivalent of $30 a ton. It is estimated that at least $25 a ton d.w. has been returned to the U.S. Treasury in this manner by all shipbuilders. This $25 does not include any taxes paid by the hundreds of subcontractors who manufactured the steel, the boilers, the machinery and the many other things which go into the ships; but when multiplied by 13,885,106 tons d.w., it indicates a rebate of $347,127,650, which, when subtracted from $2,861,756,570, leaves $2,514,527,920, or $180 a ton d.w. as the actual cost to the government of the fleet which played an essential part in the winning of the war, and which is now a permanent commercial asset of the U.S. people.

Yesterday we sold one of our 7,500-ton freighters to the National Shipping Corporation, New York, for $210 a ton d.w., and we have received from the Skinner & Eddy Shipbuilding Corporation an offer to buy at present construction costs four 8,000-ton freighters which that corporation is building. Today we sold one of our 5,075-ton freighters to the Omega Steamship Co., New York, for $210 a ton d.w., and we have received from another firm an offer to buy four ships at the same price.

In giving this picture of our finances, I have confined myself to facts and figures. I have made no mention of the unusual conditions under which our work was planned and carried out. However, it is interesting to note that the cost of our steel and machinery was three times its normal cost, and that the wages we paid to labor were based upon double the normal rate. Also, it is interesting to consider in connection with the foregoing figures the fact that we expanded the shipbuilding industry ten-fold in ten months, with high-priced materials, and under the handicap of transportation delays which made the work very costly. In the prosecution of our work, we have made many blunders, and finally, when we were compelled by the signing of the armistice, suddenly to stop and reverse the ponderous machinery we had been driving at full speed, we found ourselves confronted with new problems, through the mazes of which we are happy to report that we can now see our way clearly.

Amount authorized by congress.....	$3,671,000,000
Appropriated and will expend .	$2,625,451,000
Additional appropriation required	673,368,301
	$3,298,819,301
Credit for administration (1.37% of total amount appropriated and requested)	**45,000,000**
Credit for net cost of shipyard development, housing and transportation (5.5% of total amount appropriated and requested)......	189,210,275
Credit for cancelling ship contracts	202,853,456
	$ 437,063,731
Total appropriation	$3,298,819,301
Credit	437,063,731
	$2,861,755,570
Money spent and to be spent for construction of 13,885,106 d.w. tons of ships.....................................	2,861,755,570
Tax paid by shipbuilders ($25 x 13,885,106 d.w. tons)....	347,127,650
Net cost of 13,885,106 d.w. tons of ships	$2,514,627,920
Average net cost of ships per d.w. ton	180

Editor's Note—Mr. Hurley's plan of working out the average net cost of ships per d.w. ton, by deducting from the actual cost the amount paid by shipbuilders, as government taxes, is certainly ingenious, but the result arrived at is worthless for comparison with prices paid by the British and Canadian Governments, which are stated at the actual prices paid to the builders. On the same basis, the ships for the United States Government cost $206 a ton, if not more.

Mainly About Marine People.

Hugh A. Allan, formerly of the Allan Steamship Line, Mrs. Allan and Miss Rachel Allan, who have been living in England for several years, returned to Montreal early in June, and will spend the summer at St. Andrews, N.B.

The Hon. C. C. Ballantyne, Minister of Marine, Mrs. Ballantyne, and their family, will spend part of the summer at the Algonquin Hotel, St. Andrews, N.B.

J. Richard Clancy, whose appointment as General Agent for Ontario, Freight Department, Canadian Pacific Ocean Services Ltd., Toronto, was announced in our last issue, entered transportation service in 1883, with the G.T.R., and transferred to the Allan Line Steamship Co. in June, 1884, serving with that company until Apr., 1915, successively as Chief of the Export Department, and Manager at Portland, Me. He entered C.P.R. service in Apr., 1915, as Port Agent at Quebec, Que., in the summer, and at St. John, N.B., in the winter, and in 1918 was appointed Representative, Canadian Pacific Ocean Services Ltd., New York, which position he held at the date of his present appointment.

Capt. Samuel Crangle, retired master mariner and shipbuilder, of Toronto, who died at Los Angeles, California, Apr. 12, left an estate valued at $175,414. Among his bequests was one of $2,000 to J. H. G. Hagarty, with whom he was formerly associated in the St. Lawrence & Chicago Steam Navigation Co.

Capt. D. Kenny, Marine Superintendent, Head Line, Montreal, died there, June 18, aged 60, after a short illness. He was with the Head Line for about 30 years, and was at one time master of one of its steamships.

W. Grant Morden, M.P., of the Canada Steamship Lines, London advisory committee, and Mrs. Morden, have returned to England after spending several weeks in Canada.

Capt. W. Murphy, master of the Toronto Ferry Co.'s ferry steamboat Luella, died at Toronto, June 4, aged 54.

P. R. Peel, New Westminster, B.C.,

has been appointed measuring surveyor of shipping and of accommodation for seamen for that port, vice N. M. Matheson, deceased.

W. G. Roche, whose appointment as General Agent, Freight Department, Canadian Pacific Ocean Services Ltd., Chicago, Ill., was announced in our last issue, was born at Montreal, Nov. 3, 1880, and was educated at Detroit University, Detroit. He entered transportation service after leaving school, and served in clerical capacities with the G.T.R. and Pere Marquette Rd. He entered C.P.R. service, as Contracting Freight Agent, at Detroit, Mich., Aug. 7, 1903, and resigned on his appointment as General Manager, Reading Truck Co., Detroit, Mich., of which company he later became Secretary-Treasurer, and resigned, Oct. 1, 1918. He was appointed Special Representative of the U.S.Labor Department, Oct. 15, 1918, and was appointed to his present position, May 1.

Capt. Wm. Sprague, a former master mariner on the Pacific coast, died at Vancouver, B.C., at the end of May, after a long illness, aged 75. He was born in New Brunswick, and was associated with the sea from early boyhood. He is stated to have brought the first vessel loaded with steel rails across the Atlantic, for the Intercolonial Ry.

Robert B. Teakle, who has been appointed Manager, Canadian Government Merchant Marine, Ltd., Montreal, was born at Quebec, Que., and entered marine service there with Allan, Rae & Co., and subsequently became local manager of the Allan Line at St. John, N.B., and later at Boston, Mass. Since the taking over of the Allan Line by Canadian Pacific Ocean Services, Ltd., he has been Manager of the France-Canada Line at Philadelphia, Pa. He was presented with an engraved silver salver by the members of the Canadian Club at Melrose, Mass., recently, on leaving for Montreal.

Lorne C. Webster, President, Webster Steamship Co., etc., Montreal, has been elected a director of the Merchants Bank of Canada.

Harold Yarrow, General Manager, Yarrow & Co., Glasgow, Scotland, visited Yarrows Ltd., plant at Victoria, B.C., recently.

Norman Yarrow, Manager of Yarrows Ltd., returned to Victoria, B.C., recently, after a short holiday in Cailfornia.

Steamship Companies Incorporated

Binghamton Steamship Co. Ltd., has been incorporated under the Dominion Companies Act, with $50,000 authorized capital and office at Montreal, to own and operate steam and other vessels, and to carry on a general navigation and transportation business. It was the intention of this company, which was incorporated by United States interests, to transfer the U.S. steamship Binghampton to the Canadian register, but as permission for the transfer was refused by the Dominion Government the company is not being organized.

Donald Shipping Co. Ltd., which has been incorporated under the Dominion Companies Act with $50,000 authorized capital and office at Montreal, is in process of organization. The incorporators are L. P. Crepeau, K.C., S. Hinson, R. Bush, B. Robinson, and A. P. Grigg, all of Montreal.

Eldorado Steamship Co. (Canada) Ltd. has been incorporated under the Dominion Companies Act, with $1,000 authorized capital and office at Montreal, to own and operate steam and other vessels, and to carry on a general navigation and transportation business. The company was incorporated by New York interests and it was proposed to transfer the United States steamship Eldorado to the Canadian register, but as the Dominion Government refused permission the proposition has been abandoned.

Harvester Navigation Co. Ltd. has been incorporated under the Dominion Companies Act, with $128,000 authorized capital, and office at Sussex, N.B., to own and operate steam and other vessels for the conveyance of passengers, mails and merchandise, and to act as shipbuilders and common carriers. M. G. White, Sussex, N.B.; G. W. Smith, E. Taylor, W. A. Keirstead, Apple River, N.S., and J. A. Cleveland, Alma, N.B., are the incorporators.

Huron Steamship Co. Ltd., has been incorporated under the Dominion Companies Act with $50,000 authorized capital and office at Montreal, to own and operate steam and other vessels, wharves, docks and other transportation facilities, and to carry on a general navigation business. United States interests are concerned, but as the application to the Dominion Government to transfer the U.S. steamship Huron to the Canadian register has been refused the company is not being organized.

The Kingston Navigation Co. Ltd. has been incorporated under the Ontario Companies Act, with $40,000 authorized capital and office at Kingston, Ont., to operate vessels and other craft propelled by any means, and to carry passengers and freight by vessel or otherwise. J. M. Campbell, J. A. Carnegie, R. E. Burns, J. T. Bain, and C. J. Bolton, Kingston,

Steel Steam Trawlers and Steam Wooden Drifters, built for British Government, through Canadian Naval Service Department, at Canadian Vickers Ltd., Montreal.

[illegible] the incorporators.

Minneapolis Steamship Co. Ltd. has been incorporated under the Dominion Companies Act, with $50,000 authorized capital stock, and office at Montreal, to own and operate steam and other vessels, and to carry on a general navigation and transportation business. This company was incorporated by New York interests to operate the United States steamship Minneapolis under Canadian registry, but as the application to transfer the vessel was refused by the Dominion Government the organization of the company is not being proceeded with.

St. Paul Steamship Co. Ltd. has been incorporated under the Dominion Companies Act with $50,000 authorized capital and office at Montreal, to carry on a general steamship and transportation business, and to own and operate steam and other vessels, wharves, docks and other transportation facilities. This company, which was formed by U. S. interests, intended operating the United States steamship St. Paul under Canadian registry, but its application to transfer the vessel having been refused by the Dominion Government, the organization is not being proceeded with.

Tower Shipping Co. Ltd., the incorporation of which was announced in our last issue with $30,000 authorized capital and office at Montreal, is in process of organization. The company proposes to purchase and operate a schooner, and to carry on a general shipping business. The incorporaters are L. P. Crepeau, K. C., S. Hinson, R. Bush, B. Robinhon, G. Whittaker and A. P. Grigg, all of Montreal.

La Cie.de Navigation Tremblay Ltee. has been incorporated under the Quebec Comuanies Act with $99,500 authorized capital and office at Matane, Que., to own and operate steam and other vessels for marine and aerial transportation and to carry on a general navigation, transportation and towing business. The incorporators are Alphonse, Edmond, Alphonse (Jr.), Arthur, Gustave and Ulric Tremblay, all mariners of Matane, Que.

Atlantic and Pacific Ocean Marine.

Canadian Pacific Ocean Services Ltd. has changed the name of the s.s. Alsatian (Allan Line), to Empress of France, under which name she is now being operated.

It is reported that a French steamship line is preparing to inaugurate a steamship service between France and North American Pacific ports, making calls at Vancouver, Victoria, Tacoma and Seattle.

Canada Steamship Lines, Ltd., has purchased the s.s. Neepawa for the use of the Quebec Steamship Co., one of its subsidiaries. The Neepawa is 390 ft. long on the keel and 47 ft. 4 in. wide. It is said she will be operated in the West Indies trade.

The Union Steamship Co. of New Zealand, operating the mail steamship service between Canada and Australasia, is reported to have ordered a passenger steamship of 11,000 tons in Glasgow, Scotland, for the service, to be operated in conjunction with the s.s. Niagara.

The U.S. ship [illegible], of Boston, Mass., has been chartered by I. H. [illegible] & Son of New Glasgow, N.S., to load lumber for United Kingdom ports. She is an iron ship of 1,692 gross tons and 1,480 net tons, built at Glasgow, Scotland, in 1885, her dimensions being, length, 240.5 ft.; breadth, 38 ft.; depth, 21.7 ft.

The Ulster Steamship Co.'s (Head Line) s.s. Ballygally Head, was launched at Belfast, Ireland, recently for the North Atlantic service. It was expected she would make her first trip to Montreal about the end of June. Her dimensions are, length, 400 ft.; breadth, 52 ft.; depth, 31 ft.; tonnage, 5,300 gross, 8,250 d.w.

The s.s. Bermudian, arrived at New York early in June from Kingston, Jamaica, where she had landed colored British troops from Italy. She is owned by the Quebec Steamship Co., a subsidiary of Canada Steamship Lines Ltd., and until 1917, when she was requisitioned by the British Admiralty, was operated between New York and Bermuda. She was used chiefly for carrying troops between the West Indies and Europe, and was reported several times to have been sunk by submarines, and also to have sunk at Alexandria, Egypt. She was never hit by a torpedo, and the sinking at Alexandria, was due to an accident, an ash port having been left open.

Reports as to a large merger of steamship interests continue to come from London, Eng., where there is considerable activity in these circles. It is reported that the Peninsular and Oriental Steam Navigation Co., the Royal Mail Steam Packet Co., the Cunard Steamship Co. and Furness, Withy & Co., are to unite, with a probable total capital of £150,000,000. The matter of taking in the British owned steamships controlled by the International Mercantile Marine Co. is causing considerable interest. It is said that the British Government is arranging an option on the purchase of 80% interest in the vessels owned by the International Mercantile Marine Co., and it is possible that a law may be passed prohibiting any foreign corporation from owning or controlling more than a 20% interest in any British vessels. Steamship companies' stock quotations in Great Britain are, at present, very high, the P. & O. having a market value of 505.

Maritime Provinces and Newfoundland.

The Dominion Government's s.s. Scotia, registered no. 111,865, and operated by the Railways and Canals Department, has had its name changed to Scotia I.

The harbor bar range lights at the entrance to Richibucto harbor, on the east coast of Northumberland Strait, N.B., have been moved about 1,000 ft. eastward, owing to a change in the channel.

The North Shore Steamboat Co.'s s.s. Bras d'Or, which was launched at Mahone Bay, N.S., during June, is to be operated in the passenger and freight trade through the Bras d'Or Lakes to Mulgrave and Eastern Harbor, N.S. She will have accommodation for about 200 passengers, and for a considerable quantity of freight in addition.

The s.s. Troja, which went ashore on the Old Proprietor Ledge in the Bay of Fundy, Mar. 18, was refloated at the end of May, by the Maritime Wrecking and Salvage Co., Halifax, N.S. Temporary repairs were made to enable her to be taken to Halifax, where she will be overhauled. The Troja, which was built by the Dominion Shipbuilding Co., Toronto, was en route from Louisburg, N.S., to St. John, N.B. It was not expected that salvage operations would be successful, as the report stated that the decks were buckled, the bottom badly broken, and all the wood work, including the bridge, was smashed.

The Gulf of St. Lawrence Shipping and Trading Co. is reported to have chartered the United States s.s. Cerro Gardo for a direct freight service between Montreal and St. John's, Nfld. For the present the company, which was incorporated recently, will confine itself to the freight business, but expects to enter the passenger business in 1920, when it hopes to obtain a suitable passenger steamship. The company has two other vessels, the steamships Guide and Labrador, running between Quebec and Bras d'Or. It also operates the s.s. Lady Evelyn between Pictou, N.S., Prince Edward Island and Magdalen Islands, and the s.s. Tremblay on the Gaspe route.

Province of Quebec Marine.

The Dominion Public Works Department will receive tenders to July 2 for repairs and improvements to the pile work wharf at Fort William, Que.

The Central Ry. Co. of Canada, of which F. Stuart Williamson is receiver, is operating its steamboat Empress, between Montreal, Rigaud and Carillon, carrying mails and passengers for Ottawa River points. The Empress, on her down trip, goes through the Lachine Rapids.

The Montreal Harbor Commissioners have awarded a contract to the Dominion Bridge Co. for the steel work for extensions to sheds 17 and 18 on the Victoria pier. Considerable excavation work is in progress, under the direction of F. W. Cowie, Harbor Engineer, and it is expected that concrete work will be started shortly, and the erection of the steel work is expected to be begun about the end of July.

Ontario and the Great Lakes.

The Great Lakes Transportation Co.'s s.s. Glenisla, laden with coal, ran aground at Jackfish Point, Lake Superior, June 10.

The Dominion Public Works Department received tenders June 24 for renewal work to government wharves 1 and 2 at Midland.

A press report states that Kingston is to be made a national harbor, and terminal at the foot of the lakes, for grain transhipment.

Canada Steamship Lines' s.s. Toronto collided with the dock at Brockville, June 17, breaking up about 100 ft. of the timber work, and damaging one of her paddle wheels.

The Dominion Public Works Department will receive tenders to July 2, for the reconstruction of a portion of the superstructure of the east pier at the eastern entrance to Toronto harbor.

The Windsor, Ont., civic transportation committee is checking the passenger and vehicular traffic carried across the river by the ferry company, in order to prepare an estimate of the revenue, in connection with a proposed increase in rates.

The Montreal Transportation Co.'s barge Burma, when entering Port Dalhousie harbor, May 31, in tow of the company's s.s. Simla, struck the west pier and tore a hole in her bow. She was taken about 200 ft. into the harbor, where she settled down.

The Canadian Towing and Wrecking Co. has purchased the U.S. steamship Vulcan, which was wrecked at Portage Lake early this year, and abandoned to the underwriters. The price paid is stated to have been $20,000. It is reported that the vessel will be taken to Port Arthur for overhaul and repair and will be transferred to the Canadian register.

The U.S. Lake Survey reports the levels of the Great Lakes in feet above mean sea level for May as follows:—Superior, 602.25; Michigan and Huron, 581.38; St. Clair, 576.38; Erie, 573.69; Ontario, 247.27. Compared with the average May levels for the past 10 years, Superior was 0.30 ft. above; Michigan and Huron 0.86 ft. above; Erie 1.04 ft. above; Ontario 0.59 ft. above.

Manitoba, Saskatchewan and Alberta.

The Peace River Tramway and Navigation Co.'s s.s. D. A. Thomas left Peace River Crossing at the end of May, for Hudson's Hope and Fort St. John, thus opening the Peace River navigation season a few days earlier than last year.

British Columbia and Pacific Coast.

The C.P.R. has placed the s.s. Princess Mary on the Vancouver and Nanaimo route, making six trips a week.

The Dominion Public Works Department will receive tenders to July 15, for repairs to the wharf at Comox, B.C.

The Dominion Public Works Department will receive tenders to July 9 for the construction of a wharf at Naramata, B.C.

The first steamer of the Yukon navigation season to clear from Whitehorse, the Alaska and the Casca, sailed from there, June 10, for Dawson.

The steam yacht Dolaura built in Scotland in 1908 for Jas. Dunsmuir, Victoria, B.C., is reported to have been sold to A. Meeker, Chicago, Ill. She was overhauled by Yarrows, Ltd., Victoria, during June.

The C.P.R. s.s. Princess Maquinna was placed on a special trip, June 10, sailing from Victoria for Port Alice, Quatsino Sound, and by the north end of Vancouver Island to Rivers Inlet, making calls at other ports en route.

The Grand Trunk Pacific Ry. has deposited with the Public Works Department, a description of the site and plans of a car ferry slip and works, which it proposes to build in Prince Rupert harbor, in front of water front block C.

A Victoria press report states that the C.P.R. is unable to make an attempt to salve the wrecked s.s. Princess Sophia, which was lost on the Vanderbilt Reef, in the Portland Canal last year, as the disaster having taken place in U.S. waters, the wreck is virtually U.S. property.

The question of a dry dock at the Pacific coast was discussed by the North Vancouver Council June 10, when a report on the location, etc. of the projected dry dock was considered. The idea of two dry docks, one to be built by the Dominion Government, and the other by private capital, is stated to have been abandoned. When a dock is built it will either be undertaken as a government work or under direct government subsidy. The location it is stated will be decided on the recommendation of a disinterested harbor authority of high standing and practical experience, and it is added that definite action will be taken next autumn.

The Pacific Salvage Co., Victoria, which purchased the sloop Algerine recently from the Dominion Government, is having her remodelled for use as a salvage vessel, at a cost of approximately $100,000, and she is expected to be ready for operation during July. The name Algerine will be retained. A new main mast, 64 ft. long, has been installed, equipped with 3 derrick booms, each capable of lifting about 40 tons. An additional deck has been built, from forward to abaft the engine room, and also a navigating bridge forward. She is being equipped with wireless telegraphy with a range of 3,000 miles. She has accommodation for a crew of 65, with large living quarters.

United States Grain Shipments via Montreal.

The following statement by the acting Minister of Trade and Commerce, was made public June 19:—"United States wheat, when arriving above Montreal in transit for export shipment will be permitted by license from the Trade and Commerce Department until further ordered. It is expected that this privilege will terminate about Sept. 1, or at least early enough to ensure the entire elevator capacity on the Great Lakes for Canadian grain when it commences to move forward and, as well, our railway facilities for handling Canadian grain. In a few days regulations will be formulated in respect to such shipments to ensure that shippers must provide tonnage to carry such grain from Canadian seaboard in order to prevent congestion in Canadian elevators. In the meantime, on application from shippers, licenses will be granted by the Trade and Commerce Department."

France and Canada Steamship Co. Ltd., the incorporation of which was announced in our last issue, with $10,000,000 capital and office at Montreal, was originally incorporated under the Dominion Companies Act in 1915 with $1,000,000 capital. During the war the company was chiefly engaged in conveying horses between North American ports and France, and chartered a number of vessels. It is allied with the France and Canada Steamship Corporation, of New York. F. R. Mayer, New York, is President; C. Mayer, Paris, France, Vice President, and S. H. McIntosh, New York, is Secretary-Treasurer and Comptroller.

The Central Ry. of Canada, which is in a receiver's hands, is operating the s.s. Empress this year, between Montreal, Rigaud and Carillon. She carries mails for ports on the Ottawa River, and does a passenger business. On her daily return trip to Montreal she shoots the Lachine Rapids, as she has done for several years. The s.s. Empress was built at Ottawa, in 1873, and named Peerless. She was practically rebuilt at Montreal in 1886, and renamed. She is paddle wheel driven by engine of 152 n.h.p. Her dimensions are: length, 185.8 ft.; breadth, 27.6 ft.; depth, 8 ft.; tonnage, 678 gross, 372 net. F. Stuart Williamson, Montreal is receiver.

Among the Express Companies.

The Canadian Northern Ex. Co., has opened an office at Westree, Ont., and has closed its office at Ostrom, Ont.

N. L. Preston, heretofore agent, Canadian Northern Ex. Co., Winnipeg, has been appointed agent at Edmonton, Alta., vice N. W. Storie, promoted.

J. H. Morrison, who was for a time acting as agent, Canadian Northern Ex. Co., Edmonton, Alta., has resumed his duties as chief clerk there.

W. F. Pillar, former agent, Canadian Northern Ex. Co., Edmonton, Alta., has been appointed travelling agent, with supervision of territory in Manitoba and Saskatchewan. Office, Winnipeg.

N. W. Storie, recently appointed agent, Canadian Northern Ex. Co., Edmonton, Alta., has been appointed travelling agent, with supervision of territory in Alberta and British Columbia. Office, Edmonton, Alta.

Express companies operating in Canada have issued a circular stating that they have adopted the 8-hour day as from June 1. Collection and delivery services will be given between 8 a.m. and 5 p.m., railway time.

A. Stillman, formerly A. Schussler, and in Canadian Ex. Co. service, has been appointed Inspector, lines east of Port Arthur, Ont., Canadian Northern Ex. Co., Toronto.. His change of name was effected recently by deed poll.

R. G. Wilson, General Agent, Canadian Express Co., Toronto, who retired recently, under the Pension Fund Rules, after 50 years service, as stated in Canadian Railway and Marine World previ[illegible] entered the company's service at [illegible]ys, Ont., in 1868. In [illegible] was appointed messenger on [illegible] Toronto-Montreal route, and in 1882 [illegible]s transferred as assistant agent at Toronto. He became General Agent at Toronto in 1895, upon the death of John D. Irwin. The employes gave him a well filled purse on his retirement.

Telegraph, Telephone and Cable Matters.

H.. S. Ingram has been appointed Inspector, C.P.R. Telegraphs, Toronto.

C. Stewart has been appointed Traffic Supervisor, Great North Western Telegraph Co., Toronto.

The Great North Western Telegraph Co. has opened offices at Fort Coulonge, Que., and Coldwater, Ont., and has closed its office at Crystal Beach, Ont.

G. C. Vaudrin, Montreal, has been appointed local manager, Great North Western Telegraph Co., Quebec, Que., vice T. Leslie, resigned.

It was stated in the British House of Commons, June 6, that there are 14 cables between Great Britain, Newfoundland and Canada, of which U.S. companies own and control 13, the British Government controlling the other one.

G. D. Perry, General Manager, Great North Western Telegraph Co., was presented with a cabinet of silver, June 12, in celebration of his recent marriage. The presentation was made by W. G. Barber, District Superintendent, Toronto, on behalf of officials and employes.

The Great North Western Telegraph Co. has discontinued its submarine cable between Port Angeles and Albert Head in the Juan de Fuca Strait, on the Pacific coast, and has laid a new submarine cable across Juan de Fuca Strait from Port Angeles, Wash., to Victoria, B.C., running out from Ediz Hook, Port Angeles, to the shore at the foot of Douglas St., Victoria, about a quarter of a mile off Finlayson Point.

The Board of Railway Commissioners passed general order 266, June 17, as follows: Re the Railway Act and amending act, 7-8 Edward VII., chap. 61, sec. 4, and the tariffs of telegraph companies; it is ordered that, subject to such order or orders as the board may from time to time issue, all telegraph companies within the legislative authority of the Parliament of Canada be authorized to charge the telegraph tolls published in their respective tariffs filed with the board.

The Postal Telegraph Co. has announced a reduction in cable rates from San Francisco to the Phillipine Islands, China and Japan, dating from Sept. 1. The charges are as follows: To Phillipine Islands, from $1 to 80c a word; to China, from $1.10 to 85c a word, and to Japan, from $1.21 to 83c a word. In the last two mentioned cases, the reduction is contingent on a proportionate reduction in terminal charges by the Chinese and Japanese Governments, to which no objection is anticipated.

Trade and Supply Notes.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers distinctly to understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading matter. In other words, our reading columns are not for sale, either to advertisers or others.

Canadian General Electric Co.—J. J. Ashworth, Secretary and Assistant General Manager, has been elected a director.

Canadian Locomotive Co.—Jas. Carruthers, grain merchant, Montreal, and M. J. Haney, Toronto, have been elected directors, succeeding J. J. Harty and Senator H. W. Richardson, deceased.

The Metal & Thermit Corporation, New York, has completed what it claims to be the largest marine weld ever recorded, on the cast steel sternframe of the U.S. army transport s.s. Northern Pacific. The section welded was entirely broken through by the severe strain to which the frame was subjected when the transport, laden with homeward bound troops, ran aground on Jan. 2, 1919, in a dense fog, off Fire Island, New York. The sternframe was broken just above the upper rudder lug, in a position where the casting was hollow and almost 2 ft. in diameter. The walls of the casting at this point were about 3 ins. thick. The company states that the weld, which required 1,400 lb. of thermit for the chemical production of the necessary amount of molten steel, and which was made without removing the casting from the ship, obviated the delay and expense which would have been entailed by the only alternative of purchasing an enormous new casting and installing it at a [illegible].

National Steel Car Co., Hamilton—In connection with the recent negotiations for the purchase of the National Steel Car Co.'s plant at Hamilton, Ont., by the American Car and Foundry Co., it is announced that the negotiations have fallen through. Sir John Gibson, President of the company, being reported as saying that the American Car and Foundry Co.'s offer was not considered satisfactory.

Transportation Conventions in 1919

September—Master Car and Locomotive Painters' Association of the United States and Canada, Chicago, Ill.

Sept 16-19.—Traveling Engineers' Association Chicago, Ill.

Sept. 16-18. Roadmasters' and Maintenance of Way Association, Chicago, Ill.

Oct 6-10 American Electric Railway Association, Atlantic City, N.J.

Oct. 21-23. American Railway Bridge and Building Association, Cleveland, Ohio.

Oct. 21-23.—Maintenance of Way and Master Painters' Association, St. Louis, Me.

Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries unless otherwise stated:

Belleville Railway Men's Educational Club. Meets each Tuesday, 7.30 p.m. F. A. Pingston, Belleville, Ont.

Canadian Car Service Bureau -W. J. Collins, Manager, 401 St. Nicholas Building, Montreal.

Canadian Electric Railway Association—Acton Burrows, 70 Bond Street, Toronto.

Canadian Freight Association (Eastern lines)—G. C. Ransom, Canadian Express Building, Montreal.

Canadian Freight Association (Western lines)—W. E. Campbell, 305 Boyd Block, Winnipeg.

Canadian Railway Club—J. Powell, St. Lambert, Que. Meetings at Montreal 2nd Tuesday, each month, 8.30 p.m., except June, July and August.

Canadian Railway War Board—W. M. Neal, Montreal.

Dominion Marine Association—F. King, Counsel, Kingston, Ont.

Canadian Ticket Agents' Association—E. de la Hooke, London, Ont.

Eastern Canadian Passenger Association—G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Montreal—R. W. H. Smith, 9 Beaver Hall Square, Montreal.

Engineers' Club of Toronto—R. B. Wolsey, 94 King Street West, Toronto.

Engineering Institute of Canada—F. S. Keith, 176 Mansfield St., Montreal.

Express Traffic Association of Canada—C. N. Ham, Montreal.

Great Lakes and St. Lawrence River Rate Committee—James Morrison, Montreal.

Hydro-Electric Railway Association of Ontario—T. J. Hannigan, Guelph, Ont.

International Water Lines Passenger Association M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee—James Morrison, Montreal.

Quebec Transportation Club—A. F. Dion, Quebec.

Shipping Federation of Canada—Thos. Robb, Manager, 42 St. Sacrament Street, Montreal.

Toronto Transportation Club—W. A. Gray, 143 Yonge Street, Toronto.

Transportation Club of Vancouver—H. W. Schofield, 556 Church Street, Vancouver, B.C.

Toronto Harbor Improvements—Hon. F. B. Carvell, Minister of Public Works, inspected Toronto Harbor and Island, June 7. He was shown the damage being done to the Island's lake front, and the necessity for immediate action to prevent further washing away, and visited the ship channel turning basin; industrial sites on reclaimed land, and Roger Miller & Sons plant for breakwater construction and dredging at the west end. He was afterwards entertained at luncheon at the Royal Canadian Yacht Club, by the mayor, on the city's behalf.

The British Wrecking and Salvaging Co., Ltd., has been incorporated under the Dominion Companies Act, with $2,000,000 authorized capital, and office at Montreal, to carry on a general wrecking and salvaging business and do marine work of all kinds and to own and operate steam and other vessels.

Positions Vacant

WANTED

Freight Traffic Bureau Manager for commercial organization, Vancouver, Canada. Must have knowledge of Canadian and American Freight Classification and be able to prepare cases for presentation to Railway Commission. Apply Secretary, Board of Trade, Vancouver, Canada. Applications must be in before July 20th, 1919.

Department of Railways and Canals, Canada.

WELLAND SHIP CANAL.

NOTICE TO STEAM TUG OWNERS.

SEALED TENDERS, addressed to the undersigne dand endorsed "Tender for Tugs," will be received at this office until 12 o'clock noon on Monday, the 7th July, 1919, for two (2) tugs required for the Welland Ship Canal delivered at Port Dalhousie, Ont., and to be of the following dimensions:

Length—not less than 75 ft., not more than 110 ft.
Beam- not less than 18 ft., not more than 22 ft.
Draught—not less than 9 ft., not more than 10½ ft. aft.
Boiler pressure—not less than 125 lbs.
Engines fore and aft compound or triple expansion condensing.
Power—250 to 400 indicated H.P.
Steering gear (steam).
Hull—steel.

Tenderers to submit complete specifications and latest Inspection Report on the Boilers, etc., also to state where the tugs can be inspected.

An accepted bank cheque on a chartered bank of Canada for the sum of $1,000 made payable to the order of the Minister of Railways and Canals, must accompany each tender, which sum will be forfeited if the party tendering declines entering into contract on the basis of his tender.

The cheques thus sent in will be returned to unsuccessful tenderers.

The cheque of the successful tenderer will be held as security, or part security, for the due fulfilment of the contract to be entered into.

The lowest or any tender not necessarily accepted. By order

J. W. PUGSLEY,
Secretary.

Department of Railways and Canals,
Ottawa, June 23 1919.

Department of Railways and Canals, Canada.

WELLAND SHIP CANAL.

NEW AND SECOND-HAND MACHINERY.

SEALED TENDERS, addressed to the undersigned and endorsed "Tender for Machinery," will be received at this office until 12 o'clock noon, on Thursday, the 3rd July, 1919, for the following new or second-hand machinery:—

1 only 27-inch by 18-ft. Heavy Duty Lathe.
1 only 68-inch 200-ton Hydraulic Wheel Press.
1 only 18-inch Slotting Machine.
1 only Gap Lathe to swing 48 inches in gap, to take 20 feet between centres; quick change gears; double back geared, and taper attachments.
1 only Extension Bed Lathe to swing 84 inches and take not less than 11 feet 6 inches between centres. Must be a screw cutting lathe.

Tenderers to submit full specifications and details of the machinery quoted on, and in case of second-hand machinery, to state where the same could be inspected. By order

J. W. PUGSLEY,
Secretary.

Department of Railways and Canals,
Ottawa, June 23 1919.

Allied Vessel Losses During the War—A statement in the British House of Commons shows that the losses of allied nations, in vessels, through enemy action, were as follows: Great Britain, 2,179 vessels, 7,638,020 gross tons; France, 238 vessels, 696,845 gross tons; Italy, 230 vessels, 742,365 gross tons; Japan, 29 vessels, 120,176 gross tons; United States, 80 vessels, 341,512 gross tons.

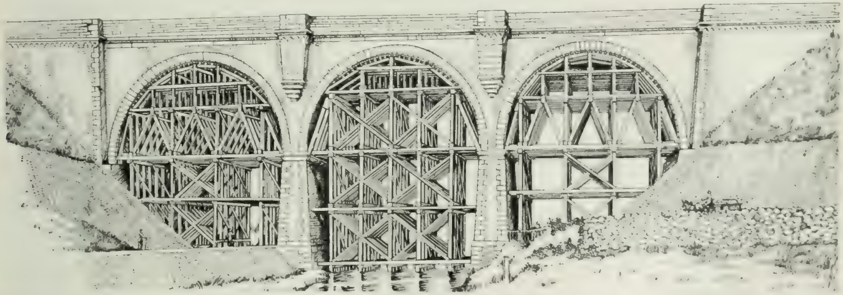
Canadian Railway and Marine World

August, 1919

The First Battalion Canadian Railway Troops' Work in Belgium and France.

Canadian Railway and Marine World has been favored with the following information about the overseas work of the 1st Battalion Canadian Railway Troops, which was raised and commanded throughout by Lieut.-Col. Blair Ripley, who when selected for the work, was Engineer of Grade Separation, C.P.R., Toronto, and who has since been made a member of the Distinguished Service Order and also a Commander of the Order of the British Empire:—

The battalion, which was recruited at various points throughout Canada, from Halifax to Vancouver, was mobilized at Valcartier, Que., left there Sept. 13, 1916, and went into camp at Witley, Eng., Sept. 24. During its stay in England, infantry training was carried on and the necessary papers made out for proceeding to France. The battalion was subjected to a dental examination, and at the last moment it was found necessary to leave 160 men behind in England for treatment, the deficiency in strength being made up by a draft of men selected from the 127th Battalion.



Wimereux Viaduct on Boulogne-Calais Railway.
Reinforced with heavy timbers, and provided with a steel floor, made up of two layers of steel railway rails, as a protection against enemy bombing. Designed and work carried out by First Battalion, Canadian Railway Troops.

The battalion entrained at Milford on Oct. 25, 1916, proceeded to Southampton, and sailed for Le Havre the same day. After a sojourn of three days at no. 1 rest camp at Le Havre, the battalion entrained for Aveluyom on the night of Oct. 28. The train was stopped at Albert and the unit taken back to Rouen and from there to Candas.

The battalion was given the task of putting in a water supply for the R.O.D. at Candas, and the double tracking of the line to Varennes. Subsequently the following work was added: A new yard at Candas and Varennes, with the maintenance from Candas to Beaussart and Colincamps. On Dec. 10, 1916, the battalion was ordered to proceed to Plateau, where decauville lines (23½ in. gauge) were being taken over from the French. Fortunately the battalion had sufficient personnel to maintain the then existing lines, to operate them, and to construct new lines required in the forward areas. Subsequently new areas were again taken over from the French and maintenance and construction turned over to the battalion, but it had insufficient men for this extra work, and it was decided to make up six light railway construction companies of 350 men each. This was done by drawing from front line units the necessary number of skilled men and when the companies were completed they were placed under the battalion's jurisdiction. This made the total strength approximately 3,200 men. On the work just mentioned the battalion controlled over one half of the light railways on the British front at the time. The men suffered a great many hardships, those in Pozieres Jct., Combles, Leforest and Rancourt areas being housed in rudely constructed dugouts for safety against enemy shelling. They, however, had good fortune as far as casualties were concerned, and when they went again on to standard gauge work their killed and wounded were only two, although their camp at Plateau was shelled for three hours on Feb. 7, 1917 by 15 in. guns.

On Mar. 24, 1917 the battalion was hurriedly taken off the light railways to build a standard gauge line from Maricourt to Ferme Rouge, thence to Clery and into Peronne. Notwithstanding the terrible weather, the shelled area in which the line had to be constructed, the then great shortage of standard gauge working tools, they managed to have trains into the Quinconce spur and were supplying food to 20,000 troops on the night of Apr. 10, 1917, and this line was finally got into Peronne on Apr. 14, 1917. The line was 11 miles long with numerous small bridges and culverts. Peronne station and yard was found in a terribly wrecked condition. On the work just referred to, the Guards Division was placed at the battalions disposal as labor, and they worked in a way that merited the warmest enthusiasm and praise from everybody. Although they were the flower of the British army, they seemed to feel honored by the work given them.

On Apr. 15, 1917 the battalion undertook the rebuilding of the double track line from Peronne to Roisel and on into Epehy. The line was completed to Roisel on Apr. 26. Roisel was still subjected to shelling, and the line into Epehy was not completed, because the Army Commander considered the battalion was too close to the Hindenburg line, and was causing too great an attraction, which was drawing fire unnecessarily. It, however, got within a mile of Epehy with the tracks.

On June 15, 1917, the battalion was ordered to cease work at Peronne and entrain for Dunkerque. We left Peronne at 6 a.m. on June 18 and at 5 p.m. had completed the journey. It took 133 cars to make the move, although the mechanical transport had gone by road. The battalion camped at Rosendael station, about half a mile from the seashore at Malo-les-Bains, where a pleasant stay was made. The work there consisted of building a new deviation line from Coudekerque around Dunkerque to Rosendael. The men rather enjoyed the stay, as more or less of a holiday. During it, however, Dunkerque was shelled on several occasions by 16 in. naval guns; one shell making a direct hit on corps headquarters in the casino at Malo-les-Bains.

On July 21, 1917, the battalion was under instructions to proceed to International Corner, in Belgium, to prepare for some very hot work, the building of the line from Elverdinghe to Boesinghe, and thence over Pilchem Ridge to Langemarck. On the morning of July 28, the men were taken out to commence work. This was the day of the big push and the feeling was very exhilarating, about 1,000 British shells were going out to every one of the enemy's coming in. Later on in the day the Huns put over a terrible barrage and little gain was made, no railway work being possible.

The weather was terrible, the shelling likewise, but by persistent efforts, the line was finally laid down as far as the Yser Canal. The last thousand feet of it, however, was blown to bits several times over, before anything further could be done. The battalion had most marvellous luck, or good fortune, and in getting from Elverdinghe to the Yser Canal at Boesinghe, its casualties were only 4 killed and 20 wounded. After a terrible artillery duel, lasting till Aug. 17, 1917, the battalion was able to build the bridge over the canal. The Canon farm siding on the line to Pilchem station was built under most trying circumstances and the officers and men took their lives in their hands every morning in going out to work. There was probably not a man in the battalion, who did not wonder how they could have such miraculous escapes, with so few casualties. The battalion's casualties east of the canal were 9 killed and 7 wounded. The artillery deserved great credit for their work in that area, and it was marvellous how the men and animals stood the strain. The punishment they took at the hands of the Boche was terrible.

During the winter of 1917-1918 the battalion was housed in Nissen huts and the men were very comfortable, they built the new Waanebeck yards, the Watou yard, and a number of artillery spurs, and re-ballasted and maintained the lines from Proven eastward. Headquarters were at International Corner, with A company nearby, B company at Nordhoek, C company at Eikhoek, and D company near Proven. On Mar. 10, 1918, the battalion was ordered to prepare to go to Egypt, to build railways and with some large bridges in prospect, and at once began to prepare for the trip. New equipment was ordered at once, packed and loaded on cars ready to proceed, via Taranto, Italy. The men were carefully picked over and medically examined and the battalion was brought up to strength again by drafts from every other battalion of the Canadian Railway Troops. But the trip to Egypt was not destined to be made. The Huns commenced shelling the back areas on Mar. 17, and while the battalion was loading its equipment on to cars at International Corner on the afternoon of Mar. 22, the track was broken on the main line in front of its living cars in six places, and it became so "hot" that everybody else had left the yard. It was found advisable to move about a mile west next day in order to complete the packing and loading in at least comparative safety.

On Mar. 23, 1918, the camp was all broken up and the battalion was ready to pull out. However, at 2 a.m. next day, the orders were cancelled and the battalion was ordered to Boves, just southeast of Amiens, to prepare trenches on a new line of defences. The 5th Army had given way and there was nothing else to do. Even harness for the battalion's transport had to be unpacked as well as its tools, but it left the same night for Amiens. The battalion detrained on Mar. 25 at Boves and its headquarters were at Thezy Glemont for three nights, after which it was ordered out again, and marched back to Bethencourt, doing 18 miles the first day and 10 miles the second day by 11 a.m. and then began at once to build trenches for a new [illegible] defences, completing 33 miles of [illegible] before being ordered back to railway work again. The bombing of [illegible] and the surrounding country was [illegible], and [illegible] seemed to be going west instead of east.

On Apr. 16, 1918, the battalion was ordered to proceed to Frevent, to build the new Frevent-Hesdin line, which was to have been used in case the Huns should cut our line at St. Pol. This at first was considered of great importance, but later developed into more or less of a peace time undertaking, which dragged on until August. On the line, however, there was one large bridge and subsequently some yards were put in. During this period the battalion made bomb-proof accommodations for the nursing sisters at Etaples, Boulogne, Outreau and Ligny, also for the W.A.A.C.'s at Montreuil (G.H.Q.) These had bomb proof covers, of from 25 to 30 ft. and the total accommodation would take care of about 1,000 of the women during unmerciful Hun raids.

During the early summer of 1918, when enemy bombing was at its height, the Wimereux viaduct, a 3-arch double track masonry viaduct, about 300 ft. long and 80 ft. high, on the Boulogne-Calais main line of the Nord Ry., was in very great danger. Numerous attempts had been made to destroy it by bombing, and its destruction would have cut off the main artery of supply for all Belgium and the northern allied front. The battalion was requested directly by the British authorities to undertake its reparation, in case of destruction by bombing, and to take steps to prevent its destruction, if found possible. The accompanying illustration shows the completed work. The timbers are all of 12 x 12 in. hard pine, and a solid steel floor or deck was made on the deck of the bridge by using slightly over a mile of steel railway rails. The work was greatly admired, not only by the British, but by the French Army authorities in Paris, where the scheme was unconditionally approved and endorsed. The Canadian Minister of Militia, General Mewburn and other notable Canadians, visited and reviewed the work during its construction. It is said to be undoubtedly the only work of the kind ever undertaken.

On Aug. 7, 1918, the officer commanding the battalion received a secret message to hold the battalion in readiness to proceed to the Amiens sector, as there were to be big things happening there very shortly. The work in hand was already completed and the battalion was practically standing-to. On Aug. 8 at 9 p.m., instructions were received to load up and proceed at once to Longeau, just east of Amiens and west of Villers-Brettonneux, and the battalion arrived there the next night at midnight. On arriving it was ascertained that the battalion was to assist the French in getting the line put into shape into Chaulnes. The Huns had blown up practically every rail in the track, and there were many nasty craters, besides they had not stopped shelling the area, and particularly the tracks. The 4th Battalion was working into Villers-Brettonneux and the 1st Battalion commenced about two miles east of there. It was a race with the Huns from that day till the day of the armistice, on Nov. 11, and the men did not have a Sunday off after getting into that area. By salvaging steel from the two lines taken over, it was possible to keep work going, but it was necessary to use new rails to close up the gap at Marcelcave on Aug. 12, which was the battalion's greatest day. It was very short of tools, but managed to get the tracks into Marcelcave by careful organization and handling of the men. On the night of Aug. 13, the tracks were got into Rosieres. The battalion had managed to get the assistance of two battalions of Australian Pioneers who worked well. Men were scattered over the entire line and salvaged rails from the enemy dumps at Rosieres, and were pushed westward to meet the ones being laid from the west end eastward. The French were very much pleased with this day's performance. Rails were also salvaged from Rosieres for building the new decauville tranship yard at Les Buttes. It was impossible to go east of Rosieres at that time so the battalion took over the supply siding at Boves. Much ammunition had to be moved to permit going on with the work. In the meantime also it took on the building of bridges at Froissy and Bray.

On Aug. 29, 1918, the battalion commenced on the line into Chaulnes and moved camp to Rosieres on Aug. 30, to be close to the work. On Sept. 3 track was into Marchelepot and the yard was used immediately. On Sept. 8 track was into Brie, and the battalion's train moved to Omiecourt to again be closely in touch with the work. On Sept. 10 track was at the Somme Canal at Peronne, and work was commenced driving piles for the bridge. Trains ran into Peronne on Sept. 12, into Doingt on Sept. 13, into Tincourt on Sept. 14, and into Roisel on Sept. 16, four days ahead of the date set by General Rawlinson. Double tracking was finished to Peronne on Sept. 19. On Sept. 24 16 of the battalion were killed and 11 wounded in Roisel yard, on Oct. 8 double track was laid into Epehy and over the bridge north of that point. On Oct. 10 track was laid into Gouzeaucourt and into Marcoing on Oct. 19. The Canadian Overseas Railway Construction Corps had already finished from Marcoing to Wambaix and the battalion jumped in ahead of them and put the tracks into Busigny, through Cattinieres, Caudry and Bertry, also assisting the French in getting into Wassigny. The delayed action mines in this section made the work particularly hazardous, in one instance blowing the center portion completely out of the trains, and the bridge at Caudry was blown up after the tracks had been completed over it.

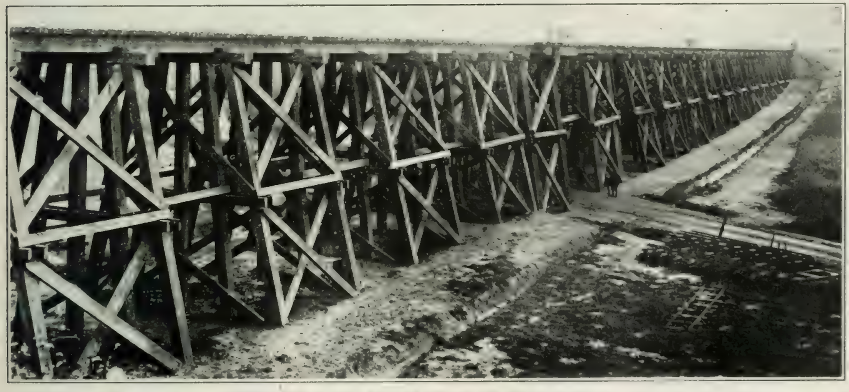
The 2nd Battalion was working between Wassigny and Le Cateau so the 1st Battalion again jumped ahead, taking the line from Le Cateau to Maubeuge, on which the bridge work was very heavy, particularly those east of Le Cateau, at Aulnoye, Hautmont, and Maubeuge. On this work, in two places, in a single half mile, were craters that amounted to 10,000 cu. yds. of earth in one of the very high fills. This line runs through Landrecies, Hachette, Halte, Sassegnies, Aulnoye, Hautmont, Louvroil, Sous Le Bois, into Maubeuge and thence to Charleroi, through some of the richest manufacturing districts seen. From Aug., 1918, the battalion worked full steam, not slackening in the terrible pace till armistice day, after which it had Sundays off.

Reference has been made in the foregoing to the Frevent-Hesdin line built by the battalion. The trestle bridge shown in the accompanying illustration is near the Frevent end of the line, and although it contains over 150,000 f.b.m. of timber and there was a very considerable amount of excavation work for the foundations, it was actually built and ready for operation in seven days. The work was of great interest to the French engineers who visited it during construction to learn Canadian methods in bridge building, and they were so impressed with the expedition with which the work was carried out that they had illustrations of it published in Le Miroir, in Paris. The construction was similar to that of a standard railway trestle in this country. It is 600 ft. long and about 40 ft. high. The work was carried out by the A company of the battalion, under command of Major J. B. Heron, with Lieut. John Hamilton, an old C.P.R. bridge man, in immediate charge. It was at first estimated by the army authorities that the work would take from a month to six weeks, but as before stated, it was built in seven days.

Officers of Battalion.

Following is a complete list of the battalion's officers, giving their former occupations and addresses as far as possible:—

Lieut.-Col. Blair Ripley, C.B.E., D.S.O., Engineer of Grade Separation, C.P.R, Toronto;
Major A. R. Ketterson, D.S.O., Assistant Bridge Engineer, C.P.R., Montreal;
Major T. R. Loudon, Civil Engineer, Toronto;
Capt. and Adjt. E. D. Toye, Storekeeper, Ontario District, Canadian Northern Ry., Toronto;
Major R. R. Holland, District Engineer, National Transcontinental Ry.;



Trestle Bridge on the Frevent-Hesdin Strategic Railway in France.
600 ft. long, 40 ft. high, containing over 150,000 f.b.m. of timber; built in 7 days by 1st Battalion Canadian Railway Troops.

Major F. G. Cross, Assistant Engineer, C.P.R., Calgary, Alta.;
Major H. B. Muckelstone, Assistant Chief Engineer of Irrigation, Natural Resources Department, Calgary, Alta.;
Major J. B. Heron, District Engineer, Canadian Northern Ry., Toronto;
Major W. Woods, Consulting Engineer and Contractor, Toronto;
Major A. T. MacDonald, Assistant Engineer, Halifax Ocean Terminals, Intercolonial Ry.;
Major L. B. Allen, City Works Department, Toronto;
Capt. J. H. Black, Resident Engineer, C.P.R., Sudbury, Ont.;
Capt. G. O. Fleming, Toronto Ry.;
Capt. W. J. Norman, Resident Engineer, C.P.R., Toronto;
Capt E. P. Muntz, Resident Engineer, Welland Canal, St. Catharines, Ont.;
Capt. G. H. Pethick, Engineer and Contractor, Vancouver, B.C.;
Capt. G. S. Grant, Contractor, Ottawa, Ont.;
Capt. G. B. Little, Toronto;
Capt. H. R. MacQueen, Civil Engineer, New Glasgow, NS.;
Capt. H. G. Hanson, Architect, Montreal;
Capt. C. P. Fenwick, Medical Officer, Toronto.
Lieut. O. P. Hertzberg, Assistant Resident Engineer, C.P.R., Toronto.
Lieut. F. A. R. McNair, City Works Department, Toronto;
Lieut. L. McD. Fleming, formerly secretary to Sir George Bury, as Vice President, C.P.R., Toronto.
Lieut. Joseph Johnston, Toronto;
Lieut. R. R. Hicks, Toronto.
Lieut. C. P. Van Norman, Toronto and York Radial Ry., Toronto;
Lieut. C. A. Scott, City Works Department, Toronto;
Lieut. P. L. Scott, Electrician, Toronto;
Lieut. John Hamilton, Bridge and Building master, C.P.R.;
Lieut. R. Francis, Contractor, Timiskaming, Ont.;
Lieut. J. E. Tremayne, Civil Engineer, Toronto;
Lieut. W. S. Hunter, Contractor, Vancouver, B.C.;
Lieut. J. M. Berry, Contractor, Toronto;
Lieut. R. Richards, Contractor, Toronto;
Lieut. M. L. Bouzon, Mining Engineer, Cobalt, Ont.;
Lieut. R. Nickle, Civil Engineer, London, Ont.;
Lieut. W. J. Nichol, Civil Engineer, Toronto;
Lieut. R. E. Lindsay, Civil Engineer, Toronto;
Lieut. F. O. D. Keily, Contractor, Winnipeg;
Lieut. H. M. Jupp, Contractor, Orillia, Ont.;
Lieut. E. Jupp, Civil Engineer, Orillia, Ont.;
Lieut. C. M. Lane, Civil Engineer, Montreal;
Lieut. A. S. Millar, Civil Engineer, Toronto;
Lieut. W. J. Wright, Civil Engineer, Toronto;
Lieut. T. Graedioger, Civil Engineer, Montreal;
Lieut. E. Thomas, Civil Engineer, Montreal;
Lieut. H. L. Gilmour, Civil Engineer, Ottawa, Ont.;
Lieut. F. G. Pusey, Contractor, Montreal.

Summary of the Battalion's Work.

Following is a summary of the work accomplished by the battalion, after going to France in Oct., 1916, up to Dec. 31, 1918:—

Decauville Railways—Somme Area, Dec., 1916-April, 1917.

Miles taken over from French for operation	30.0
Miles built by battalion	26.9
Miles maintained (about 30% was re-ballasted	169.7

Standard Gauge Railways—April, 1917-Dec. 31, 1918.

	Miles built.	Turn outs.	Yards graded.
Frevent-Hesdin line	13.12	33	55,600
5th Army, in 1916	8.0	33	30,320
Somme, 1917	45.42	52	72,000
Dunkerque area	5.87	15	22,000
Flanders front 1917-18	13.34	49	55,250
Amiens-Maubeuge line rebuilt	153.00	122	33,200
Total	238.75	304	268,370

On the reconstruction between Amiens and Maubeuge, 70 miles of new British rails were laid. German rails salvaged from their dumps and laid in the battalion's work, amounted to 5 miles. The balance of this work was construction, building one main line from two damaged ones, and 78 miles was thus built. The tracks were either systematically blown up or destroyed with a machine made for the purpose and which was dragged behind a heavy locomotive. This latter method rendered tracks more difficult to rebuild than the blown up ones.

Bridging.

Somme area, 1917	981 lin. ft.
Dunkerque area, 1917	276 " "
Flanders front, 1917-1918	345 " "
Hesdin to Frevent	630 " "
Amiens-Maubeuge, 1918	2484 " "
	4716 lin. ft.
Bridges re-inforced for French to carry British and U.S. heavy guns	511 lin. ft.
Bomb proofing of Wimereux viaduct	245 " "

This last item covers the recentering of a 3-arch, double-track, masonry bridge about 80 ft. high and the placing of a steel rail, bomb bursting, floor thereon. About 175,000 f.b.m. of timber and 3½ miles of steel rails were used. The Frevent trestle also contained about 150,000 f.b.m. of timber, and altogether, after going to France, the battalion placed in bridges, approximately 1,500,000 f.b.m.

Of culverts of various sizes over 6,000 ft. were laid of corrugated iron, concrete and wooden box.

Water supply works—At Candas, 8 miles of 4 in. pipe line were laid in trench 2 ft. deep, pumping station was built and pumps installed to deliver against a 200 ft. head. Earth work, 1400 cu. yd. Rock 400 cu. yd.

On Somme front, 1917—Water supply put in at Peronne and at Roisel. This included erection of water towers, stand pipes, pipe lines and putting in of permanent pumping plants.

On Flanders front, 1917—Six miles of 6 in. pipe were laid in 3 ft. trench, between pumping plant, west of Proven and International Corners. Ten miles of 4 in. pipe were lowered between International Corners and Poperinghe, without interrupting water supply. Excavation and backfill—12,000 cu. yd.

Boubers system, 1918—Laid 887 ft. of 3 in. pipe and 158 ft. of 6 in. pipe, also erected stand pipe and water tower.

Omiecourt system, 1918—Set up new pumping plant and repaired old line that had been broken by bombing.

Peronne, 1918—Repaired existing system that had been put in by the Huns and made extensions to it.

Roisel, 1918—Repaired existing system, erected new water tower and stand pipes to supply the yard.

Caudry, 1918—Repaired existing system that has been put completely out of business. This was a very tedious job as many pipes in the city had to be dug out and repaired, before water could be got into tank at station.

[illegible], 1918—Erected new pumps and boilers, repaired bad breaks in large concrete water tank, erected three new standpipes and repaired numerous breaks in old lines.

Steam shovel work—At Fillivres the battalion operated its own steam shovel to ballast the Frevent-Hesdin line, and some 36,272 tons were taken out of a chalk pit at that point. It had on almost constant loan a steam shovel crew, with the Royal Engineers.

Reballasting and maintenance—On the Flanders front the battalion reballasted 23 miles of tracks which the Royal Engineers had built, and during the winter of 1917-1918, maintained some 49 miles of track.

Letters of Appreciation From the High Command.

On Feb. 3, 1919, General Sir Henry Rawlinson, commanding the 4th Army, sent the following letter entirely in his own hand-writing:—

"Dear Colonel Ripley:—I am sorry not to have had an opportunity of seeing the 1st Battalion Canadian Railway Troops before their departure from France, in order to thank them personally for all the excellent work they have done on the many occasions when they have served with my 4th Army. I call to mind especially their work between Maricourt and Peronne in 1916, and on from there to Epehy in the same year, during the first battle of the Somme. I remember the difficult and exacting time they had in Flanders, in 1917, when they constructed the line from Elverdinghe to Pilkem and east of it, in mud that almost defied construction. But their services during 1918 were almost vitally important, during the battles of the hundred days east of Amiens. The rapidity with which they got the line through from Villers Brettonneux to the Somme has always filled me with admiration, and it was largely owing to their industry and enterprise that my army was able to advance from the line of the river to the attack of the main Hindenburg line. When I made a special call on them to complete the construction of the railway to Roisel, they responded with a spirit for which I can never be too grateful to them, for on the completion of that line depended the supply of ammunition for the force of 1,500 guns which did the bombardment of the enemy's main Hindenburg position. The date of the great battle of Cambrai-St. Quentin, which Marshall Foch has described as the most decisive battle of the war, depended on the results of the efforts of your men to reach Roisel. I asked them to be there by Sept. 20, they were through by Sept. 16, and we were, therefore, able to assemble sufficient shells in the gun positions to fight the general action on Sept. 29. I spoke to your men on several occasions when passing them at work on the railway, and both from personal observation, and the reports of my transportation department, their skill and perseverance seems to have been beyond praise. I thank both you and them most heartily for the splendid work they have carried out whilst serving with the British armies in France, and I wish all ranks every good fortune in years to come."

Major-General S. D. L. Crookshank, Director General of Transportation, wrote Feb. 6, 1919, as follows:—

"Dear Colonel Ripley:—I very much regret that I was unable to personally express to your officers, n.c.o.'s and men, my appreciation of the work of your battalion, prior to their departure for home. Your battalion, as the first construction battalion to come to France, established and maintained a very high standard of efficiency, of which the Corps Canadian Railway Troops, may well be proud and I would add that it has been a matter of great gratification to me to have been associated with you in your splendid career in France. I have had several opportunities of seeing your battalion at work, both on the Somme and on the Ypres salient, and, from my personal observation, the confidence I felt that any work assigned to your battalion would be carried out with expedition and skill, has always been most amply justified. You have never failed. The bridge work done by your battalion is especially worthy of mention, and it has been an example of what can be done, under difficult circumstances, in record time, by those who know how to do it. I hope that you will convey to all ranks my personal thanks for the magnificent work that they have done, and my best wishes for their future."

Over $80,000,000 Required for Canadian National Railways.

The Minister of Railways, Hon. J. D. Reid, in speaking in the House of Commons, July 5, said: "I desire to give some information as to the operation of the railways and the money that will be required in connection with them during the present fiscal year. For the Canadian Northern Ry. system the gross earnings will amount to $94,000,000 and the working expenses, including fixed charges, to $103,946,000, a loss of $9,946,000. The government system's earnings, it is estimated, will amount to $37,321,485, and the working expenses to $42,812,240, a total loss on the Intercolonial and Transcontinental part of the Canadian National system of $5,490,755. That is the statement made at the beginning of the year. It is estimated that the loss on the Grand Trunk Pacific will be about $9,000,000, and the loss on the Canadian National Ry. system as a whole, say, roughly, $19,000,000, or a total of $28,000,000. In reply to a question asked by a member last year, I would state that this estimate includes interest on all the Canadian Northern Ry. system. There is nothing for interest on capital in connection with the Intercolonial or National Transcontinental Ry. system.

"Expenditure on the construction of betterments this year on the Canadian Government end will be $11,121,600. On railway equipment, rolling stock, for the whole system, $20,000,000. That is the Canadian Northern, the Intercolonial and National Transcontinental. On the Canadian Northern system only we estimate $21,421,000, made up as follows: Western lines construction, $6,975,000; western lines betterments, $4,479,000; eastern lines construction, $2,082,000; eastern lines betterments, $6,885,000; and general, $1,000,000. This means a total of $9,057,000 for construction, and $12,000,000 for betterments.

"The following is a summary of the moneys to be supplied to the directors to meet the expenditures enumerated: Loss, $28,000,000; construction on Canadian Government Rys., $11,121,000; equipment, rolling stock, etc., $20,000,000; Canadian National Rys. construction and betterments, $21,421,000, or a total of $80,542,000. These are the figures as estimated for the coming year.

"The title for the rolling stock is in the Canadian National Rys. system and the government is nominally owner of all stock. Contracts have already been given for locomotives for some $2,850,000; freight equipment, $8,650,300; passenger equipment, $4,450,000; a total of some $16,555,000 odd."

Railway Department Estimates for 1918-1919 and 1919-1920.

In addition to the estimates of which particulars were given in Canadian Railway and Marine World for May, pg. 259, the supplementary estimates for the year ended Mar. 31, 1919, submitted to the House of Commons during the recent session, included the following items:—

Chargeable to capital:—	
Quebec and Saguenay Ry. construction, further amount required	$250,000.00
Chargeable to income:—	
Surveys and inspections, railways, further amount required	$ 10,000.00
Chargeable to collection of revenue:—	
Canadian Government Rys.—Working expenses, further amount required	$6,000,000.00

The supplementary estimates for the year ending Mar. 31, 1920, contained the following items:—

Chargeable to capital:—	
Hudson Bay Ry., construction	$300,000.00
Quebec and Saguenay Ry., construction	550,000.00
To provide for the purchase, at prices not exceeding the amounts herein specified, of the following railways (the debts of each railway to the Canadian Government Rys. to be cancelled); interest on the purchase price of each to be payable, at 5% a year from the date of taking possession to the date of transfer of title: (Such of the said railways as are within the jurisdiction of the Parliament of Canada are hereby authorized to sell their respective assets and undertakings accordingly):—revote—	
York & Carleton Ry	18,000.00
St. Martins Ry	65,000.00
Moncton & Buctouche Ry	70,000.00
Elgin & Havelock Ry	30,000.00
Salisbury & Albert Ry	75,000.00
Interest estimated from date of taking possession to Mar. 31, 1920, not exceeding	34,000.00
To Edmonton, Dunvegan and British Columbia Ry., for subsidy on its branch line from a point on its line as located, situated near the Spirit River settlement, to and through the Grand Prairie Land District, Alta., or on its main line. To be expended on such branch line or any portion of the main line of the railway or both, under the supervision and direction of officers of the Railways Department and upon such terms and conditions as may be approved by the Governor in council	258,797.16

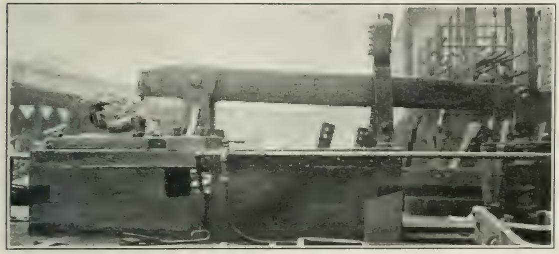
A Railwayman's Bravery—Charles Boutillier, a locomotive man of Stratford, Ont., has been awarded the Royal Canadian Humane Society's medal, suitably engraved, for saving the life of a two-year-old child who was playing on the track near Pleasant River station, on the Lake Erie and Northern Ry., in May. Noticing that it was too late to stop the locomotive, Boutillier climbed on to the pilot, and reaching out, lifted the child to safety.

Fuel Loss—On a recent test of a consolidation locomotive having 3,000 sq. ft. evaporating surface, and a 36-unit superheater, it was found that with 7 flues plugged, there was fuel loss of nearly 3%, and this increased in a nearly constant ratio to about 25% when 18 of the flues were plugged.

Railway Mechanical Methods and Devices.

Rivet Shears at Vancouver Shops, C.P.R.

Practically every railway shop has improvised some method of shearing off the rivets from coupler yokes, the principal method being to build up some simple machine that is operated by compressed air. The accompany illustration shows such a machine, but has the advantage of being much more massively built than usual.

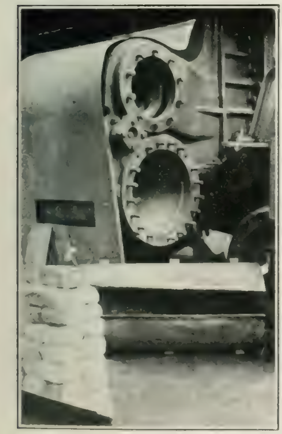


Air Operated Shear for Stripping Couplers.

The whole is built up on a base of wooden beams, with a solid cast iron base. Most of the parts are specially made, but the use of scrap material has been embodied as far as possible. The whole arrangement is self-explanatory.

Welding Cracked Cylinder, Grand Trunk Pacific Railway.

The G.T.P.R. had a locomotive with a cracked cylinder, the crack running the full length of the cylinder, and it was decided that the defect could be remedied by autogenous welding. The crack was enlarged by the use of an air hammer, forming a V-groove, about 2 in. wide at the top, tapering down to a width of from ¼ to ½ in. at the bottom.



Cracked Cylinder Repaired by Welding.

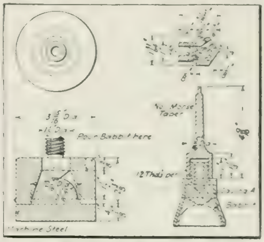
After this preparation, the whole bottom of the cylinder was heated to a cherry red, with a charcoal fire, and the weld made while in this condition. The V-groove was completely filled, and a slight seam was left for truing up later. On the completion of the welding, another charcoal fire was built inside the cylinder, a specially prepared shield being made for the outside of the cylinder, in order to hold the heat, and the whole cylinder was brought to a cherry heat, and held at this temperature for several hours, when the whole body was allowed to cool down slowly. 48 hours was then allowed to elapse before the boring bar was applied.

With this method, the whole cylinder cooled and contracted slowly and uniformly, and there was no sign of a crack, either in the fracture or in any other part of the cylinder. Only the welding seam needed to be trued off after welding, as the cylinder did not distort, but the cylinder expanded sufficiently to necessitate the truing down of each end about 1-32 in.

We are indebted to A. McTavish, formerly Master Mechanic, Transcona Shops, now Travelling Engineer, Dearborn Chemical Co., for the foregoing.

Tool for Grinding Superheater Joints.

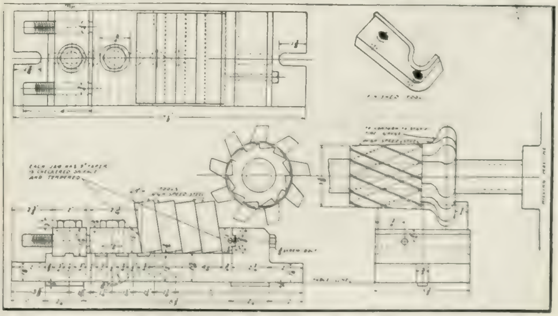
The tool illustrated herewith, for grinding superheater joints, is made partly of steel and partly of babbitt. The same steel shank is used for both the male and female grinders, for the tube seatings, or tube ends. The method of forming both grinding tips, is shown clearly in the illustration. The management has found this tool to be very successful for locomotive house work.—A. Connell, Tool Foreman, Kansas City Southern Rd.



Tool for Grinding Superheater Joints.

Chuck for Milling Wheel Lathe Forming Tools.

This chuck was designed in order that four tools might be milled at one setting, thus saving quite a lot of time where large quantities are to be milled. The greatest feature in using this style of cutter is keeping it cool. A constant stream of lubricant should be applied, the quality of the lubricant not being of such great importance as compared to the way in which it removes the heat. By keeping the cutter cool, very little resharpening is required. We use two cutters, one for road locomotives, and the other for switchers, this combination covering all the tires turned. W. C. Stephens, Machine Foreman, Atlantic Coast Line Rd.



Chuck for Milling Wheel Lathe Forming Tools.

Problems in Design and Maintenance of Car Trucks in Relation to Maintenance of Roadway.

By C. S. Gzowski, Jr., M.E.I.C.

The following are a few comments on the paper on problems in design and maintenance of car trucks in relation to maintenance of roadways by W. J. Hyman, then Chief Draftsman, Car Department, G.T.R., which was published in Canadian Railway and Marine World for May, with special reference to length of wheel base of trucks.

The difficulties in design for wheel truck as well as track lie almost within the passing of a train around curves. If all curves on the line were of the same radius, and all trains travelled at the same speed, a solution would be comparatively simple, but this not being the case, the design for wheels, trucks and track at best is always a compromise. If the sluing of the trucks on curves, or as Mr. Hyman terms the force to do this, the "turning moment" was the only force or cause which makes the outside wheels hug the rail, a longer wheel base would perhaps effect a cure. .

As those who have studied the problem know, there are three main forces or causes for a forward outside wheel on an ordinary railway truck to crowd the outside rail, viz: (1) centrifugal force, (2) the rigidly coupled wheels on an axle, acting as a rolling cylinder, always tending to roll in a straight line, and (3) the force necessary to swing the truck to the proper angle when first coming on to a curve, and again when leaving it.

The first, or centrifugal, force can be overcome by the correct elevation of the outside rail, but as the correct elevation is exactly relative to the speed and sharpness of the curve, in practice any elevation used is only exactly right for one certain speed around that curve, and therefore cannot be made to nullify centrifugal force on all trains, in practice. So that although this trouble no. 1 has an exact solution theoretically, practically a compromise has to be made, leaving it in part always with us.

The second trouble, of the pair of wheels rolling like a cylinder, always in a straight line, for any given curve in one direction, would easily be overcome (if this pair of wheels was not coupled to one or more pairs to revolve parallel to them, as in a truck) by making one wheel smaller and thus having a rolling cone. Raiway curves varying so largely in radius, and the necessity to provide for straight track prevents anything in this direction as a cure, except the very mild compromise of a new wheel shaped so the diameter of tread will be smaller on the inside wheel when it is thrown inwards, and this, of course, disappears in a worn wheel, and often becomes reversed in a wheel so badly worn as to become grooved.

Now we come to the point of the length of the wheel base. The coupling of a pair of rigidly fixed wheels on an axle to one or more other such pair of wheels, as in an ordinary railway truck, makes the action of these coupled rolling cylinders quite different to a single rolling cylinder forced to travel in a curve, and in reality add another cause to our troubles of rounding a curve. And this trouble is in more than a direct proportion to the distance apart the cylinders are coupled rigidly parallel to each other. (The same would be true with cones or with wheels not rigidly fixed to their axles). . This is so well known in practice that a wagon is built so that one pair of wheels will turn when rounding a curve, and that when railway "wagons" got beyond a certain length, instead of having only two pair of wheels under them, swiveled trucks were substituted. Of course the reason is plain, that each pair of wheels to travel around the curve most easily, whether fixed wheels rolling as a cylinder, or a cone, or loose wheels, on an axle—must be travelling in a plane, tangent to the radius of the curve. . So if a pair of wheels are coupled rigidly parallel to each other, both cannot fulfill this condition, and the further apart they are the greater is the discrepancy from this required condition. It is this condition of not being parallel to the rail which gives the climbing effect to a wheel. In other words, the longer the wheel base of a truck the more aggravated this trouble, which is subsiduary, in practice, or trouble no. 2 if not considered a main fourth one.

The third trouble, that of turning a truck on to and off a curve, in practice, particularly with curves spiraled, is certainly the least of all curve curses. If it was the major trouble, most of the flange wear of the rail would be on the ends of the curve, which is not the case, as from this cause no force would be applied after the truck was once turned, until it had to be straightened again.

Now the length of the wheel base of a truck, as in the other parts of the problem also becomes a compromise. For the curved track, certainly, it should be as short as will be consistent with good practice for the other consideration in the problem. . The conflicting points for the length of wheel base boil down to this. On a curve for turning, the truck to be as long as possible, but this is outweighted by the other consideration, to have itas short as possible on a curve, to make the axles radiate with the curve, so that on a curve we must vote for a short wheel base. On a tangent, of course, to be as long as a quarter the coupling length of the car, for equal load distribution on the track. For structual reason the ideal length would certainly be long; how long would depend on detail of design and material used.

As our troubles of wheels and track come mainly from the curved track, this must have the main consideration in design, and it seems to the writer a short, not a long, truck for this is more desirable, and that the present length as used, is a good compromise.

The Total Cost of Train Service per 1,000 gross ton miles in the U.S. in Feb., 1919, was 126.5c; this was made up of 43.1c for locomotive repairs and locomotive house expense, 40.3c for locomotive fuel, 3.4c for other locomotive supplies, 34.8c for locomotive men and trainmen, and 4.8c for train supplies and expenses.

The Cost of Locomotive Service, per locomotive mile in the U.S. in Feb., 1919, was 120.7c, compared with 106.3c in Feb., 1918, an increase of 13.5%; and the total cost of train service per train mile was 169.3c, compared with 155c, an increase of 9.2%.

Heavy Loading—Quick Release.

The Canadian Railway War Board has issued the following bulletin:

Every time a 1914 freight locomotive moved a string of loaded cars, it pulled 20 tons of freight and 20 tons of freight car. Taking a 155% locomotive on a 0.4 grade (hauling 2,500 tons in all), it could handle per average loaded trip 1,250 tons of freight and 1,250 tons of freight car. In 1919 the average load per car had risen to 27 tons, increasing the net freight hauling capacity of the same locomotive 7-47ths of 2,500, or 185 tons—15%! Such was the effect of one of the railway lessons taught by the war; heavy loading of freight cars.

To the railways this heavy loading meant: Fewer locomotives hauled a given amount of traffic. A greater number were free for extra trains or for emergency uses. Fewer cars were required for any given amount of traffic. Each act of every operating department employe had a higher efficiency.

To the shippers and general public: It increased the railway capacity of the country. It reduced their risk of delayed shipments. It mitigated the seriousness of delays—if any. It speeded up all business. It laid the ghost of general railway congestion.

For if, for example, 107 loaded freight cars must be moved over a given stretch of track before another train can be made up to carry your five cars—if 20 of the 107 carry only 20 instead of 27 tons —then it is clearly due to the light loading of those 20 earlier cars that your five cars are left behind!

A second sound practice established during the war had to do with loading and unloading cars promptly. If your city of Domville imports 1,000 tons of freight a day, exports 500 and has to handle 10,000 tons of through traffic through its railway yards. If it has three miles of delivery tracks and seven miles of receiving and classification tracks—10 miles in all—then the handling of your 11,500 tons of freight a day will require a loaded car for every 27 tons, half a car empty (the empty mileage of the average freight car is roughly one-half its loaded mileage) and 40 ft. of track room for every car, loaded or not. This works out at five miles of track, or half the terminal capacity to handle one day's business through your town. Of course this is ideal: we are allowing that the average car clears the terminal in a day, counting through cars with cars which are being loaded or unloaded.

But now assume that you and your neighbors relax your usual speed in loading and unloading. Perhaps you have cut down your shipping room staff, or your foreman is placing some other work ahead of this. "Well," you say, "we pay demurrage!" You do. But you do more. For every day's delay in releasing one car, you hold 40 ft. of terminal track capacity, for 2 cars 80 ft.! If half the shippers and consignees in Domville hold their cars one day longer than usual, then track capacity for 1500 tons of freight, plus 50% for empties is held up—83 cars or 3,320 ft. of track. Two days—6,640 ft. Four days—13,280 ft.—two miles!

There is only one safety valve for traffic pressure, the delivery track. The longer it remains closed the greater the pressure. For this is how the terminal works: The main lines empty into the receiving tracks. The yard locomotive "pulling his string" from the receiving track, shunts the cars from the end into the various classification tracks: Tracks 1-2-3-4 for, say, local delivery; tracks 5-6 for X-port; track 7 for Y-ville; track 8 for Z-ville; and so on. Later the yard crews clear these classification yards pulling out a string from track 8 for Z-ville; track 7 for Y-ville; tracks 1 to 4 for local delivery. But if you are not releasing yesterday's cars how can you take today's? If you can't take 'em the classification yard must! The more you give the classification yard the heavier it becomes to work—till it jams!

Here, heavy loading and quick release of cars work with double effect. If the freight imported and exported from your city is loaded merely by 1914 standards—seven tons less a car—862 cars will be required instead of 639! Seven miles of track instead of five! And 15% more locomotives.

Birthdays of Transportation Men in August.

Many happy returns of the day to,—

W. E. Allison, Assistant General Agent, Mail, Baggage and Milk Traffic, C.P.R., Montreal, born at St. Eugene, Ont., Aug. 1, 1886. .

V. T. Bartram, ex-Purchasing Agent, Timiskaming & Northern Ontario Ry., now of General Contracting & Dredging Co., Toronto, born at Ottawa, Aug. 2, 1880.

J. C. Beckwith, District Engineer, Levis, Edmundston and St. Maurice Divisions, Quebec District, Canadian National Rys., Quebec, Que., born at Fredericton, N.B., Aug. 1, 1875.

C. B. Brown, Chief Engineer, Eastern Lines, Canadian National Rys., Moncton, N.B., born at Ithaca, N.Y., Aug. 27, 1879.

J. S. Carter, District Passenger Agent, C.P.R., Nelson, B.C., born at Aurora, Ill., Aug. 14, 1864.

A. E. H. Chesley, General Accountant, Dominion Atlantic Ry., Kentville, N.S., born near Annapolis Royal, N.S., Aug. 27, 1877.

A. B. Chown, acting General Agent, Passenger Department, G.T.R., New York, born at Belleville, Ont., Aug. 4, 1887.

C. H. N. Connell, District Engineer, Montreal and Saguenay Divisions, Quebec District, Canadian National Rys., Quebec, born at Woodstock, N.B., Aug. 26, 1876.

H. W. Crawford, ex-General Agent, Canada Steamship Lines, Ltd., now of the U.S. Shipping Board, Emergency Fleet Corporation, Cleveland, Ohio, born at Bowmanville, Ont., Aug. 24, 1887.

E. L. Desjardins, Superintendent, Division 1, Quebec District, Canadian National Rys., Levis, Que., born at St. Jean Port Joli, Que., Aug. 1, 1859.

A. Eastman, Vice President and General Manager, Windsor, Essex & Lake Shore Rapid Ry., Kingsville, Ont., and President, Canadian Electric Railway Association, born in Bosanquet Tp., Ont., Aug. 21, 1870.

L. C. Fritch, Vice President, Minneapolis & St. Louis Rd., and Chicago, Rock Island & Pacific Rd., Chicago, Ill., born at Springfield, Ill., Aug. 11, 1869.

J. V. Foy, General Passenger Agent, Canada Steamship Lines, Ltd., Toronto, born there Aug. 27, 1882.

Geo. H. Ham, Head Office Department, C.P.R., Montreal, born at Trenton, Ont., Aug. 23, 1847.

W. B. Harper, Resident Engineer, Laurentian Division, Quebec District, C.P.R., Montreal, born at Baie Verte, N.B., Aug. 15, 1882.

W. P. Hinton, Vice President and General Manager, Grand Trunk Pacific Ry. Co., and Grand Trunk Pacific Coast Steamship Co., and General Manager for the Receiver, Winnipeg, born at Hintonburg, Ont., Aug. 30, 1871.

F. S. Isard, Director of Finance, Canada Steamship Lines, Ltd., Montreal, born at Hamilton, Ont., Aug. 14, 1888.

F. L. Lamplough, Superintendent, Ottawa Division, G.T.R., Ottawa, born at Cambridge, Vt., Aug. 15, 1867.

J. D. McDonald, General Passenger and Baggage Agent, Grand Trunk Western Lines Rd. (U.S.R.A.), Chicago, Ill., born at Toronto, Aug. 27, 1855.

M. K. McQuarrie, Engineer, Dominion Atlantic Ry., Kentville, N.S., born at Sault Ste. Marie, Ont., Aug. 17, 1884.

A. H. Mahon, District Locomotive Foreman, Grand Trunk Pacific Ry., Edson, Alta., born near Ottawa, Ont., Aug. 27, 1874.

W. J. Meakin, Locomotive and Car Foreman, C.P.R., Wetaskiwin, Alta., born Toronto, Aug. 22, 1872.

C. Montgomery, Master Mechanic, Pere Marquette Rd., St. Thomas, Ont., born near London, Ont., Aug. 29, 1860.

W. G. Murrin, Assistant General Manager, British Columbia Electric Ry., Vancouver, B.C., born at Greenwich, Eng., Aug. 27, 1875.

L. Palk, Assistant Secretary, Winnipeg Electric Ry., and Secretary, Winnipeg, Selkirk and Lake Winnipeg Ry., Winnipeg, born there, Aug. 14, 1885.

Hon. Gideon Robertson, Minister of Labor, born at Welland, Ont., Aug. 26, 1874.

J. M. Rosevear, General Auditor, G.T.R., Montreal, born at St. Lambert, Que., Aug. 9, 1869.

W. G. Ross, President, Montreal Harbor Commissioners, born at Montreal, Aug. 6, 1873.

W. LeB. Ross, Local Treasurer, G.T.P. Ry., Winnipeg, born at Ottawa, Ont., Aug. 9, 1868.

F. C. Salter, European Traffic Manager, G.T.R., and Canadian Express Co., London, Eng., born at Sarnia, Ont., Aug. 31, 1863.

W. H. Sample, General Superintendent of Motive Power and Car Department, Grand Trunk Ry., Montreal, born at Altona, N.Y., Aug. 20, 1864.

A. O. Seymour, General Tourist Agent, C.P.R., Montreal, born at Ogdensburg, N.Y., Aug. 14, 1887.

S. A. Simpson, Superintendent, Sleeping, Dining and Parlor Cars and News Service, C.P.R., Winnipeg, born at Toronto, Aug. 22, 1880.

J. F. Sweeting, Industrial Agent, Natural Resources Department, C.P.R., Calgary, Alta., born at Worthing, Eng., Aug. 20, 1872.

W. J. Sturges, acting Assistant Purchasing Agent, Grand Trunk Pacific Ry., Winnipeg, born at Fairfield, Vt., Aug. 28, 1877.

L. Tait, Secretary-Treasurer, London St. Ry., London, Ont., born at Hamilton, Ont., Aug. 9, 1882.

F. E. Warren, General Car Foreman, C.P.R., Winnipeg, born at Chelsea, Que., Aug. 29, 1872.

W. B. Way, Superintendent, Division 1, Central District, Canadian National Rys., Cochrane, Ont., born at Bowmanville, Ont., Aug. 22, 1867.

H. E. Weyman, Manager, Levis County Ry., Levis, Que., born at Guildford, Eng., Aug. 27, 1883.

War Purchasing Commission Urges Use of Government Lines.

The following appeared in a recent issue of the Canadian Official Record, which is published at Ottawa by the Dominion Government:—

" 'The War Purchasing Commission has sent out the following copy of a minute urging their clients to use government telegraph lines and ship by government railways:—

" 'In connection with freight, express, and telegrams, the government is anxious that as far as possible all business should be transacted over government lines, so that the public may receive as much benefit as possible from increased earnings. It will, therefore, be appreciated if, in so far as you control these matters, telegrams be sent by the Great Northwestern Telegraphs and express and freight over the Canadian National Railways.' "

On enquiry of the War Purchasing Commission, Canadian Railway and Marine World has been informed that the minute quoted above was issued to "all Dominion Government departments in connection with purchasing."

No Nationalization of British Railways.

London, Eng., copyright cablegram to Toronto Globe:—"The question of the nationalization of the railways and other transport undertakings of Great Britain, which the government raised in the hastily conceived Minister of the Ways and Communications bill, has met with a contemptuous negative from the House of Commons. There are pages of the measure as originally introduced by Sir Eric Geddes, which have been cut bodily out, one of them containing a clause empowering the minister to purchase and work any railway, tramway, canal or lock. Parliament took the strong position that it would have no veiled form of nationalization or permanent government control of transport, and as it stands the bill aims only at co-ordination and the avoidance of waste."

The Adoption of "Sailing Days" by the United States Railroad Administration, is said to have worked marked economy. The plan had for its purpose: The allocation of all less than carload traffic destined to certain designated common points to those lines which form the shortest routes and afford the most effective service; and the movement from the distributive centers to the smaller, or non-competitive points, upon all lines under government control, upon specified and convenient days of the week. Its adoption, through the elimination of some, and heavier loading of others, has resulted in the saving of thousands of cars, besides furnishing better service, through the avoidance of transfers.

About one-fifth the total U.S. export of car wheels and axles during Feb., 1919, was to Canada.

Steam Railway Statistics for Year Ended June, 30, 1918.

Following are extracts from the report of the Comptroller of Statistics, Railways Department, for the year ended June 30, 1918:—

The reports of the various railways show increases in gross earnings, as the result of a higher volume of traffic than in 1917, with material decreases in net earnings arising out of swollen operating expenses. There were added 274.32 miles to the railway mileage of the Dominion, bringing the total up to 37,878.52 miles. The additional mileage is chiefly in the western provinces. The factor of mileage as used in certain calculations which follow is not constant. It varies for the purpose of reckoning capitalization per mile and operating results per mile. In the latter instance, for example, regard must be had for trackage rights, and the average mileage in actual operation during the year.

Operating Mileage. Less Trackage Rights.

	1917-18	1916-17
Ontario	[illegible]	11,049
Saskatchewan	[illegible]	[illegible]
Quebec	[illegible]	[illegible]
Alberta	[illegible]	[illegible]
British Columbia	4,247	[illegible]
Manitoba	4,168	[illegible]
New Brunswick	1,959	1,959
Nova Scotia	1,428	1,422
Prince Edward Island	279	278
Yukon	102	102
United States	[illegible]	413
	38,879	38,601

The additions to second track in 1917-18 were 5.66 miles, making the total second track, 2,680.57 miles. The additions to yard track and sidings were 70.20 miles, making the total yard track and sidings 9,294.35 miles.

Capitalization.

	June 30, 1918	June 30, 1917
Stocks	$877,600,613	$872,829,993
Consolidated debenture stock	216,284,882	216,284,882
Funded debt	905,994,999	896,005,116
Total	$1,999,880,491	$1,985,119,991

Of the stocks $364,376,024 is classed as dividend paying, and $513,224,589 as non-dividend paying. The total dividends paid for the year were $30,103,982, equal to 8.26% on the dividend paying stocks, and to 3.43% on all stocks.

Cash subsidies paid to railways during 1917-18 amounted to $720,404.75. There was loaned to the Canadian Northern Ry. $25,000,000 and to the Grand Trunk Pacific Ry., $7,500,000 during the year.

The cost, including equipment, of government owned and operated railways, for which no capitalization is given in the foregoing statements, is as follows:—

	Miles	Capital cost	Cost per mile
Intercolonial	1,553	$141,636,812	$91,202
National Transcontinental	[illegible]	[illegible]	[illegible]
Prince Edward Island	[illegible]	[illegible]	[illegible]
Temiskaming and Northern Ontario	[illegible]	[illegible]	[illegible]
[illegible] Coal [illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	

Earnings and Operating Expenses.

Gross earnings	[illegible]	[illegible]
[illegible] like the Pullman Co.	2,557,787	2,721,470
[illegible]	[illegible]	[illegible]
Operating expenses	[illegible]	[illegible]
[illegible]	[illegible]	71.7

Analysis of Earnings.

	1917-18	1916-17
Freight	[illegible]	[illegible]
Passenger	67,089,362.62	61,290,290.07
Excess baggage	595,790.35	569,566.07
Sleeping cars	3,179,760.94	2,832,750.58
Parlor and chair cars	262,576.39	268,875.33
Mail	3,288,733.75	3,169,910.97
Express	9,824,583.29	8,999,073.85
Other passenger trains	64,024.666	72,110.40
Milk	350,416.08	538,486.82
Switching	2,917,752.87	2,380,706.18
Special service train	89,677.79	113,832.01
Other freight train	36,920.15	27,652.04
Water transfer	1,529.61	41,518.50
	$316,145,544.07	$295,550,029.94
Water Lines	2,608,027.22	4,397,311.30
Incidentals	11,117,078.67	10,407,098.90
Joint facilities, cr. bal.	349,499.99	417,038.96
Total	$330,220,149.95	$310,771,479.10

	1917-18	1916-17
Gross earnings per mile of line	$8,493	$8,051
Gross earnings per revenue train mile	$3.005	$2.683
Freight earnings per ton	$1.789	$1.766
Earnings per passenger	$1.322	$1.140
Freight earnings per freight train mile	$3.359	$3.006
Passenger earnings per passenger train mile	$1.352	$1.160

The Total Operating Expenses in 1917-18 were $273,955,435 an increase of $51,064,798 over 1916-17. The operating expenses were 82.96% of gross earnings.

Operating Expenses.

	1917-18	1916-17
Per mile of line	$7,046	$5,774
Per train mile, all trains	$2,494	$2,494

Distribution of Operating Expenses.

	1917-18	1916-17
Way and structures	$ 51,614,857.71	$ 41,154,193.11
Equipment	57,304,234.84	46,371,178.39
Traffic	6,342,393.99	6,236,810.91
Transportation rail line	145,107,396.15	114,327,343.71
Transportation—water line	1,552,958.83	3,271,892.62
Miscellaneous operations	4,443,665.75	3,962,543.94
General expenses	7,597,985.10	7,584,881.55
Transportation for investment cr.	8,056.58	18,207.15
Total	$273,995,435.79	$222,890,637.08

The average cost of maintenance of way and structures per mile of line was $1,327.57, against $1,006.17 for the year ended June 30, 1917. The average cost of maintenance of equipment per mile of line was $1,473.91 against $1,201.32 for the same periods.

Freight Traffic

	1917-18 Tons	1916-17 Tons
Products of agriculture	23,877,670	25,127,153
Products of animals	1,249,332	3,980,887
Products of mines	47,189,491	42,534,637
Products of forests	20,851,454	19,090,682
Manufactures	22,362,807	21,921,309
Merchandise	5,047,616	6,070,858
Miscellaneous	3,952,372	3,151,203
Undistributed	12,945	89,244
Total freight carried (tons)	127,513,687	121,916,272
Tons carried 1 mile	31,029,072,279	31,186,707,851
Tons carried 1 mile per mile of line	798,093	807,918
Average receipts per ton per mile	0.736	0.690
Average trainload (tons)	457	436
Average loaded cars per freight train	19.77	19.59
Average number of tons per loaded car	23.09	22.24
Average length of haul miles	243	256
Average revenue per ton	$1.789	$1.765
Tonnage per mile of line	3.281	3.159

The Origin of Freight was as follows:—

	1917-18 Tons	1916-17 Tons
Originating in Canada	68,385,790	67,134,164
Received from connecting lines	25,118,277	23,451,578
Received from United States lines	34,039,620	31,330,530
Total	127,543,687	121,916,272

Passenger Traffic

Passengers carried	50,737,291	53,749,680
Passengers carried 1 mile	3,190,025,682	3,150,127,428
Passengers carried 1 mile per mile of line	82,050	79,629
Passengers carried per mile of line	1,308	1,946
Passenger revenue	$67,089,363	$61,290,291
Passenger train revenue	$88,192,056	$80,767,114
Average receipts per passenger	$1.322	$1.140
Average number of passengers per train	64	59
Average number of passengers per car	17	16
Average number of cars per passenger train	5.8	5.7
Average passenger journey miles	63	59

The average earnings per passenger train car mile were 23.7c. This includes all classes of cars forming a passenger train.

Equipment.

	1917-18	1916-17
Passenger locomotives	1,372	1,389
Freight locomotives	3,603	3,490
Switching locomotives	781	747
Total	5,756	5,626
Number of locomotives per 1,000 miles of line	148	146
Passenger cars:—		
First class	2,172	2,168
Second class	595	687
Combination	406	418
Immigrant	568	534
Dining	196	216
Parlor	166	155
Sleeping	555	562
Baggage, express and postal	1,514	1,462
Others	204	175
Total	6,376	6,377
Number per 1,000 miles of line	164	165

Freight Cars.

	1917-18		1916-17	
	No.	Capacity in tons.	No.	Capacity in tons.
Box	150,074	5,126,659	145,290	4,899,651
Flat	23,414	759,768	25,322	816,245
Stock	8,556	253,350	7,883	282,185
Coal	16,949	692,785	15,649	588,609
Tank	485	16,306	781	35,184
Refrigerator	5,893	176,890	5,284	155,510
Other	3,664	141,012	3,390	187,122
Totals	209,026	7,166,770	*203,499	6,798,456

*The companies reported 217 cars in addition for which no capacity was given.

Freight cars per 1,000 miles of line	5,382	5,272
Cars in companies' service	18,900	18,641

Train Car and Locomotive Mileage.

Revenue train mileage:—	1917-18 Miles	1916-17 Miles
Passenger trains	41,850,189	44,083,575
Freight trains	60,143,014	62,863,724
Mixed trains	7,787,636	8,746,811
Special trains	76,721	102,990
Total	109,857,560	115,797,100
Non-revenue trains—Mileage	4,158,919	3,627,901
Freight car mileage:—	1917-18 Miles	1916-17 Miles
Loaded freight cars	1,343,301,681	1,402,552,028
Empty freight cars	494,404,216	516,127,805
Caboose cars	64,419,008	66,728,241
Total	1,902,124,905	2,030,408,074
Passenger cars Mileage:—	Miles	Miles
Passenger cars	127,866,571	135,419,724
Sleeping, parlor, etc.	53,808,982	59,459,362
Other cars	108,472,381	108,416,453
Total	290,147,934	303,325,539
Locomotive mileage:—		
Freight	63,921,041	68,983,629
Passenger	40,870,513	44,005,835
Mixed	7,897,536	8,612,666
Switching	28,625,512	28,509,069
Special	5,438,603	153,009
Total	146,753,205	150,264,298

Locomotives and Cars supplied to the American Overseas Expeditionary Force cost 245% and 214%, respectively, more than similar standard gauge equipment before the war.

Unit System of Handling Railway Correspondence.

By A. T. Roberts, Chief Clerk to Superintendent, C.P.R., Edmonton, Alta.

The unit system of handling railway correspondence undoubtedly commends itself to all who are conversant with the advantages to be derived from its adoption, and its superiority over any other system can hardly be disputed, ensuring as it does efficiency and economy; efficiency because delays on account of the temporary absence of the officer on the line are reduced to the minimum; economy because the necessity for writing to individual officers is obviated.

A properly organized superintendent's office, operating under the unit system, includes superintendent, trainmaster, division master mechanic, chief dispatcher, division engineer, bridge and building master, telegraph inspector and roadmasters, to whom the chief clerk is the chief assistant, as far as correspondence is concerned, and should insist on all telegrams and correspondence, both incoming and outgoing, passing through his hands, thereby precluding the possibility of erroneous or duplicated information being given. This method keeps him in touch with everything handled through the office. The system of recording and filing the multifarious correspondence handled in such an office is one which requires very careful study to obtain maximum results. Simplicity, for easy reference to records, is an essential factor, and the system adopted should be so complete that a comparative stranger may be able to locate correspondence in the shortest possible time. In order to achieve this objective, the numerical system of filing correspondence unquestionably stands pre-eminent.

Our system provides for numbers 1 to 1000 being used exclusively for handling telegrams. In the interests of economy, the file backs are used over and over again, filing the papers from which they are removed in numerical order and docketing them for the period covered. Letter numbers run from 1001 upwards. Registers are used for recording inward letters, mailgrams, and outward letters, mailgrams and telegrams. The register clerk should be an experienced man, thereby eliminating errors, and the necessity for the chief clerk, whose time is more valuable, assigning file numbers to correspondence.

The most important daily mail arrives in mail bag from the general su- clerk. By this time the important mail from district master mechanic, district engineer and car service agent. This arrives at 7.45k and the register clerk comes on duty at 8k, half an hour before the balance of the staff, in order to have the mail registered in, and ready for handling at 8.30k. The balance of the mail arrives at 8.30k and is opened by register clerk and junior clerk, after which it is handed to the chief clerk to look through, for the purpose of picking out, for preference handling, everything requiring the personal attention of an officer. While the mail is being opened, telegrams received during the previous night are given attention by the chief clerk. By this time the important mail is attached to files ready for reading, and distribution, by the chief clerk, to the different officers, followed by the less important mail as soon as attached, which is handled in the same manner.

A card index is used for recording important correspondence relating to the handling of different reports, such as conductors' train reports, heated cars, refrigerator cars, etc. General subjects, such as "Allowance for grain doors supplied by shippers," "Employment, requests for, 1919," "Engineers' seniority lists,“ are entered on red cards; everything pertaining to company's property, under station heading, such as "Edmonton," "Stockyards," "Water rates," "Electric light rates," is entered on blue cards; all private sidings, elevator and coal shed sites, under station heading, such as "Edmonton," "Smith & Co., spur track," "Burnwell Coal Co.'s site," etc., are put on blue cars, with the file number shown on the card opposite the subject.

Derailments, personal injuries, stock killed, washouts, slides, and fires, are also specially recorded on cards printed for that purpose. Staff records are kept in alphabetical order, in the different branches of the service, and file number assigned to each employe on entering the service, which number is shown on top left hand corner of staff card and copies of staff forms and medical reports are kept on that file.

Correspondence relating to bridges and culverts, is recorded in card index, a separate card for each subdivision, the mileage of the bridge or culvert, as the case may be, being shown on the card, with the file number opposite, in the same manner as other special subjects.

Car numbers appearing in correspondence are recorded in an indexed car record book, with a brief statement and file number opposite the car number: For instance, shipment in car 123,489 is pilfered in transit; this would be shown on page 89 in car book thus: "1234, pilfered, file 10139." By this means the information is immediately available and the possibility of duplicating the file is eliminated, as it is frequently weeks and sometimes months before the claim is referred to the superintendent's office. The time consumed in making this record is negligible.

Experience proves that particulars of delays to trains or locomotive failures are generally handled by telegrams, at least in the initial stages, and it is therefore good practice to note the file number against the train or locomotive concerned, on daily performance report.

The "Hand me" system of handling outstanding correspondence is particularly well adapted to reduce the number of files not in filing cabinets, to the minimum. In explanation of its operation, let us assume that on May 1 the agent at B—— was requested to furnish certain information, which in the ordinary course should be forthcoming in seven days; on the file copy we would write "Hand me May 8" and the file number of that particular file would be entered in a common diary under date of May 8, and file put in filing cabinet; if the reply had not been received on May 8, the file would be brought out and the agent in question traced for reply. For less important files it is only necessary to write the date on the file copy, the number being entered in the diary in the same manner. When replies are received the dates are cancelled. This system obviates the necessity of holding files in abeyance baskets, which is prevalent in some offices. It is very discouraging when looking for a file to have to search through a number of outstanding files in abeyance baskets and officers' desks, in order to locate a particular file required. This is unnecessary with the "Hand me" system, which reduces the number of files not actually in the filing cabinets to the minimum.

The system described in this article has worked out satisfactorily in this office since its inception nearly five years ago. Of course, it is admitted that no system is so perfect as to overcome the human failure of placing a file in its wrong place in the filing cabinet, but the possibility can be precluded to a great extent by the employment of a careful filing clerk.

I am an interested reader of articles written with the object of promoting efficiency in office organization and management. One article I had the pleasure of reading recently, was that by W. H. Mathews, chief clerk to Superintendent, Canadian National Rys., Capreol, Ont., appearing in Canadian Railway and Marine World for February, and while I do not wish to be too condemnatory, I would hesitate to adopt the system outlined, to replace the one in operation in this office, because the introduction of locomotive and car numbers into filing systems has a tendency to confuse rather than simplify the system. While Mr. Mathews dealt with a number of subjects handled in a division superintendent's office, there was no reference made to the method employed in recording "Applications for employment," "Enquiries regarding lost property left in passenger trains," "Requests for transportation," "Applications for bulletined positions," "Petitions for increased train service," "Increased facilities for handling livestock," "Car supply," and numerous other subjects.

F. W. Lambert, chief clerk to General Superintendent and Chief Engineer, Algoma Central and Hudson Bay, Sault Ste. Marie, Ont., in his article in Canadian Railway and Marine World for May, recommends the Williams filing system. That system, in my opinion, creates too many general files, all correspondence being classified and a number assigned to each class. There is nothing more provoking when looking through a file on a certain subject than to find correspondence relating to something entirely alien thereto, although, granted, it may come under the same category. It will be found that by reducing the number of general files to the minimum, a lot of time and labor will be saved, in fact there is no necessity for more than four of these files in a railway superintendent's office.

The Northern Pacific Rd. is using moving pictures, to demonstrate the advantages and disadvantages of different methods of firing, and the effects of wastefulness and carelessness in the operation of locomotive and the handling of fuel.

The Terminal Cartage Co. has been incorporated under the Ontario Companies Act with an authorized capital of $40,000 and office in Toronto, to carry on the business of carting, forwarding, transporting and distributing goods and merchandise of every description.

There are about 5,000 locomotives equipped with mechanical stokers in the U.S.

Steam Railway Statistics for Year Ended June 30, 1918.

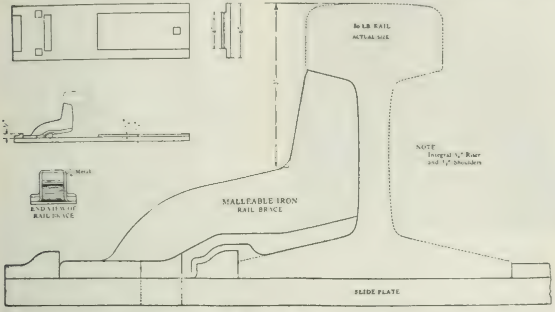
Canadian Railway and Marine World for July contained a table giving the mileage of all steam railways in Canada, with details of the freight and passenger earnings and of the operating expenses and net operating earnings or deficits. In the following table the 1st column shows the net revenue or deficit on the railway operations of the several companies; where there was a deficit the figures are preceded by a minus mark, thus —; the 2nd the profit or loss from operations outside railways, and the 3rd the income from all other sources. The 4th column shows the taxes paid, the 5th gives the gross corporate income, from which is deducted the amounts in the 6th column, viz: rents, interest on funded debt, sinking fund, etc.; the 7th column showing the net corporate income available for special appropriations, dividends on common and preferred stock, or held in profit and loss account. The cents have been omitted in the columns, but are included in the totals.

Name of Railway	Net operating revenue or deficit	Profit or loss from outside operations	Other income from all sources	Taxes deduction	Gross corporate income or loss	Rents, interest, sinking funds, etc.	Net corporate income or loss
Alberta and Great Waterways	$ —9,856	$ —3,107	$ 23,217	$ 1,865	$ 8,387	$ 191,650	$ —183,262
Algoma Central & Hudson Bay	578,615		134,381	31,976	681,021	788,603	—107,582
Algoma Eastern	287,730		2,089	3,194	286,625	329,820	—43,198
Atlantic, Quebec & Western	1,635		60,569	3,276	58,928	20,636	38,291
Brandon, Saskatchewan & H.B.	—94,677		355	1,072	—95,394	1,868	—97,262
British Yukon	92,956		15,965	6,826	102,095	105,023	—2,928
Canada Southern	5,238,522		584,162	603,069	5,219,615	4,557,409	662,206
Canada and Gulf Terminal	9,703	2,000		1,091	10,612		10,612
Canadian Government Railways:—							
Intercolonial	—2,079,001				—2,079,001	254,191	—2,333,193
International of N.B.	—170,685		333		—170,351	17,755	—188,107
St. John and Quebec	—58.996		216		—58,779	27,992	—86,771
Prince Edward Island	—537,233		303		—536,930		—536,930
National Transcontinental	—2,199,505		25,840		—2,173,664	493,525	—2,667,189
Canadian Northern System	5,543,539			434,488	5,109,071	16,783,258	—11,674,187
Canadian Pacific	38,704,152	1,594,190	11,276,718	2,279,604	49,295,457	3,159,739	46,135,717
Cape Breton	—12,804				—12,084		—12,084
Caraquet & Gulf Shore	780				780	10,207	—9,426
Central Canada	—28,513			230	—28,744	47,190	—75,934
Central Vermont	—18,080		22,538	7,767	—3,308	70,618	—73,926
Crows Nest Southern	—104,553		15	24,690	—129,228	6,553	—135,782
Cumberland Ry. & Coal Co.	14,669				14,669		14,669
Dominion Atlantic	297,220	—655	17,000	1,682	311,882	343,176	—31,294
Eastern British Columbia	—298			3,088	—3,387	11,731	—15,119
Edmonton, Dunvegan & B.C.	118,167	13,812	40,289	2,109	170,159	436,855	—266,695
Elgin & Havelock	—4,541				—4,541		—4,541
Esquimalt & Nanaimo	296,354			39,541	256,812	228,447	28,365
Essex Terminal	30,328				30,328		30,328
Fredericton & Grand Lake C. & R. Co.	64,865			269	64,596	82,408	—17,811
Grand Trunk	7,714,324		4,062,874	799,377	10,977,821	11,923,175	—945,354
Grand Trunk Pacific	—414,072	72,963	2,335,409	49,963	1,944,337	9,333,906	—7,389,568
Grand Trunk Pacific Branch Lines	—618,902		418	23,794	—642,278	1,232,085	—1,874,363
Hereford	—85,879		21	1,829	—87,688	33,707	—121,396
Kent Northern	8,454				8,454	1,450	7,004
Kettle Valley	—38,293			13,593	—51,887	639,559	—691,447
Lotbinere & Megantic	5,599			900	4,699	2,106	2,592
Maine Central (Princeton Branch)	1,096			669	427	3,376	—2,949
Manitoba Great Northern	—102,547		318	671	—102,900	7,196	—110,096
Maritime Coal Ry. & Power Co.	28,952				28,952	6,777	22,175
Massawippi Valley	—93,259		1,402	2,008	—93,866	69,979	—163,846
Midland of Manitoba	—80,674		24,755	26,251	—82,170	82,173	—164,344
Montreal & Atlantic	8,962		1,400	22,582	—12,220	117,825	—130,046
Moncton & Buctouche	—26,350			170	—26,520	1,551	—28,072
Morrissey, Fernie & Michel	12,242			125	12,116	5,080	7,035
Napierville Jct.	91,979		2,660	904	93,734	58,262	35,472
Nelson & Fort Sheppard	—53,193		7,422	23,804	—69,574	4,663	—74,238
New Brunswick Coal & Ry. Co.	4,830				4,830	5,254	—415
New Westminster Southern	—12,610		7,616	631	—5,625	26	—5,652
Ottawa & New York	—76,155		3,769	12,191	—84,577	58,083	—142,661
Pere Marquette	1,253,636		159,388	21,403	1,391,620	1,161,365	230,254
Quebec Central	553,249		5,500	15,250	543,500	293,715	249,784
Quebec, Montreal & Southern	—29,264		294,563	9,654	255,644	262,935	—7,291
Quebec Oriental	25,974		1	3,087	22,887	122,905	—100,017
Quebec Ry., Light & Power Co.	22,078			7,609	14,469	126,283	—111,814
Red Mountain	—21,882		35	3,850	—25,697	180	—25,878
Roberval-Saguenay	49,555		47,500	1,322	95,733	81,285	14,447
Rutland & Noyan	—5,875		4,000	8	—1,883	4,000	—5,883
Salisbury & Albert	97				97		97
St. Lawrence & Adirondack	637,345		726	8,674	629,396	251,097	378,298
St. Martins	—3,790				—3,790	437	—4,227
Sydney & Louisburg	107,174				107,174		107,174
Temiscouata	67,006		1,059	4,530	63,535	35,531	28,003
Timiskaming & Northern Ontario	478,806		156,484		635,290	113,024	522,265
Thousand Islands	14,688		714	102	15,300	5,876	9,423
Toronto, Hamilton & Buffalo	898,470		82,903	82,783	898,590	287,824	610,766
Vancouver, Victoria & Eastern	—527,718		222,696	124,903	—429,925	213,514	—643,439
Victoria & Sidney	—3,286			1,202	—4,489	17,232	—21,722
Victoria Terminal Ry. & Ferry Co.	17	148	223	1,562	—1,173	182	—1,355
Wabash	511,280				511,280		511,280
York & Carleton	1,415				1,415	144	1,270
	$ 63,776,500	$ 1,683,114	$ 19,627,863	$ 4,711,262	$ 79,882,353	$ 54,523,437	$ 49,657,540
Less—	7,511,785	3,763			7,021,687		31,329,311
	$ 56,264,714	$ 1,679,350			$ 72,860,666		$ 18,328,228

Labor Saving Devices for Railway Track Work.

Following is the report of the committee on labor saving devices as adopted at the Roadmasters' and Maintenance of Way Association's last annual meeting:—

Mechanical Tie Tampers—It is the committee's opinion that no tool in recent years furnished to the track forces made its appearance at a more opportune time or filled in a greater void than the power operated tie tamper. It may be reasonably said it is here to stay, although for several reasons it has been a somewhat difficult implement to introduce, the principal reason being the cost, and next the sceptical way in which many trackmen looked at anything capable of tamping ties other than the tamping pick or tamping bar in the hands of a competent laborer. Now, however, owing to the growing scarcity of labor and the inefficiency of many of those available for track work, the mechanical unit is brought into play and hailed gladly by those interested in track maintenance.



See section of report, "Switch plates."

The great majority of those who have used a tamping machine and given it a fair trial will testify to its wonderful value as a labor saving device. Any description of the construction or operation of this machine is unnecessary as the machines in general use have been widely advertised and many have seen them in operation.

It is the committee's observation that the work is more uniform and better than track that is tamped by hand, especially since we are getting such a poor class of labor. It has been proved that a tamping machine is of particular value around frogs and switches, water pans, tunnels, etc., as it is possible to tamp with it in places which cannot be reached by a tamping bar or pick.

Carefully compiled figures from several railways covering a period of three seasons are given below.

For a 2-tool machine: 1 foreman, 10 hours at 32c, $3.20; 4 men, 10 hours at 22c, $8.80; 12 gallons gasoline at 24c, $2.88; total $14.88.

Without machine: 1 foreman, 10 hours at 32c, $3.20; 4 men, 10 hours at 22c, $8.80; total, $12.00.

Cost per mile of track without machine, 32 days at $12, $145.92; cost per mile of track with machine, 16 days at $14.88, $238.08; balance in favor of machine, $145.92.

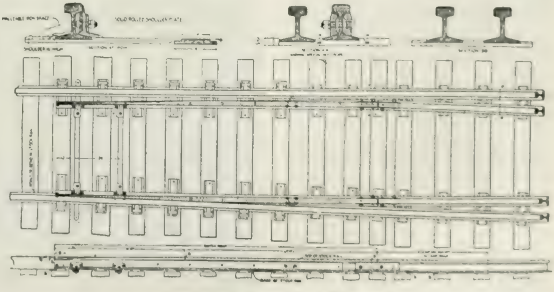
For a 4-tool machine the comparison between hand tamping and mechanical tamping was as follows:

Hand gang and foreman, 16 men, 8 hours, tamped 500 ft. of track; machine gang and foreman, 6 men, 8 hours, tamped 528 ft. of track; saving of 10 men and 80 hours for machine.

Expense: Hand gang and foreman, 16 men, $43.50; machine gang and foreman, 6 men, $18.50 (cost to run $6.95); $24.45; saving by machine, $18.05.

Fixed charges are given as follows as near as it is possible to get them: Depreciation at 10%, interest 5%, repairs 5%; total fixed charges, 20%.

Experience during the four years this machine has been in use teaches that under normal conditions in the northern states, each machine will be used during the season to tamp about 20,000 ties. The foregoing figures show a saving that can be effected by this machine which is in use on 54 roads in the U.S. and on some roads in very large numbers.



See section of report, "Switch plates."

Travelling Crane for Loading Cinders at Cinder Pit—At one cinder pit where crane is used, the cost of loading cinders for a year was $0.007 a yard, while at a pit where cinders where loaded by hand the cost was $0.13 a yard.

Cost of unloading cinders by hand, a yard, 16c; by dropping bottoms, Rodger ballast cars, a yard, 7c; steel gondolas, a yard, 7c.

Comparative statement of levelling cinders by hand and by the use of spreader, in one half hour a spreader has levelled 3,000 yards, costing less than $0.001 a yard. To do similar work by hand it cost $0.123.

Rail Handling Machines—As much new rail is received in high side coal cars, it has become absolutely necessary that some mechanical device be used for unloading it. Not on account of the labor shortage alone, but to avoid damage to rails by dropping or rough handling, is such a device needed. The constant demand for quick release of cars, the high cost of work trains and the few hours of actual work on a line of heavy traffic requires a device that will work rapidly with a maximum factor of safety to laborers.

There are rail handling machines in use which are capable of loading or unloading two cars of rail at the same time. For the operation of these machines nine men are required, one man to operate hoists, and 4 men to each car of rails. The machine is operated by air from the train line. Such machines will unload rails more quickly and without damage to rails or injury to men than could be accomplished by 40 men by hand, thus a saving of 31 men a day is made possible. This machine can also be equipped with tongs to load or unload as many ties with 3 men as can be loaded or unloaded by 20 men by hand.

Rail Laying Machines—Your committee recommends the use of rail laying machines, especially where rail is of a heavy section, thus relieving tongsmen for other work, the number released depending on the weight of the rail to be handled. To obtain the best results by the use of the machine, care should be used to unload the rails as near as possible opposite where they are to be laid.

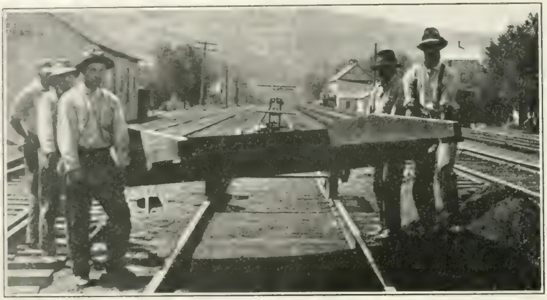
Snow Melting Device—Your committee is not unanimous in their views as to the benefits to be derived from snow melting devices, but the following results were submitted by one of the members:

Two laborers at $3.80 a day, $7.60; royalty on cans $5 a year (used about 5½ months, 2 cans) 6c; 6 gallons hydro-carbon oil at 11c a gallon, 66c; total cost with melting device, $8.32.

If done by hand: Foreman at $3.35; 10 laborers at $2.80, $31.35; 6 rattan brooms at 28c, $1.68; total cost by hand, $33.03. Saving by use of device, $24.71.

Another device which can be used successfully for the same purpose is the Hauck snow melting torch.

Switch Plates—We recommend under each point of a 15 ft. switch, 9 plates and under each point of a 16½ ft. switch, 10 plates with a uniform riser of ¼ in. on every tie.



Push car, dump box empty.

The risers should be solid and preferably obtained by machining a seat for the stock rail. At least 14 of the plates should be provided for braces and where braces are used there should be a shoulder to engage the rail brace and another under the rail brace engaging the base of the stock rail.

For heavy service the plates should be not less than ¾ x 7 in. under the stock rail. Heel plates should be provided a sufficient distance back of the heel to allow clearance for standard tie plates. Where ¾ in. plates are used under the points, the heel plates should be made from 1¼ in. stock with seats machined out for the lead rail and the stock rail. The depth of these cuts should be such that the elevation of the lead rail is graduated from ¼ in. on the first tie back of the heel to level with the stock rail at the last plate.

This construction provides positive shoulders for both the stock rail and the lead rail, and holds the switch to gauge at the heel where other construction requires the most maintenance. These plates can be made so that they will accommodate any angle of turnout used with a given length of switch by varying the tie spacing slightly for each angle of frog.

The accompanying plans confirm to the above recommendations.

Rigid Versus Safety Switch Stands for Use in Busy Yards—Automatic switch stands can be considered a labor saving device, as well as a material saving device, as switches can be run through without derailment or damage to the material or equipment. Your committee has given this subject considerable thought and collected much data in an effort to eliminate, if possible, the destruction of so many stands by the same being run, through. Scarcity of labor, with material 100% higher than in normal times, has brought about a serious condition and it is our opinion that the time was never more opportune for this association to go on record and recommend to our superior officers the adoption of the automatic safety switch stands, particularly for busy yard use. This stand should be as low as it is possible to make it. By adopting a stand of this kind, our material would be conserved and the small amount of labor which we can obtain will be available for the much needed repairs to track and will save considerable time in making reports of switches being run through. We are of the opinion that the extra cost of equipping a yard with such stands would be more than saved in a short time through the conservation of company property.

Motor Cars—The majority of your committee is in favor of the more general use of motor cars, particularly on lines of light traffic, where the length of sections are such as to warrant their use. Therefore it is the committee's opinion that the economy in the use of motor cars decreases in proportion to the additional number of main tracks, which in turn shortens the length of sections. We have obtained the following figures showing the economy effected by the use of motor cars:

Time spent in carrying 14 men and foreman by motor car, 14 miles, 30 minutes; for round trip, 1 hour, or total of 15 hours. Time spent for round trip by hand car, 3 hours, or a total of 45 hours, showing a saving in favor of motor cars of 30 hours. There is still a larger saving in the increased energy of the men when they arrive on the job, in the better class of labor attracted, and in the time saved on emergency jobs.

Perhaps the best argument in favor of these cars is in the fact that thousands of them were bought by the men themselves, whose wages were the lowest of all railway employes, they purchasing them to avoid the drudgery of handcars.

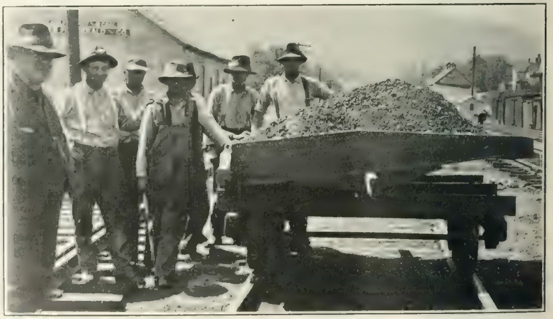
Mechanical Method of Mowing and Destroying Weeds—The use of mowing machines and weed burners, also chemicals to destroy weeds, are of great value in some territories.

Push Cars—A home-made dump box for use with a push car is preferable to the flat bottom for the work ordinarily done with the latter. The accompanying illustrations show the type recommended and is preferable for use on push car to that of ordinary flat bottom, as much time and labor can be saved by same.

Anti-Rail Creepers, Etc.—It was the unanimous opinion of the committee to recommend the extensive use of rail anchors, tie plates, guard rail clamps, tool grinders, etc. Many of these devices are practically self-maintaining. Their use prevents excessive cost in track maintenance and saves labor.

The Horse As a Labor Saver—On divisions where much ditching must be done by work trains or wheelbarrows, teams with scrapers have been tried with the following results and very little labor needed:

One laborer can fill scrapers for 2 to 4 teams, according to the distance and advantage of working. Two horses can easily handle a no. 1 scraper, which holds 7 cu. ft. and move at a 2 mile an hour rate, with some delay for filling, turning and dumping scrapers. One horse of good weight can handle a no. 2 scraper of 5 cu. ft., and after teams are trained a boy not able to do heavy manual labor can drive a team, or when in a narrow ditch and one horse is used, one boy can take two single horses with a scraper. Dirt can be handled in very short cuts, at the ends of cuts and across the track, for 20c to 25c a yard and haul it 500 to 600 feet for 50c to 60c a yard; this with teams at 80c an hour and labor at 35c an hour. Of course, where teams can be hired at 50c to 60c



Push car, dump box filled.

an hour, cost will be reduced accordingly. By starting teams early in the season, with an experienced man in charge to handle them, all ditching can be done and balance of gang left on other track work. Teams can also be worked in muddy cuts where men won't work. A horse with cart can also be used in terminals to good advantage cleaning yard, team tracks and driveways.

Where conditions of mowing right of way are such that it is possible to use teams and mowing machines, the work can be done by machinery much cheaper than by manual labor.

Ditching Machines, Dump Cars and Spreaders—When heavy ditching has to be done, the use of steam ditchers is recommended, together with the use of at least two 16 to 20 yard side-dump cars and a spreader car for short hauls. For a longer haul from 4 to 6 side-dumps should be used. A light locomotive can be assigned to handle this outfit and with an outfit of this kind, which includes a train crew, ditcher engineer and fireman, dirt can be handled for 10c to 25c a yard, according to the length of haul.

Through long usage the steam ditcher and spreader, especially when the latter is operated by air, has reached such a high state of efficiency that they are practically indispensable and the fact that they can be used for many different varieties of work, places them among the most important labor saving devices.

Push car, dump box being emptied. Material may be spread by moving car as load is released.

A saving of at least 60% over that of manual labor is obtained by using a no. 3 crane for removing ballast from between tracks, in preparing for stone ballast, digging drains under tracks, unloading old ballast on fills, to strengthen shoulder and fill up holes, load and unload rails and for various other purposes.

A machine known as the Magnet is used very successfully to load and unload scrap of various kinds. This machine is capable of picking up 6 or 8 33 ft. rails as rapidly as it will one, and eliminates handling the rails by hand, and reduces to a minimum the liability of injuring men.

Two-Wheel Pony Cars as Labor Savers—In rail laying, the pony car is very handy for distributing spikes, bolts, angle bars, tie plates and even scattered rails. Where a heavy rail is to be replaced in track by a small gang, a pony car makes it possible to load rail and move it to point where needed, without sending for additional help or using a flag to get rail to place; also useful handling ties. These cars with a dump box are very handy for distributing the surplus of gravel or stone ballast. Boxes hold 1-3 to ½ yard and can be handled without flag by dumping. They can be dumped inside or outside the rail.

Ballast Plough—There are many opportunities for improving devices now in general use. A ballast plough can be made to remove all the ballast from track, whereas at present they are made to remove the ballast level with the top of rail. All ballast may be removed by bolting a steel plate on to the present type of plough and permitting the plate to reach the entire length of the tie, only removing enough of the plate to clear rail and joint fastenings; the depth of plate depending on height of rail in track from which ballast is to be removed. An attachment to do this work can be made and applied by a blacksmith and helper, in two days, and material needed may consist of scrap bridge iron or angle bars and is a very inexpensive attachment and of great value for removing ballast that has been unloaded for backfilling. Removing and dressing ballast by hand is hard work and very expensive under ordinary conditions, and at present, when sufficient labor is unavailable, this device is of immeasurable value where much ballasting is in progress. In addition to this attachment, another plate with teeth may be applied to loosen up and level off ballast between parallel tracks and on shoulder. It will also destroy weeds. It can be operated at a speed of from 4 to 6 miles an hour. The saving effected per mile will depend on the amount of ballast to be removed and the density of vegetation.

Field Telephone—It is recommended that the field telephone be furnished to ballast and rail-laying gangs, also on work trains and snow ploughs, particularly on lines with heavy traffic. These outfits can be purchased for from $5 to $25 a set and will reduce to a minimum the delays to extra gangs and trains and will result in a saving of money which cannot be closely estimated.

Transferring Cars—When transferring grain, a big saving can be effected at points where it is possible to secure sufficient air pressure. One member reports the following results:

Transferring a carload of wheat by hand: 6 men, 10 hours at 30c an hour, $18; transferring by air: 2 men, 6 hours at 30c an hour, $3.60; with a small additional cost for the pumping of air, a saving by the latter method of $14.40 a car.

The transferring by air was accomplished by an arrangement consisting of a 4 in. pipe and attaching in one end an air nozzle similar to a back-up hose on a train, then attaching this to an air line, by which means the grain can be blown from one car to another.

There are many devices so universal in their use as to be practically a necessity for all roads, yet they have not been adopted. There should surely be no excuse for longer allowing a large force of men to dig ditches in a cut, when the ditching machine has reached the stage of perfection it has. Neither should there be an excuse for a large force of men wasting time and energy when machines can be secured which will accomplish the work with more safety and economy.

It has been truly said that no two railways are alike and for their maintenance requirements it may be as truly stated that no two sections are identical, what will prove of the greatest advantage on one road would be money uselessly expended on another. Therefore it is impractical for this committee to lay down hard and fast rules for the adoption of certain devices under all conditions. However, we are most earnestly convinced that the adjustment of little details very often means the ultimate success or failure of a machine or device.

Rail Handling Device—After the committee's report had been adopted, B. F. Brown, Supervisor, Boston and Maine Rd., Woodsville, N.H., gave the following description of a rail handling device in use on that line: The rail handling device we use, and of course there are many that answer the same purpose and do the same work, was designed by me in 1907 and put into operation that year. It is worked by compressed air taken from the train line into reservoirs and thence to the air hoist placed at each end of the car, with matched booms extending from the car at either end. The air hoists work each independently of the other. You can unload at one end and load on the other, or unload both at the same time. Each is independent of the other. The machine was thoroughly tested. As is the case with all new devices, our management requires a strict account of the performance, whatever the device may be, to compare with the work done by hand, or any other way, aside from the particular machine. On Oct. 27, 1907, with me in charge, and operating the rail loader, we distributed 160 tons of 75-lb. rails, from 5 high side coal cars, in 3 hours and 15 minutes, clearing for 3 trains during that time. The force consisted of one foreman at 30c an hour, and 8 laborers at 18c an hour. The total cost of labor for 3¼ hours was $5.66. If it had been done by hand it would have required a force of one foreman at $3 a day, and 40 laborers at $1.80 a day, making $75. There was a saving of 1-3 of a day with the loader against a full day by hand, or $69.34. That is exclusive of the train cost. I have many reports of work performed with the loader in distributing rails, from which the above were taken on account of its being an average day's work for a foreman and 40 laborers by hand. The old rates were in force at the time the work was performed. The saving would be increased in proportion to the increase in wages of laborers. In loading rails into high side cars, the loader will do work that would be impossible for any number of men to do by hand, and therefore there can be no comparison made of that. With the same force as used in the unloading, namely a foreman and 8 laborers, scattered rails may be picked from the ground into the coal cars at the rate of three rails a minute, with a train movement of ½-mile an hour. After giving a demonstration of the machine, a roadmaster said to me, "I do not want one of those, I would lose my work train in a week." But today he is the greatest rail machine man that I know of.

Piecework; an After War Problem.

By J. R. Macken, Montreal.

The greatest tragedy of modern history, the world war of 1914-1918, was pressed with relentless and ever developing energy by the entente nations, and brought to a final victorious conclusion, in the main, by the moral conviction that if mankind was destined for progress, autocracy must be destroyed beyond recovery. Democracy, which became in the verbosity of the paid politician, the utopian dream of a universal brotherhood, was preached broadcast and openly encouraged as a "win the war" measure. The evangelists of this ideal order of things found the masses willing converts, and labor welcomed the promised change which would level up the wide gulf that had existed for so long between the producer and the provider of the necessary capital to produce. In thus feeding labor with over doses of an advanced democracy, which, at the best, could only be a gradual and, probably, an inevitable development, with, or without, the great war, in our regular progression towards the millennium, there have been added many problems to our anticipated after-war troubles, and it is one of these, vitally affecting production, the writer proposes to discuss.

Piecework, as a means of increasing production, is just as old as the natural inclination of man to respond to encouragement. The only development of the principle has been in the conversion of the encouragement from mere words of praise, which, in earlier days, the "master" graciously gave to the "servant," to a bulkier pay envelop and increase his output. We gives to the efficient producer. Piecework, is operated in industrial plants, under many different systems, and many different names, but the underlying intention is similar throughout, viz.: the rewarding of the worker according to his physical or mental ability to develope and increase his output. We are not concerned very much with systems in this article, but rather with an analysis of our subject and an endeavor to explain away objections to piecework as a recognized method of manufacturing, or other shop operation, and the causes which may have given rise to the official opposition of labor.

At the first glance the definition of piecework—the remunerating of the producer, according to his ability to produce—would not appear to lend itself to such abuses that a large proportion of the labor community should vigorously, and, even bitterly, disclaim against its continuance, and, in many instances, with a full knowledge that the acceptance of their protest would result in a reduction of from 20% to 50% in their earnings. A condition of this kind requires some explanation, either with a view to confirming the protest or of locating the canker giving rise to it, and, if feasible, finding the cure. The following headings cover a wide field for investigation and the writer proposes to discuss the possibilities for abuse which each holds and the remedy which might be applied:—1. The system; 2. The application; 3. The object from the pieceworkers' point of view; 4. The object from the employers' point of view; 5. Results.

The System—Straight piecework has been claimed as the ideal system, the producer being paid just what he earns, when the total amount of work completed is turned into currency at so much per piece. There is no question of rate per hour or classification or basic trade. Ten articles, having a piece value of 10c each, have a wage value of $1, whether they are completed in one hour, or in 10 hours. Such a system lends itself to innumerable abuses. In principle, it is the exact opposite to trades unionism, as it does not require the recognition of trade at all. As a means of curtailing earnings, it provides unlimited possibilities. The piece value of a job must be set by some one responsible individual, and it is only necessary to set such a value sufficiently low to automatically control the possible earnings of the pieceworker. The straight piecework system should pass with the advance of democracy, and its passing carry no regrets either for the employer or the worker.

Any piecework system, be it premium or bonus, should initially accept the principle of the basic trade and the guaranteed rate, i.e.: the worker is hired first of all as a tradesman, and paid according to the recognized wage standard of his trade, and then is further remunerated for the extra physical, or mental, effort he puts into his work, at a piece value based upon his basic rate as a tradesman.. Here there is a direct incentive for the efficient worker to considerably add to his pay envelope, with a full knowledge that his extra effort has a direct translation into dollars and cents over and above his hourly rate, while his working time is fully protected at the recognized wage standard of his trade, and the setting of the piece price has a definite and easily checked value which, even at the worst, cannot represent less than the guaranteed rate paid per hour. For the employer, there is a positive return in the increased output of the worker another elimination of lost time, which, of course, has a money value, according to the rate paid per hour, while the guaranteed rate ensures the services of a skilled craftsman and a good finished job.

The Application—The very best of systems can only be applied and developed in the correct spirit if the responsible administration is fully alive to what is desired and departs not from the underlying intention. Only too often we find piecework systems administered by a personnel half auditors, half clerks, wholly out of sympathy with the tradesman, unfamiliar with mechanics, shop methods, shop organization and conditions, which so closely control the possibilities of output and frequently limit production, no matter what the physical effort of the pieceworker. When we recollect that any piecework system, to be at all successful, represents an additional outlay in wages of anything between 15% to 35% of the employers' payroll and that the return is shown only in increased production, reduced overhead and machinery charges, etc., it is really astonishing how haphazard a method has been followed, fairly generally, by the technical executive of manufacturing and other plants in selecting their piecework administrative personnel.

Piecework administration is responsible for setting the piece value of all work performed, and seeing that the shop organization and conditions are such that the average pieceworker may earn a reasonable bonus on his guaranteed hourly rating, by maintaining his output at the gait upon which the value has been set. Should the shop organization, or conditions, not permit this, either the original piece price should be revised, or the shop conditions improved. To permit the pieceworker to continue to work at a piecework gait, without alteration in either controlling conditions, is unjust and should not be tolerated. The piecework administration should, therefore, have enough organizing knowledge to improve shop conditions, when or wherever adversely affecting the earnings of the pieceworker, and as the earnings of the pieceworker and output are dependent one upon the other, the adjustment of the irregular shop conditions cannot militate against, but always in favor of, output. The piecework administration should have a sympathetic understanding of the labor conditions, and instead of taking advantage of irregularities which adversely affect output, treat them judiciously, and with a broad-minded understanding of how far the loss has been beyond the control of the pieceworker. No pieceworker should ever be penalized for a condition beyond his power to control.

From the foregoing, which but lightly touches upon the duties of a piecework administration, it will be readily noted that the personnel calls for considerable mechanical knowledge, executive ability, broad-minded and sympathetic administration and fair and honest dealings with labor. If the selection of the supervision is not guided along these lines, we are handing over a very important technical position, which carries a weighty influence upon the harmonious relations between the employer and the worker, to a personnel viewing its duties purely from a cost point of view, eager to snatch at mean advantages which penalize the pieceworker, and, inevitably, creating a spirit of distrust and suspicion in the mind of the worker, who will meet sharp practice with sharp practice, to the detriment of output, skimping of work and, finally, slander of piecework as a means for oppressing labor.

The Object, From the Pieceworkers' point of view. The day when the worker took a pride in his job, and in putting all his energy into his 12 or more hours of daily toil, just to keep the output on his bench, machine or shop ahead of the other fellow, has faded away with the stage coach and the postillion. We live, alas, in a mercenary age and "the almighty dollar is the thing." If the worker is producing under a piecework system, he knows that to increase his earnings over and above his guaranteed rate he must exert himself physically, or mentally, according to his occupation. That being so, he, very naturally, wants to know exactly how much this extra effort will be worth to him on next pay day, and should be in possession of the necessary information during the actual progress of his job, if not prior to the commencement of it. How often have we heard protesting pieceworkers disclaim, "I never know my price for any job, and when I believe I have earned $10 or $15, I get nothing extra at all in my pay envelope." The only object which interests the pieceworker is the development of his earning capacity, and to withhold complete information as to prices and earnings from the worker, who is putting extra effort into his daily toil, is scarcely believable, but, unfortunately, not infrequently practiced by inefficient piecework administration. The man who would not buy an article without an advance knowledge of the price, who would not, probably, sell his labor without an advance knowledge of the rate, is asked to exert himself physically and mentally, during the period of his working day, for an extra monetary consideration the value of which is unknown to him or when known uncheckable. We are asking much from modern labor when we impose such conditions, and that the protest should be bitter is not surprising.

The Object, From the Employers' Point of view. As stated already, the operation of a piecework system means an increase of from 15% to 35% in the shop payroll. For example, a shop carrying a payroll of $50,000 a month will pay out in bonus earnings from $7,500 to $17,500 a month. This addition to the payroll does not create a perfectly obvious inflation in the employer's net operating income, but, of course, actually does so in his reduced operating costs. The ability to produce in large quantities and with low operating costs is just what spells financial success to the manufacturer. The augmented output of the pieceworker enables the manufacturer to produce at a low unit cost, to undersell his competitor, to increase and extend his sales to the benefit of the consumer, the producer and himself.

There are two well-known makes of automobiles, one, an overseas product, is claimed to be produced by the efforts of the highest skilled mechanics, who are permitted to take their own time to complete any part, provided the finish of same is 100% perfect. This automobile is so costly in production that possession of one is to admit the owner into the exalted circle of war profiteers or heavily purpled nobility. There is another make of automobile, which is produced on this continent. This machine is modest (sic) in its claims for perfection, but it has never been known to buck a grade or let the other fellow 60 h.p. beat it on the level, and it is produced in such considerable quantities that labor and his family may enjoy all the delights of sniffing gasoline and "burning up the road" with a reasonably modest expenditure. These two examples represent the difference between augmented production, and what it means to the manufacturer, and production a secondary consideration, and what is means to the purchaser.

Results—The writer has endeavored to make an analysis of piecework and its troubles and from the foregoing consideration arrives at a finding on the following lines: The objections of labor to the piecework system of shop operation would appear to be reasonably well founded under certain conditions. 2. The cause for opposition has been, first, the system, second, the application. 3. The penalizing system known as "straight piecework" has to a large extent disappeared, and should be abolished completely. 4. The penalizing application has been due to careless selection of nontechnical, unsympathetic administration. 5. The remedy lies in the employer's own hands. The selection of a piecework administration should be as carefully made as any other executive. 6. Distrust and suspicion are prevalent, due to concealment of piece prices, sharp practice, etc. 7. Full and free information should be given the pieceworker, as to piece value and earnings. Uncontrollable loss in bonus to be protected either by adjustment of pricing, or improvement in conditions. 8. Fair and square dealings between employer and pieceworker will most surely result in the passing of labor's distrust and suspicion, and reciprocal honesty on both sides. 9. Piecework awards labor in direct proportion to physical or mental energy expended, increases earnings and production, reduces selling cost, and increases demand for labor. 10. Piecework reduces production cost, increases business and returns, and eliminates inefficient labor and waste time.

The Canadian Overseas Railway Construction Corps' Work in Belgium and France.

Lieut.-Col. C. W. P. Ramsey, C.M.G., who commanded the Canadian Overseas Railway Construction Corps, which left Canada in June, 1915, gave the following information in a recent talk:—

"Our work overseas was regarded as of considerable value to the combatant forces, and that work was largely due to the strong support we received from the first from the C.P.R. From the beginning of our organization to the time when we went overseas our work was aided in its entirety by the C.P.R. and its management, not only aided in our recruiting, but assisted in every way in the organization and equipment of the work. Further than that a very large percentage of the corps was supplied from the C.P.R. ranks. For the 900 men we needed there was keen competition. No less than 3,000 men, all experienced railway men, applied, and we had to do much careful work selecting the best men we could get for the work.

"We went over in June, 1915, and on reaching the other side there was little delay. We had two months in camp at Longmoor for training, after which we were sent over the English Channel. It was found then that the greatest need for railway work at the front was in Belgium, and we were sent there. We did not know just what the work was, but we were all keen for it, and we jumped in as hard as we could, every man doing his share with a desire to do all that he could.

"Our first work was at Dixmude, where we started in building concrete structures with a vast amount of miscellaneous work. From this we proceeded to the building of 10 miles of track, which was the first railway work done by the allied armies. The only previous railway was a wooden road, which was put down with wooden rails, with the idea of keeping down the noise so as to avoid warning the enemy of what was being done.

"Behind the British front, we put in the first advance railway for war purposes they had. Later on the British war people put in a great railway organization, which operated with much success back of the British front.

"The British had had a few railway men at work. But when the Canadians arrived the value of this work was at once seen, and the force grew very quickly so that the railway corps increased to 4,000, and eventually to over 100,000.

"In Feb., 1916, shipments of box cars began to arrive from Canada and the first plant for the erection of these cars was supplied from the equipment of the Canadian Railway Corps and installed at Andruicq.

"At that time a monster ammunition dump had been collected there, but the Germans, by their air service, and other means of information, had learned about it. Then when we had 20,000 tons of munitions and high explosives collected there, the Germans came and bombed it. The results were not pleasant, but there were only 40 or 50 Canadian casualties.

"Later on I went to the Somme front. They had tried in that area to handle transport, but all their roads had failed. They were trying to get railways to various points until the Canadians arrived. Then we built the most advanced railway in France, only 1,200 yards behind our front lines, which was a great saving in every way for our forces.

"In 1917 the Huns began their great retreat. It was evident that the retreat had been carefully planned long before, because anything that had not been carried away was blown up on a systematic plan. Further, they fixed time charges to blow up anything they could not get away with, in the hope that the charges later on would get the British troops, while other charges were so arranged that they would explode from the vibration of passing troops and material.

"During the summer of 1917 a large number of advanced railways had been that the November attack proved a success, 450 tanks being brought up under cover of night for the advanced troops in order to prepare for a surprise fire. But this was so well done that the November attack proved that a success, 450 tanks being brought up in one night, and brought up so well that the enemy never knew they were there until the attack developed.

"However, the Canadian Oversea-

Railway Construction Corps did two or three things during their service overseas that more than justified their existence. They laid the first standard gauge railway back of the lines. At that time their strength was only 500 men. Following that they increased their strength, and during the war they laid 400 out of 2,000 miles of track laid back of our lines. Eventually they finished their work by laying the tracks in the Valenciennes and Mons region, which had very much to do with the success of the closing operations of the war."

Orders by Board of Railway Commissioners for Canada.

Beginning with June, 1904, Canadian Railway and Marine World has published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed the paper have a continuous record of the board's proceedings. No other paper has done this.

General order 266. June 17.—Authorizing telegraph companies to charge tolls published in their respective tariffs filed with the Board, subject to such order or orders as the board may from time to time issue.

General order 267. June 27.—Amending general order 231, re standard conditions and specifications for wire crossings.

28,426. June 9.—Authorizing London & Port Stanley Ry. to build station at Talbot St., St. Thomas, Ont.

28,427. June 11.—Rescinding order 27,841, Nov. 7, 1918, re commodity rates on ferro-silicon from Welland and Thorold, Ont., and Shawinagan Falls, Que.

28,428. June 11.—Ordering G.T.R. to build farm crossings for J. B. Moffatt, A. Boucher, D. [illegible], J. Duchene, A. Champagne, and W. Roy, in Nelson Tp., between Dosquet and Lyster, Que.

28,429. June 12.—Authorizing Vancouver, Victoria & Eastern Ry. & Nav. Co. (G.N.R.), to remove station building at Lincoln to Colebrook, B.C., and replace it with a car body.

28,430. June 12.—Authorizing C.P.R. to operate new interlocking plant at Kempton, Ont.

28,431. June 12.—Authorizing C.P.R. to build spur for Western Canada Steel Co., Redcliffe, Alta.

28,432, 28,433. June 12.—Authorizing Canadian Northern Ontario Ry. to rebuild bridges over Christie Road, Foley Tp. and Front St., Thorold, Ont.

28,434. June 12.—Authorizing London & Port Stanley Ry. to build branch line between G.T.R. at [illegible] St. and to extend the freight shed track south to Kain St., St. Thomas, Ont.

28,435. June 13.—Extending to July 15, time within which Canadian National Rys. may build third class station at Durban, Man.

28,436. June 13.—Ordering C.P.R. to file supplement to tariff W. 2,397, adding to item 87A of supplement [illegible] the 8th class rating for carload shipments of not less than 30,000 lbs. on all items of poultry food enumerated, and dismissing application of Taylor Milling & Elevator Co., Lethbridge, Alta., for privilege of including l.c.l. lots of poultry food with grain products at carload rates.

28,437. June 13.—Approving G.T.R. location and detail plans of passenger shelter at Jamiesons Siding, Ont.

28,438. June 12.—Authorizing C.P.R. to build extension to spur for North American Collieries Ltd., Edmonton, Alta.

28,439. June 13.—Authorizing Canadian National Rys. to build Y on n.e. ¼, Sec. 14, Tp. [illegible], Range 2, west 3rd meridian, Sask.

28,440. June 13.—Authorizing Canadian Northern Ontario Ry. to rebuild bridge over Irwin Creek, Laura Tp., Sudbury District.

28,441. June 12.—Approving Canadian Northern Quebec Ry. plans of dam across North River for Canadian Consolidated Rubber Co., St. Jerome, Que.

28,442. June 14.—Authorizing C.P.R. to build drainage for conveying water from its tracks between mileage 21.5 and 23.0, near St. Cleophas, Que.

28,443. June 13.—Authorizing C.P.R. to divert Fort Ellice Trail at the east end of Rocanville station grounds, Sask.

28,444. June 12.—Authorizing City of Ladysmith, B.C. to make highway crossing over Esquimalt & Nanaimo Ry., north of station.

28,445. June 12.—Authorizing C.P.R. to remove agent at Illecillewaet, B.C., caretaker to be appointed.

28,446. June 17.—Authorizing Canadian National Rys. to cross highways on its Jackfish Lake Branch, through Tps. 51 to 55, Ranges 21 to 24, west 3rd meridian, Sask.

28,447. June 14.—Authorizing C.P.R. to build spur for Peterborough Cereal Co., Peterborough, Ont.

28,448. June 18.—Ordering Grand Trunk Pacific Ry. to make highway crossing over its tracks at [illegible] Fort George District, B.C., construction and maintenance to be paid by British Columbia.

28,449. June 18.—Amending order 28,417, June [illegible] agent at Baxter station, Ont.

28,450. June 13.—Relieving Grand Trunk Pacific Ry. from providing further protection at crossing of main line between Saskatoon and Yorath Jct., Sask.

28,451. June 18.—Approving C.P.R. plans of bridge to be built at Hunter St., Peterborough, Ont.

28,452. June 18.—Authorizing Grand Trunk Pacific Ry. to make crossing over its tracks at mileage 1115, Fort George District, near Croydon, B.C., construction and maintenance to be paid by the province.

28,453. June 18.—Authorizing Algoma Eastern Ry. to discontinue signalman at crossing of its main line by Canadian Copper Co.'s spur at Copper Cliff Jct., Ont.

28,454. June 18.—Authorizing City of St. Boniface, Man. to make highway crossing over C.P.R. at Dupuy Ave.

28,455, 28,456. June 16, 17. 'Authorizing Hydro Electric Power Commission of Ontario to build power canal and construction railway across Toronto & Niagara Power Co.'s and Toronto, Niagara & Western Ry.'s right of way in Stamford Tp., Ont.

28,457. June 24.—Approving C.P.R. bylaw authorizing Vice President, Freight Traffic Manager, Assistant Freight Traffic Manager, Eastern Lines, and Assistant Freight Traffic Manager, Western Lines, to issue tariffs of tolls for carriage of freight upon its railway and vessels, and also authorizing the Passenger Traffic Manager to issue tariffs of tolls for passengers.

28,458. June 23.—Approving G.T.R. plan of location and details of stock pens to be built at Thornbury, Ont.

28,459. June 23.—Authorizing Grand Trunk Pacific Ry. to build spur for Dome Mountain Lumber Co. at mileage 1189.23, British Columbia.

28,460. June 23.—Authorizing Canadian Northern Ontario Ry. to rebuild bridge at Orient Bay, mileage 43.5 from Jellicoe, Ont.

28,461. June 23.—Authorizing C.P.R. to build extension to passing siding at mileage 24.75, Prescott Subdivision, Ont.

28,462. June 19.—Authorizing C.P.R. to rebuild bridge 65.1 over Massawippi River, near Lennoxville, Ont.

28,463. June 20.—Authorizing G.T.R. to rebuild bridge carrying highway over its tracks at mileage 16.08, Hamilton Division, Ont.

28,464. June 19.—Authorizing C.P.R. to rebuild bridge 46.9 over Eaton River near Cookshire, Que.

28,465. June 19.—Approving G.T.R. plans of interlocking plant to be built at swing span in bridge over Richelieu River, at Beloeil, Que.

28,466. June 21.—Authorizing St. Laurent municipality, Man., to make highway crossing over Canadian National Rys. in Lot 14.

28,467. June 21.—Authorizing Grand Trunk Pacific Branch Lines Co. to cross highway at mileage 105.5, Sec. 48, Range 26, Tp. 28, west 2nd meridian, Sask.

28,468. June 21.—Authorizing Canadian National Rys. to cross and divert highway between Secs. 26 and 23, Tp. 48, Range 26, west 3rd meridian, Sask.

28,469. June 21.—Authorizing C.P.R. to divert road allowance on north boundary of northeast ¼ Sec. 20, Tp. 14, Range 32, west 1st meridian, at mileage 95, Sask.

28,470 to 28,473. June 23.—Authorizing Canadian Northwestern Ry. to cross 4 highways in Alberta.

28,474. June 21.—Authorizing Quebec, Montreal & Southern Ry. to build timber trestle over Salvial River at mileage 18½ from Junction to Bellevue, to replace steel structure there which was destroyed by landslide Apr. 16.

28,475. June 26.—Authorizing Ferris Tp., Ont., to make crossing over G.T.R. on Lot 28, Con. 5.

28,476 June 25.—Extending to Oct. 31, time for installation of interlockers at crossing of Canadian National Rys. by Fort William Municipal Ry., at intersection of Victoria Ave. and Vickers St., Fort William, Ont.

28,477, 28,478. June 19.—Authorizing Eastern Canadian Passenger Association, to publish for three weeks in Canada Gazette, rule 23 for regulations governing baggage car traffic in Canada, respecting free storage period, and rule 26 (d) of regulations governing baggage car traffic respecting notice of nondelivery, loss or damage to baggage.

28,479. June 25.—Ordering that crossing by Vancouver, Victoria & Eastern Ry. and Navigation Co. of British Columbia Electric Ry. on Harris St., Vancouver, be protected by interlocking plant with derails on V.V. & E. Ry. and signals on B.C.E.R.

28,480. June 17.—Authorizing Eastern Canadian Passenger Association to publish general orders 191 and 262, May 26, 1919 and May 8, 1919, respectively, re rules governing baggage car traffic, in two issues of the Canada Gazette.

28,481. June 25.—Approving proposed G.T.R. passenger train service between Montreal and Ottawa, effective June 29.

28,482. June 26.—Ordering Pere Marquette Rd. within 30 days to furnish an adequate supply of drinking water at Blenheim station, Ont.

28,483. June 28.—Suspending, pending hearing, cancellation by Bell Telephone Co. of district rates between Weston and Islington, New Toronto; Dundas and Hamilton; Ridgeville-Welland and Marshville; Wellandport and Smithville; and Rockwood and Guelph, Ont.

28,484. June 19.—Authorizing C.P.R. to connect interchange track with St. John & Quebec Ry. at mileage 49.22, Shogomac Subdivision, N.B.

28,485. June 24.—Approving C.P.R. plan F-14-8B, June 10, standard bridge warning, and rescinding order 13,468, Apr. 20, 1911.

28,486. June 26.—Authorizing Canadian Northern Saskatchewan Ry. to cross and divert road between Sec. 35, Range 25, and Sec. 2, Range 26, Tp. 1, west 2nd meridian, Sask., 400 ft. west of location approved by order 24,612, Dec. 1, 1915.

28,487. June 30.—Authorizing Canadian National Rys. to rebuild bridge over Trent River at Glen Ross, Ont.

28,488. June 24. — Approving Niagara, St. Catharines & Toronto Ry. of proposed interlocking plant at crossing at G.T.R. on Elm St., Port Colborne, Ont., and rescinding order 27,545.

28,489. June 27.—Ordering Canadian Northern Quebec Ry. to build shelter and platform at Fitzgerald, Que., and to stop local trains 81 and 82 regularly for milk traffic.

28,490. June 30.—Authorizing C.P.R. to build Y at mileage 92.65, Sherbrooke Subdivision, in Bolton Tp., Que., within three months.

28,491. June 30.—Authorizing C.P.R. to rebuild bridge 33.7 over Stulkawhits Creek, Cascade Subdivision, B.C.

28,492. June 27.—Recommending to Governor in council for sanction, St. Lawrence and Adirondack Ry. operating rules.

28,493. June 27.—Recommending to Governor in council for sanction U.S. Railroad Administration's rules for Ottawa & New York Ry.

28,494. June 27.—Extending to June 5, 1920, time for building C.P.R. spur for Dryden Timber and Power Co., near Eagle River, Ont.

28,495. June 30.—Approving C.P.R. station to be built at Horizon, Sask.

28,496. July 8.—Approving portion of C.P.R. Langdon North Branch location mileage 71 to 122.74 and authorizing the crossing of a number of highways at grade.

28,497. July 7.—Ordering Toronto, Hamilton and Buffalo Ry. to convey certain lands to Saltfleet Tp., Ont., for highway purposes, and authorizing C.P.R. to build bridge over its tracks near Vinemount, Ont.

28,498. July 3.—Ordering C.P.R. to make the necessary arrangements forthwith to have a man on duty at St. Hugues station, Que., to attend last train at night and close up premises.

28,499. July 4.—Relieving Canadian National Rys. from providing further protection at crossing of Richmond Road, Bells Corners, Ont.

28,500. July 3.—Approving agreement, June 21, between Bell Telephone Co. and Normanby Telephone Co.

28,501, 28,502. July 4.—Authorizing Canadian National Rys. to build spurs for P. Burns & Co., Prince Albert, Sask., and Excelsior Coal Co., near Wayne, Alta.

28,503. July 4.—Authorizing C.P.R., pending further order, to remove station agent at Windy Lake, Ont.

28,504. July 3.—Authorizing G.T.R. to operate over C.P.R. Weyburn-Lethbridge and Soo Branches, at Weyburn, Sask., until Jan. 1, 1920, pending installation of interlocking plant, crossings to be protected by flagmen.

28,505. July 4.—Amending order 28,368 re Canadian Northern Western Rd., location from mileage 92.40 to 128.68.

28,506. July 3.—Extending to July 31, time within which the work required to bbe done at Chatham, Ont., by the G.T.R. under order 27,940, Dec. 16, 1918, may be completed.

28,507. July 4.—Authorizing Niagara, St. Catharines and Toronto Ry. Co. to build spur for Reid Bros., Niagara Falls, Ont.

28,508. July 8.—Approving agreement Apr., 1919, between Bell Telephone Co. and Ayton Telephone Co.

28,509. July 8.—Approving plan of station at Mille Roches, Ont., to be built under order 28,226, Apr. 10.

28,510. July 8.—Recommending to Governor in councl for sanction C.P.R. bylaw 97, amending general train and interlocking rules.

28,511. July 8.—Ordering C.P.R. to provide proper station building at Vantage, Sask.

28,512. July 8. Extending time within which C.P.R. is to complete installation of automatic bell at crossing of Bull St., Woodstock, N.B., for 30 days from date.

28,513. July 9.—Ordering C.P.R. to connect N. M. Paterson & Co.'s elevator spur on Montreal St., Fort William, Ont.

28,514. July 8.—Authorizing C.P.R. to rebuild 12, Greere Ave. subway, Montreal Terminals.

28,515. July 10.—Authorizing Montreal & Southern Counties Ry. to build siding from Common St., Montreal, crossing G.T.R. and Montreal Tramways Co.'s tracks 1581 and 1582, St. Anne's ward.

28,516. July 10.—Ordering Grand Trunk Pacific Ry. to provide a one-car stock pen at Cedoux station, Sask., within 30 days.

28,517. July 8.—Approving location of portion of C.P.R. Archive-Wymark Branch, mileage 0 to 25.2.

28,518. July 11.—Dismissing complaint of Ontario Paper Co., Thorold, Ont., against rate of 22c per 100 lbs. on newsprint from Thorold to Chicago charged by G.T.R.

28,519. July 9.—Authorizing Canadian Northern Saskatchewan Ry. to build across and divert highway in the n.e. ¼, Sec. 33, Tp., 22, Range 9, west 3rd meridian.

28,520. July 12.—Extending to Oct. 1, time within which C.P.R. may complete spur track authorized by order 26,728.

28,521. July 9.—Authorizing C.P.R. to build spur for Colonial Co., mileage 90.52, Chalk River, Subdivision.

28,522. July 10.—Authorizing G.T.R. to build spur for Libby, McNeill & Libby of Canada, Ltd., Chatham, Ont.

28,523. July 12.—Ordering Grand Trunk Pacific Ry. to appoint caretaker at LeRoss, station, Sask.

28,524. July 12.—Approving Canadian National Rys. plan, showing alterations to station building at Manville, Alta.

28,525. July 10.—Authorizing Grand Trunk Pacific Ry. to cross and divert highway at mileage 629.8 in east half of Sec. 10, Tp. 43, Range, 1, west 4th meridian, Alta.

28,526. July 12.—Authorizing Kettle Valley Ry. to open for traffic, extension of its North Fork Branch from mileage 19, Grand Forks to Franklin Camp, to mileage 20.3.

28,527. July 14.—Authorizing Alberta Public Works Department to make highway crossing over C.P.R. in n.e. ¼, Sec. 12, Tp. 40, Range 27, 4th west meridian.

28,528. July 10.—Authorizing G.T.R. to build timber trestle 135 over creek at mileage 31.20, from Lndsay, Ont.

28,529. July 11.—Approving Esquimalt & Nanaimo Ry. bylaw 63 and rescinding orders 5,126 and 25,641.

28,530. July 11.—Dismissing application of holders of property and ratepayers at St. Eustache, Que., for order directing Canadian National Rys. to build station at a point on Range du Lac, near the Oka Road.

28,531. July 9.—Approving agreement between Bell Telephone Co. and Byron Telephone Co., and rescinding order 21,902.

28,532. July 10.—Approving plan showing dwarf signal 7, Michigan Central Rd., changed to a high signal to improve engineers' view for tower 2, Windsor, Ont.

28,533. July 9.—Authorizing Canadian Northern Saskatchewan Ry. to build across and divert highway in n.w. ¼, Sec. 19, Tp. 22, Range 9, west 3rd meridian.

28,534. July 11.—Authorizing C.P.R. to make highway crossing between Secs. 2 and 3, Thessalon Tp., Ont.

28,535. July 10.—Authorizing Saskatchewan Highways Department to make highway crossing over Canadian National Rys. in s.w. ¼, Sec. 5, Tp. 11, Range 4, west 3rd meridian.

28,536. July 11.—Authorizing G.T.R. to use bridge 125, over Pottawattami River, Owen Sound, Ont.

28,537. July 12. Dismissing Chicoutimi Pulp Co.'s complaint, relative to rates on woodpulp from Chicoutimi and Val Jalbert, Que., to U.S. points.

28,538. July 9.—Authorizing C.P.R. to divert road allowance at mileage 16.6, Lac du Bonnet Subdivision, Man.

28,539. July 10. Authorizing Michigan Central Rd. to build spur for Imperial Tobacco Co., Mersea Tp., Ont.

28,540. July 12.—Relieving C.P.R. from providing further protection at crossing east of Oshawa, Ont.

28,541. July 11. Dismissing application of residents, Notre Dame de Grace Ward, Montreal, Montreal, for order authorizing City of Montreal and C.P.R. to build subway at Oxford Ave.

28,542. July 11. Ordering C.P.R. to build new freight shed and team tracks at Kingston, Ont.

28,543. July 15.—Ordering Canadian National Rys. to build freight and passenger shelter station and one-car stock pen and shed at Katrine, Man.

28,544. July 14.—Ordering C.P.R. to build permanent culvert with opening 20 ft. wide at mileage 37.56, near Golden, B.C.

28,545. July 16.—Authorizing City of Port Arthur, Ont., to build temporary roadway across C.P.R. at northerly end of city.

28,545. July 16.—Authorizing City of Port Arthur, Ont., to build temporary roadway across C.P.R. at northerly end of city.

28,546 and 28,547. July 16.—Ordering Michigan Central Rd. to install wig-wag signals at Ferry Road crossing and Bender Ave., Niagara Falls, Ont.

28,548. July 15.—Authorizing London & Port Stanley Ry. to build a footpath on its trestle over Kettle Creek, Yarmouth Tp.

28,549. July 21.—Authorizing C.P.R. to build a grade across Victoria St., Cobourg, Ont., spur to connect with the Hydro Electric Power Commission's pole yard tracks mileage 32.78, Oshawa Subdivision.

28,550. July 18.—Authorizing C.P.R. to build branch for C. H. Boyd, Moose Jaw, Sask.

28,551. July 21. Amending order 14,485, Aug. 2, 1911, re authorized crossings.

28,552. July 21.—Authorizing Esquimalt & Naimo Ry. to rearrange spur, built for Imperial Munitions Board under, order 26,506.

28,553. July 21.—Authorizing G.T.R. to rebuild bridge between Lots 150 and 151 in Range St. Edward, and Lot 313, St. Patrick. St. Liboire Parish, Que.

28,554 and 28,555. July 18.—Authorizing Canadian National Rys. to rebuild bridges over Burnt Creek, Neelon Tp., Ont., and over Shawanaga River, mileage 16.5, from Parry Sound, Ont.

28,556. July 21.—Approving G.T.R. plan showing elevation and location of station and freight house at Gravenhurst, Ont., and authorizing it to build three additional tracks across Church St., Gravenhurst, Ont.

28,557. July 18. Authorizing Canadian National Rys. to rebuild bridge over Irwin Creek, mileage 89.10 from Parry Sound, Ont., and rescinding order 28,440.

28,558. July 22.—Approving Esquimalt & Nanaimo Ry. crossing of Burrard Sawmills, tracks to Deep Bay, B.C.

28,559. July 22. Authorizing Canadian National Rys. to build branch line for Imperial Oil Co., Dauphin, Man.

28,560. July 18.—Authorizing Canadian National Rys. bridge over Laronde River, mileage 71.7 from Brent, Ont.

28,561. July 22.—Approving form A and B containing conditions of acceptance of Marconigrams for transmission via C.P.R. and Great North Western Telegraph and Western Union Telegraph Cos., respectively.

Fuel Consumption on Railways in 1917-18.

The consumption of fuel of all kinds on Canadian railways, as reported by the Railways Department, increased from 10,130,.799 tons in the year ended June 30, 1917, to 10,173,344 tons in the year ended June 30, 1918. The average cost for 1917-1918 was $5.17 a ton, against $3.63 a ton for 1916-1917. Following are details:

Class of locomotive.	Coal. Anthracite.	Coal. Bituminous.	Wood. Hard.	Wood. Soft.	Other Fuel Oil.	Other Fuel Charcoal	Total	Miles Run.
	Tons	Tons	Cords	Cords.	Gallons.	Bushels	Tons	
Freight	1,143	5,644,451	—	22,093	29,869,871	59,054	5,852,935	[illegible]
Passenger	665	2,002,343		12,915	14,118,330	39,738	2,092,912	[illegible]
Mixed	1,475	455,316	159	2,394	1,181,725	3,988	445,058	[illegible]
Switching	....	1,427,370	—	8,047	3,872,502	21,124	1,454,384	[illegible]
Special	.	307,143		972	3,465,100	4,211	328,055	[illegible]
Total	3,283	9,836,623	159	46,421	52,507,528	128,115	10,173,344	[illegible]

The total quantity of the fuel consumed by locomotives in the different services, together with the quantity consumed, and the cost of the same per 100 miles, were as follows:

	Tons consumed. 1917-18	Tons consumed. 1916-17	Tons consumed and cost per 100 miles. 1917-18	1916-17	1917-18	1916-17
Freight	5,852,935	5,675,606	9.15	8.23	$47.30	$29.87
Passenger	2,092,911	2,127,621	5.12	4.83	26.47	17.53
Mixed	445,058	524,917	5.64	6.09	29.1[illegible]	22.10
Switching	1,454,384	1,163,820	5.09	5.1[illegible]	[illegible]1.17	18.62
Construction and special	328,055	338,835	6.03	2.38		7.91
	10,173,344	10,130,799				

Canadian National Railways Earnings.

The gross earnings of the system from Jan. 1, compared with those for the same period of 1918, are as follows:

	1919	1918
January	$ 6,744,018	$ 4,696,567
February	6,000,312	4,421,504
March	6,827,491	5,710,660
April	6,909,632	7,165,890
May	7,518,244	6,580,745
June	6,009,585	6,868,864
	$40,009,585	$35,444,230

Approximate earnings for three weeks ended July 21, $4,939,254, against $3,491,894 for same period 1918.

Canadian Northern Railway Earnings.

	1919	1918
January	$ 4,026,000	$ 2,715,300
February	3,363,800	2,691,000
March	3,554,350	3,436,300
April	3,878,149	3,958,100
May	4,337,750	3,762,000
	$19,160,049	$16,562,700

Canadian Pacific Railway Earnings, Expenses, Etc.

Gross earnings, working expenses, net earnings, and increases or decreases, from Jan. 1, 1919, compared with those of 1918:

	Gross	Expenses	Net	Increases or decreases
Jan.	$13,028,328	$11,474,816	$1,553,512	$ 385,519
Feb.	11,064,167	10,083,051	981,116	390,218
Mar.	12,374,182	10,835,138	1,539,044	*1,453,737
Apr.	13,108,905	11,020,281	2,088,624	*1,566,765
May	13,569,411	10,535,650	3,033,761	*654,015
June	13,577,274	10,586,852	2,990,422	178,274
	$76,722,267	$64,535,789	$12,186,478	*$2,520,506
Incr.	$ 4,709,981	$ 7,320,487		
Decr.			$ 2,520,506	

*Decreases.

Approximate earnings for three weeks ended July 21, $9,647,000 against $8,119,000 for same period 1918.

Grand Trunk Railway Earnngs, Expenses, Etc.

The figures as reported are in pounds sterling, and are converted into currency at $4.87

Gross earnings, working expenses, net earnings and increases or decreases compared with these for 1918, from Jan. 1, 1919:

	Gross	Expenses	Net	Increases or decreases
Jan.	$ 4,405,402	$ 5,121,779	x$ 716,377	*$ 81,816
Feb.	4,090,800	4,401,019	x 310,219	660,372
Mar.	5,517,223	4,676,174	841,049	763,616
Apr.	5,360,896	4,604,585	756,311	97,017
May	5,275,671	4,606,533	669,138	*[illegible]
	$24,649,992	$23,410,090	$1,239,902	*1,398,664
Incr.	$ 5,727,120	$ 4,328,456		
Decr.			$1,398,664	

xDeficits. *Decreases.

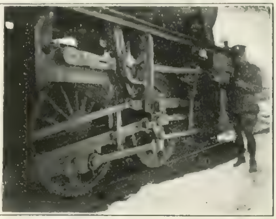
Government Loan for Canadian Northern Railway—The House of Commons on June 5, voted $35,000,000 as a loan, repayable on demand, with 6% interest, to be used to meet expenditures made or indebtedness incurred in paying interest on securities in excess of amount available from net earnings, or paying maturing loans of the Canadian Northern Ry. or any company included in the C.N.R. system, and for construction and betterments; the loan to be secured by mortgage upon the undertaking of the C.N.R. system, containing such terms and conditions as the government may approve.

Features of German Rolling Stock.

The rolling stock handed over to the allies by the Germans in accordance with the armistice terms, contained many points of constructional design that were of interest to anyone accustomed only to American practice. The writer was fortunate in being able to examine quite a number of locomotives, as well as other freight and passenger equipment in France and Belgium.

The freight equipment seen, was almost entirely of the same type—small 4-wheel wooden box cars, with the usual wooden side slide door. They give the impression of more careful finish than does the American car, corresponding in that regard to the finish customary with the usual American refrigerator cars.

German Locomotive Feed Water Heater.


German Locomotive Walschaert Valve Gear.

German Locomotive Feed Pump and Markings.

Many of them were in general use for transporting troops, and are much more air-tight than the usual box cars.

Many types of passenger cars have been turned over, varying from the old short cars, to the modern express passenger cars, which appear to be from 60 to 70 ft. long. Some of the more recent ones are very handsomely finished both inside and out, and some are of a semi-steel construction. Of these recent cars, the compartment type, similar to recent English practice except that they have end entrances only, seems to be the prevailing type, but as the clearances on the continental lines are considerably greater than in England, they are much more roomy, with wider and higher compartments and corridors.

The accompanying illustrations are of some of the motive power taken over. There is a wide variety of types, of various ages. The illustrations show some of the refinements introduced in the latest types. In this particular instance, the locomotive is an 8-wheel switcher, built in 1918, and consequently of the most recent type. On the running board is a feed water heater of simple design, arranged in a very accessible position. The lagged pipe along the top of the running board carries the exhaust steam back to the heater. The locomotive may be operated either with or without the heater, of the simple system of piping shown. Just back of the check valve, there is three-way valve, from which are four pipe connections. The front one is to the check valve; the central one, running to the rear, is the direct feed connection; while the top and bottom ones connect with the heater. When operating without the heater, the water comes through the direct connection, straight through the 3-way valve, and on to the check valve. When operating with the heater, it passes from the direct connection, back through the heater by way of the 3-way valve, and thence back through the 3-way valve to the check valve. The whole operation is controlled at the 3-way valve.

Another interesting feature to be noted is the feed water pump, located on the running board alongside the air pump, immediately in front of the cab. This is a simple, vertical-acting pump, in general appearance very similar to the air pump. The pump must have proved very dependable, as no auxiliary pump or injector was applied on the locomotive examined.

The type of Walschaert valve gear used on the recent locomotive is shown. In most particulars, it seems to be very similar to existing American practice.

The allies' practice of marking the German rolling stock, is shown on the locomotive cab. All the German rolling stock seen, was from the several German state railways and all were adorned with the German double eagle. This was very unceremoniously obliterated by the simple means of a rough paint daubed cross over the double eagle plate. Adjoining is stencilled the allies' marking, which are in three lines: "Cirm," for the operating commission; "Guerre," war service; and either "France," "Anglais," "Belge," or "Etats-unis," depending on the ally to which they are allocated. All acquired rolling stock is marked in this manner..

From a motive power standpoint, the situation that prevailed after the armistice was most interesting, as there were then operating, frequently on the same lines, French, Belgian, British, American and German locomotives, all quite distinctive in design. The same applied in a somewhat lesser degree, to freight and passenger equipment. Were it not that each army looked after the maintenance of its own equipment, the problem of maintenance and repair would have been a very troublesome matter.

Railway Finance, Meetings, Etc.

Canadian Northern Ry.—The House of Commons on July 5, passed a vote of $35,000,000 by way of loan at 6%, repayable on demand, to be used to meet expenditures made, or indebtedness incurred, in paying interest on securities in excess of the amount available from net earnings, or paying maturing loans of the C.N.R. or any company included in the C.N.R. system and for construction and betterments; the loan to be secured by mortgage upon the undertaking of the C.N.R. system, the mortgage to set out such terms and conditions as the government may approve.

W. A. Read and Co. are credited by a press dispatch as stating that the $10,000,000 C.N.R., 2½-year and 5-year notes offered by them on a 6% basis have all been sold. The last previous issue of C.N.R. notes secured by familiar collateral matured Sept., 1918, and was paid off in cash and the new issue is in effect a deferred refunding operation.

Duluth, South Shore and Atlantic Ry.—The annual report for 1918, of this C.P.R. subsidiary, shows a deficit after payment of taxes and fixed charges of $417,131, compared with a deficit of $69,- for 1917. The U.S. Railroad Administration's operating account is not given in the report.

Grand Trunk Pacific Ry.—Interest on the company's bonds to the amount of about $2,000,000 fell due July 1. An Ottawa dispatch, July 1, stated that it had been intimated that the Grand Trunk Ry. would take care of its liability for such of the bonds as it had guaranteed. The Dominion Government is the guarantor of the balance.

Timiskaming and Northern Ontario Ry.—Passenger earnings for April, $79,431.89; freight earnings, $155,056.22; total earnings, $234,488.11, against $55,547.60 passenger earnings; $238,616.16 freight earnings; $294,163.76 total earnings, for April, 1918.

Watchmen at Crossings. The Board of Railway Commissioners has issued a circular stating that it has considered replies from various railways, in answer to its letter of Mar. 4, re watchmen at crossings, where there are more than four tracks, when gates are out of order, and is of the opinion that it will be sufficient for the present if the railway companies undertake to appoint two watchmen in such cases, and when the traffic or other conditions justify the same, for the public's adequate protection. Railway companies are requested to file an undertaking on the lines as set above, together with a statement in detail of the crossings involved.

The Grand Trunk Railway's Chairman States Company's Case for Consideration.

A special general meeting of the Grand Trunk Ry. Co. of Canada was in London, Eng., June 30, for the purpose of submitting the Grand Trunk Act, 1919, together with a resolution authorizing the directors to create and issue the perpetual 4% consolidated debenture stock under the powers conferred by the act.

A. W. Smithers, M.P., the company's chairman, who presided, said: "The bill we introduced into the present session of the Canadian Parliament to increase our borrowing powers by the creation of £2,500,000 4% debenture stock, has been passed by parliament and received the royal assent, and we have called you together today for the purpose of obtaining your approval of the act. As the government has not yet made any proposition to us beyond its original and only offer, it is necessary for the company to carry on its business in the meantime and perform its duties to the public, and the powers given under this act are to enable us to carry out necessary financing. This is the act which I told you at our special meeting on Mar. 21 was held up by the parliamentary committee in Canada. The holding up of the act was naturally an aggravation of our difficulties, and I expressed the great regrets of the board that such action should have been taken. I am glad to say, as the result of that special meeting—at which, you will remember a resolution was passed conveying to the government that the original and only offer made by the government was insufficient to effect a friendly settlement—the proprietors desired the board to convey to the government their wish for a friendly settlement.

"The resolution of the meeting was conveyed to the then acting Premier, Sir Thos. White, by our President in Canada, H. G. Kelley, and Sir Thos. White promised that the bill would proceed, and it is that bill to which we ask your assent today. As you know, we were able to form a committee to consult with on behalf of the shareholders, of some of the first bankers in London, and we agreed on terms which we thought we could recommend the shareholders to accept, and Mr. Kelley has been in negotiation with the government since April. Sir Thos. White announced in the Canadian House of Commons on more than one occasion that the government did not wish to treat us harshly. Still, nothing was done. Of course, we realized that the Prime Minister was absent in Europe attending the Peace Conference. Sir Robert Borden returned to Canada about May 25, and we hoped that the government would then make a move. Unfortunately, labor troubles had developed, and this may have prevented Sir Robert giving the Grand Trunk Ry. negotiations the attention for which we were all anxiously waiting. In my speech on Mar. 21, supplemented by the one I made at the annual meeting on April 28, I fully stated our case, and both statements were unanimously approved.

"We are in our present position today from circumstances entirely beyond our control—viz: enormously increased expenses, arising from high wages and increased cost of material, and not being allowed sufficent increase of rates to meet the increased expenditure. In one way or another, the governments of Canada, America and Great Britain have had to assist the railways under present exceptional conditions, and the only railway, left to its own resources is the G.T.R., the oldest railway in Canada, which has rendered 65 years of service, which has received practically no assistance from the government in all that long period, and which has rendered splendid service to the country during the war, as the following figures will show:—Our gross traffic in 1913, the year before the war, was £9,133,000, and we were able to pay the full dividends for the year on the guaranteed and first and second preference stocks, and 2½% on the third preference, or a total amount of £973,000 divided among the shareholders for 1913. In 1918 our gross traffic was £12,655,000, an increase of £3,522,000 on that of 1913, and we distributed £973,000 less; or, in other words, we only covered our fixed charges, and the shareholders received nothing. Similar conditions prevailed in 1917. Thus, for two years, when the company was carrying immense traffics and performing splendid service to Canada, the shareholders received nothing. Thus, had we been treated as the British Government treated the British railways, the shareholders would have received £973,000 in each of the years 1917 and 1918, instead of nothing, or if the immense traffic we carried in those years had been carried under pre-war conditions, we could have paid a dividend on the ordinary stock. The government knows we wish to make a friendly settlement; the government has declared in parliament it does not wish to deal harshly with us.

"In Jan., 1918, the government asked the board to name the amount we would be prepared to recommend the shareholders to take for their property as an annual payment beyond the fixed charges. We did so. The government did not accept our offer, and made a counter offer in Mar., 1918. Ever since that time we have been negotiating. We have continually reduced our terms, in order to do our utmost to come to a friendly agreement. The government has not altered its terms and it is impossible on its terms to come to a friendly agreement, as their acceptance would mean, as I have pointed out on several occasions, the confiscation of a considerable portion of the shareholders' property. The difference now between us, although vital to the attainment of a friendly settlement, is comparatively a small thing for Canada. We are not asking for any consideration for any stock only represented by paper; we are only asking for fair consideration for actual money actually put into the undertaking. The money for which we ask consideration was not invested with the idea of great reward. A little over 4% interest was the inducement to the investor, and such a low rate certainly showed the faith of the British investor in the stability and future of Canada. Was that faith justified or was it not? I for one cannot doubt the answer, but is it right, when we have just emerged victoriously from the most terrible war in history, that a company which has so largely contributed to the prosperity and upbuilding of Canada, and which has rendered such splendid service during that war, contributing its full share to its success, should be left for nearly two years in a state of anxious suspense?

"There are thousands of poor and suffering shareholders, scattered throughout the length and breadth of the British Isles, who have either put their hard-earned money into the company expecting a moderate return, or they have invested their money in their belief in the future of Canada, which has been so eloquently and frequently expatiated upon by Canadian statesmen. In the terms we have proposed we have taken no account of the future, and we could only carry those terms by asking you—all of each class of security other than the fixed charges—to make some sacrifice in order to arrive at a friendly settlement. Surely it cannot be for the honor or interest of Canada, the leading British Dominion overseas, to keep these anxious people longer in suspense. Their suffering is very real, and I again on their behalf and on yours, appeal to the Canadian Government for a fair and speedy settlement."

In reply to remarks by shareholders, the chairman said: "I am very much obliged for the various criticisms which have been made, and I heartily agree with nearly all that has been said, but I am sure you will realize that, whatever our difficulties are, those difficulties will be best surmounted by a united board and a united body of shareholders. With regard to Mr. Woodward's suggestion as to asking the Imperial Parliament to interfere in this matter, well I will not go so far as to say that under no circumstances could that be done, but I will go so far as to say that it would be a most delicate matter, and might, except under very special circumstances, which have not yet arisen, do considerable harm. The Canadian people and the Canadian Parliament are very jealous of their independence, and I think the Imperial Parliament would at once decline to interfere. If it did interfere, it would only be under quite extraordinary circumstances, which have not yet arisen. As to Mr. Woodward's opinion that it is the desire of the Canadian Government to get our property at a bankrupt price, I am bound to say that the delay which has gone on for such a long time is some excuse for people to hold that opinion. I cannot, however, but believe that a nation which has behaved to the mother country as Canada has during the war must be filled with high and noble ideals, and therefore, until it is proved, I for one refuse to believe that the Canadian Government could entertain such an unmentionable design. I hope we shall not believe it until it is driven into us by hard facts, which we hope will not arise. As to Mr. Sherme's question about the guarantee, Mr. Rodocanachi has explained to him that the guaranteed stock was originally stock issued long before our time, and was given to the Great Western Ry. of Canada in exchange for the latter company's ordinary shares, and was guaranteed to that extent on the year's earnings and payable before our preference."

Railway Lands Patented—Letters patent were issued during June of Dominion railway lands in Manitoba, Saskatchewan, Alberta and British Columbia as follows:

	Acres
Central Canada Ry	204.27
Qu'Appelle Long Lake and Saskatchewan Rd. and Steamboat Co.	161.10
Total	36[illegible]

Fuel Controller's Report on Coal Conservation, Shipments, Etc.

The final report of C. A. Magrath, Fuel Controller to the Dominion Government, contains a review of the work done from the establishment of the office in June, 1917, to Mar. 28, 1919. The first part of the report deals with the fuel situation in Canada during the war, and is mainly of historical interest; the second part attempts to forecast fuel conditions of the future with particular reference to means of promoting the conservation of coal.

The economies effected by railways during the war are referred to as follows:—

"The principal saving in fuel effected by the railways was accomplished through a reduction in the number of passenger trains operated, and the general slowing up of schedules to a speed which permitted of a maximum efficiency for the coal consumed. They further co-operated by making use of old ties, which had in the past been burned along the right of way, and in generally promoting conservation by cautioning their employes against overloading locomotive tenders, and preventing waste of steam through locomotive safety valves. As far as possible bituminous coal was substituted for anthracite in heating waiting rooms.

"In the work of coal conservation, as in other lines of war activities the efforts of the railways throughout the Dominion were co-ordinated, and in a broad way directed, by the Canadian Railway War Board. Not only were fuel saving measures adopted by various lines themselves, but their efforts extended to effecting conservation of fuel in its larger aspects. Preference was given to coal mines in the matter of coal mining supplies, their demands ranking second only to those of actual war materials. The railways co-operated with the Fuel Controller in publicity work designed to promote the early stocking of coal, and special attention was given to coal carrying routes, so as to maintain an uninterrupted flow from Canadian mines or United States gateways to our consuming areas.

"In the west the increase of tonnage handled between Apr., 1918, and the end of the year was 25% more than that handled during the same period in the previous year. The heavier loading of cars also contributed a saving of coal, which has been estimated at 256,972 tons. Through the elimination of duplicate and continual passenger train services an additional saving of 600,000 tons was effected. During Jan. and Feb., 1918, over 5,000 cars (200,000 tons) of coal were worked through the Niagara gateway for points in Ontario, and through the diversion of box cars to the Delaware and Hudson, an increase of 14,457 cars (505,000 tons), destined principally for points in the Province of Quebec, was secured.

"On the railways themselves, employes were drilled in the most scientific methods of firing both on locomotives and stationary boilers; and in locomotive houses and shops the utilization of scrap and waste wood in place of coal was effected. Steam also was supplanted where possible through the utilization of electricity generated by water-power. In all, it has been estimated that not less than 1,000,000 tons of coal was saved by Canadian railways during 1918."

In the second part of the report the Fuel Controller, after reviewing the sources of supply of coal and Canada's requirements, deals with the question of distribution. He points out that approximately 42% of the coal imported into Canada is brought in by ships, 46% by all rail, and 12% by car ferries. In connection with the car ferry routes, it is mentioned that there are two points of entry on Lake Ontario and four on Lake Erie. The storage accommodation at the different water route terminals is as follows:—

	Number of plants	Capacity tons	Rate of discharge per hour tons
St. Lawrence	44	1,766,000	7,807
Lake Ontario	9	28,750	230
Lake Erie	3	5,500	310
Lake Huron and Georgian Bay	52	815,300	4,783
Lake Superior	11	2,792,000	3,580
Sault Ste. Marie....	4	715,000	1,405
Total	123	6,122,550	18,115

The equipment of ports in the Maritime Provinces is sufficient to handle the cargoes of small sailing vessels and barges, but not of large vessels, consequently during the last two years much difficulty was experienced in securing anthracite by water from New York. In order to provide against this difficulty in future it is suggested that the dockage and unloading capacity of these ports should be enlarged. Such cities as Toronto, Hamilton and even Ottawa, it is recommended, should eventually get in more coal by water, which would necessitate the construction of adequate unloading and storing facilities for which conditions are said to appear favorable. With reference to the importation of coal by rail one of the chief dufficulties center about the Niagara gateway. The situation there is that, during the winter, especially, the Canadian railways are unable to accept freight in the quantity and at the rate at which it is delivered by the U.S. lines. In ordinary winter weather, Canadian railways are not in a position to handle much over 100 cars a day over this frontier. This is a serious matter, especially to southwestern Ontario, which, in view of the comparatively short haul from the Pennsylvania mines has depended in the past on all-rail coal, rather than on the development of water facilities on Lakes Erie and Ontario.

Railway Supplies Needed in Siberia

The Canadian Government Trade Commissioner at Vladivostok, Siberia, writes that Lt.-Col. MacFeat, British representative on the Inter-Allied Purchasing Committee, formed recently to obtain supplies required for the Siberian railway systems now under control of the Inter-Allied Railway Committee, has requested that Canadian manufacturers of railway materials send catalogues.

Canadian manufacturers in a position to supply rolling stock, rails or other railway supplies should send catalogues addressed to Lt.-Col. MacFeat, care of L. D. Wilgress, Canadian Government Trade Commissioner, Suifunskaya St. 10, Vladivostok, Siberia.

The Cost of Stopping an 8-car passenger train, weighing 623 tons, from a speed of 30 m.p.h., is said to be 61.4c.

Canadian Northern Railway Equipment and Other Liabilities.

The Minister of Railways stated in the House of Commons, June 30, that the volume of equipment trust obligations outstanding in the name of the Canadian Northern Ry., when that line was taken over by the Government, was $13,526,000; there were $2,659,000 of such securities outstanding executed in favor of the Fidelity Trust Co. of Philadelphia, but none executed in favor of the Case Fidelity Trust Corporation of Philadelphia. These bonds represent a direct mortgage on the equipment until such time as the bond issue is retired when the equipment becomes the property of the C.N.R. The total cost of C.N.R. equipment at the time the government took it over was $61,398,385. Of this amount $39,588,643 was pledged as security for the equipment bonds outstanding at that time. The Dominion Government are shareholders of the C. N.R., and, as such, do not necessarily assume all its liabilities, but the equipment trust bonds are a direct liability of the C.N.R. The only difference between a bond secured by equipment and a bond secured by mortgage upon the physical assets, is that the interest and sinking fund payable on account of equipment bonds are part of the working expenses of the railway, therefore they have priority over interest and sinking fund payments on the bonds secured by the physical assets.

The Minister of Railways also stated that the outstanding bonds of the C.N.R. system will remain a direct liability of the C.N.R. and subsidiary companies. The Government has arranged that if the net earnings of the C.N.R. are insufficient to pay the bond interest, the government will provide for such interest for the current fiscal year. The government are the owners of the C.N.R. capital stock and the title to the physical property is visited in the name of the C.N.R. This company is, therefore, directly liable for payment of the interest charges on the bonds issued on such property.

Doheney, Quinlan and Robertson, Ltd., has been incorporated under the Dominion Companies Act with authorized capital of $2,000,000, and office at Montreal, to carry on business of general and railway contractors, engineers and builders, and allred operations. The Provincial directors are: H. Doheney, H. Quinlan, A. W. Robertson, G. A. Campbell, K. C., and J. Karry, advocate, Montreal. The first named has been engaged in railway contracting for some years, either independently or in association with M. J. O'Brien, while H. Quinlan and A. W. Robertson have been associated in carrying out a large number of Government works.

Hugh Doheney & Co., Ltd., has been incorporated under the Dominion Companies Act, with authorized capital of $2,000,000 and office at Montreal to carry on business as general and railway contractors, engineers and builders, and various other businesses connected with the carrying out of public works. The provisional directors are Hugh Doheney, G. A. Campbell, K. C., A. Angers, J. Kerry, Mr. M. Hartley, Montreal.

Vapor Car Heating Co. of Canada, taken over the business of the Vapor Car Heating Co. Inc., Canadian branch at Montreal.

Railway Development, Projected Lines, Surveys, Construction, Betterments, Etc.

Alaska.—When the United States Congress made the original vote for the construction of the Alaska Ry., the estimated cost of the line from Seward to Fairbanks was $35,000,000. The vote asked for this year is $12,000,000, and it is expected that $4,475,000 more will be required for the next financial year, so this will bring the total cost of the work to $50,436,971, an increase of 300.1 per cent. over the original estimated. line is expected to be ready for operation in 1921. (April, pg., 190).

Alberta and Great Waterways Ry.—J. D. McArthur, President, is reported to have said in Edmonton, Alta., July 4, that a steam shovel had been sent out to a point north of Lac la Biche, where a gap of about 20 miles of track was unballasted. At the McMurray end of the line there remained about 35 miles of line to be ballasted and completed, and it was hoped to have this work finished this year. (May, pg., 253).

Athabasca, Grande Prairie and Fort Vermillion Ry.—The bill providing for the incorporation of a company to build a railway from the junction of the Athabasca and Solomon Rivers, northerly to the junction of the Smoky and Muskeg Rivers, thence through the Grande Prairie district northerly to Peace River Landing, and thence to Fort Vermillion, was passed by the House of Commons, and was read a second time in the Senate, but when up for the third reading, on July 2, it was held in connection with allegations concerning the cancellation of coal land leases held in the name of a German-American, and their re-issue to interests allied, with the promoters of the bill. The Senate ordered the bringing in for a return of correspondence, etc., in connection with the matter, and Sir James Lougheed, on behalf of the Government, made a statement of what had taken place. On June 26 the Senate appointed a special committee to investigate the matter, but it was announced, July 3, that the regranting of the leases to Colonel Shellington and C. A. Barnard had been cancelled. The proceedings in regard to the biil then fell through, and the House of Commons, on July 4, directed the return of fees to the promoter, less the cost of printing and translation. (April, pg., 190).

Canadian Niagara Bridge Co.—The Dominion Parliament has authorized the company to build 12 miles of railways in connection wits its projected bridge, instead of 6 miles, as prevailed in the general traffic bridge across the Niagara River in the original act. The company was incorporated in 1918, to build a railway and general traffic bridge across the Niagara River, the Canadian end of the bridge to be located between Chippawa and Fort Erie, Ont. The provisional directors of the company are Lord Shaugnessy, J. N. Beckley, E. S. Cahill and W. P. Torrance.

When the measure came up for its second reading in the Senate, June 26, it was explained that, since the act of incorporation was passed in 1918, the Michigan Central Rd., the owner of the land over which the approaches to the bridge were to be built, had taken the land for its own purposes, and it would therefore be necessary for the bridge company to build from Welland to Bridgeburg, 12 miles. It was stated that all arrangements had been made for the building of the line and the bridge; the necessary United States legislation has been passed, and the company desired to go on building of the bridge, in fact everything was ready for this purpose on the passing of the bill into law.

A press report of July 13 states that options have been secured on property along the Niagara frontier, which, with the other property acquired previously, will give the company the additional land required for its project. It is also reported that there is much activity on Grande Island, in the middle of the Niagara River, opposite to where the company's lands are, owing to reports of the actual starting of construction on the bridge. The bridge is to be erected jointly by The Toronto, Hamilton, Buffalo Ry., and the New York Central Rd. (July, pg., 253).

Dolly Varden Mines Ry.—The agreement reached with the Taylor Engineering Co., under the provisions of the act passed recently by the British Columbia Legislature, was not consummated, consequently the property passed over to the Taylor Engineering Co., subject to the conditions mentioned in the act. The Taylor Engineering Co. is the title under which the whole property will be operated. A press report of July 12, states that the officers of the company are: President, R. P. Butchart; Directors, A. J. P. Taylor, J. F. Tener, H. C. Chiene; General Manager, D. D. Young; Superintendent, A. W. Davis. The same report states that it is the company's intention to complete the railway from the mines to tidewater, immediately, in order to provide for the transportation of the ore immediately available, and that the ore will be shipped to the smelters on vessels chartered by the company. (June, pg., 313).

Edmonton, Dunvegan and British Columbia Ry.—J. D. McArthur, President, is reported to have said in Edmonton, Alta., July 4, that 100,000 ties were being put in to replace old ties on the line between Edmonton and Sawridge, 163.7 miles, that ballasting operations were going on along the Grande Prairie branch, from a gravel pit about 19 miles south of Spirit River, and that when this work is completed, the ballasting of the main line east of Spirit River will be gone on with.

The supplementary estimates voted in the House of Commons, July 5, included $258,797.16 to the E. D. and B. C. Ry., for a subsidy on its branch line from a point on its line as located, situated near the Spirit River settlement, to and through the Grande Prairie Land District, Alta., or on to main line. Ths amount is to be expended on such branch line or any portion of the main line, or both, under the supervision and direction of officers of the Railways Department, and upon such terms and conditions as may be approved by the Dominion Government.

The Board of Railway Commissioners is being asked for a recommendation to the Dominion Government to sanction an agreement dated May 3, 1918, between the Edmonton, Dunvegan and British Columbia Ry., and the Alberta and Great Waterways Ry. (June, pg., 313).

Grand Trunk Pacific Ry.—We are officially advised that the company proposes to build a car ferry slip at Prince Rupert, B. C., and that it is intended to go on with the work as soon as the Dominion Government has approved of the plans.

The slip will be located in Waterfront block C., and will be 450 ft. long by 75 ft. wide. The trestle will consist of 21 bags, of pile work, with a rail and plank walk at the side. At the end of the trestle there will be a 3-track 40-ft. apron to enable the barges to be removed at any stage of the tide.

The ferries that will operate in connection with the slip are remodelled G. T. P. Ry. lumber barges. They will be equipped with trackage, housing for the crew, and all facilities essential to a regular car ferry. They will operate between Prince Rupert and Swansea Bay at the present tme, with a probable extension later to Ocean Falls and possibly Anyox. (June, pg., 313).

Great Northern Ry.—The President, in his report for the year ended Dec. 31, 1918, states that 203 miles of new sidings and spurs were added to the company's lines in Canada, and that there was a short change of line made at Spencer, B. C., on the Vancouver, Victoria and Eastern Ry's. Grand Forks and Phoenix branch.

Hudson Bay Ry.—The House of Commons on July 5, voted in the supplementary estimates $300,000 on capital account for construction purposes on this railway, and in the main estimates voted $100,000 on account of terminal work at Port Nelson. The Minister of Railways said the $300,000 is to cover the cost of ties to complete the railway to Port Nelson. The rails will be taken from the Canadian National Railways main line, where new rails are being put in. As soon as the ties and rails are obtained the work of completing the line will be gone on with. The $100,000 for the Port Nelson terminals is to pay for items in connection with the staff, and for cleaning up work in and around Port Nelson during the year.

The Senate, during its recent session, appointed a special committee to investigate the navigability of Hudson Bay and Straits, and other matters, as the result of a discussion on the building of the Hudson Bay Ry. The committee reported that 14 sittings had been held and considerable information gathered, and asked for power to sit after the closing of the session, and to report at the next session of Parliament. (May, pg., 253).

Lacombe and Northwestern Ry.—The Premier of Alberta is reported to have said at Calgary, Alta., July 3, on his way home from Ottawa, that he had been in the east trying to secure rails for the completion of the Lacombe and Northwestern Ry., from near Bentley to Rimbey, but found it impossible to obtain relaying rails at reasonable prices. The Alberta Government was now about to call for tenders for the completion of the line. It was the Government's intention to sell the line as soon as an equitable and favorable arrangement could be made with some other railway company or experienced railway operators. (July, pg. 381).

Maritime Coal Ry. and Power Co.—A coal train running on this company's railway between Joggins Mines and Maccan, N. B., is reported to have dropped into the Maccan River, through the bridge, on July 13. The company applied recently for approval of plans for new piers for this bridge, and had invited tenders for the work. (June, pg., [illegible]).

Montreal Central Terminal Co.—The Minister of Public Works is reported to have formally disapproved of the company's plans for the building of a bridge over, or the construction of a tunnel under the St. Lawrence River, connecting Montreal with the South Shore, under the provisions of the Navigable Water Act. This bridge or tunnel formed part of a project initiated by C. N. Armstrong for the laying out of a central station and terminals in Montreal, which has been extensively pushed during the last few years. It is reported that the plans for the development of the part of Montreal as outlined by the Harbor Commission, include a bridge, at or near the site proposed to be used by the company.

Owing to the opposition which developed in the Senate to the project, the company's application for an extension of time for construction was withdrawn. (June, pg., 315).

Naas and Skeena River Ry.—A petition was reported to be in circulation in the Prince Rupert, B.C., district recently, asking the British Columbia Government to give some encouragement to the building of a railway within the Groundling coal area, which lies about 200 miles from Prince Rupert. A company of which the late Lord Rhondda was head, had under consideration before the war. the construction of a railway from Kitimat, along the Naas River, and the Kitsumkalum River valleys to the Groundling country. The report states that a more suitable route for a railway would be from the Groundling country to Kiwangar, just below Hazleton, mileage 1576 on the Grand Trunk Pacific Ry. The estimated cost of a line is put at $15,000,000, and it is suggested that a grant of 10,000 acres a mile, and the right to exploit 250,000 acres of coal land on royalty, be given in aid of construction. (June, 1917, pg., 225).

Pacific Great Eastern Ry.—The British Columbia Minister of Finance left Toronto for Victoria, B. C., July 2, after placing a loan of $3,000,000 with city bondhouses. He is reported to have said that the whole of this loan will be applied to construction on the Pacific Great Eastern Ry's. line, 200 miles of the railway being operated, leaving about 180 miles to be completed in order to reach Fort George and on the completion of the line to that point arrangements will be made for pushing on into the Peace River country.

A press report of July 11 states that 18 miles of additional grading on the uncompleted section of this line towards Fort George, B. C., has been completed; that tracklaying was expected to be started on July 13, towards Williams Lake; that ballasting and surfacing operations were being carried on on the mileage completed recently westerly from Clinton, and that the foundation work for the bridge at Sheep Creek was being gone on with.

Quebec and Saguenay Ry.—In the supplementary estimates passed by the House of Commons, July 5, there is an item of $550,000 for construction work on the Q. and S. Ry., for the year. The line has just been opened to Murray Bay, but there is considerable finishing up work to be done, buildings to be erected, etc. (May, pg., 254).

Quebec and Ungava Ry.—St. Felicien and Ungava Ry.—A press report states that N. L. F. Blake left Quebec recently with a party for Chicoutimi and Lake Chibougamou. At the latter point they expect to joint another party, reported to have already reached there. These two parties are reported to be making surveys in connection with the Quebec and Ungava Ry., and it is stated that the second line will start from St. Felicien, and will finally connect with the Q. and U. Ry. at Lake Chibougamou. (May, pg., 244).

St. John and Quebec Ry.—A press report of July 13 states that the contractors expected to have the section of the line from Gagetown to the junction with the Canadian Pacific Ry. at Westfield, N. B., ready for operation before Aug. 1, which was the date set some time ago. The completion of this section of the line will give the Canadian National Rys. a second entrance into St. John, the intention being to operate trains over the National Transcontinental Ry., from McGivney Jct., into Fredericton, and thence over the St. John and Quebec Ry. and the C. P. R. (July, pg., 382).

Canadian Pacific Railway Construction, Betterments, Etc.

Fairville-West St. John Second Track—The Board of Railway Commissioners made an order recently authorizing the opening for traffic of the second track between Fairville and West St. John, N.B., mileage 0.07 to 1.11.

Ottawa, Northern and Western Ry.—The Dominion Parliament has authorized the building of a line from the present terminus at Waltham, Que., through Waltham, Chichester and Sheen Tps., and across the Ottawa River to a junction with the C.P.R. main transcontinental line at Chalk River, Ont.

Kingston Freight Terminals—A press report states that the Board of Railway Commissioners has issued an order directing the company to begin the construction of its new freight terminal at Kingston, Ont., not later than May 1, 1920.

Western Branch Lines Contracts—The Dominion Parliament has authorized the company to build seven branch lines and extensions of lines, full details of which were given in Canadian Railway and Marine World for June, pg. 319. As foreshadowed by the President in a statement made at Saskatoon, Sask., June 6, referred to in our last issue, construction is to be gone on with at once. We are officially advised that contracts for grading have been let as follows:

From Lanigan northerly for 50 miles, being part of a line of 150 miles from Lanigan, through Watson and Melfort, to Tp. 57, Range 17, west 2nd meridian, north of Carrot River, Sask. John Stewart, Construction Co., Vancouver.

For 25 miles on the projected branch from Rosetown, Sask., southerly for 50 miles, thence southwesterly to Wymark on the Swift Current southwesterly branch. This 25 miles will be started from the end of the section of the Milden-Empress line, put under contract and run generally southerly. Canadian Construction Co.

From near Leader, Sask., on the Swift Current northwesterly branch, generally southerly for 25 miles. John Stewart Construction Co., Vancouver.

From Wymark, Sask., on the Swift Current, southeasterly branch, easterly branch, easterly for 25 miles, being part of a line to connect with Archive, on the Moose Jaw southwesterly line. John Stewart Construction Co., Vancouver.

From Russell, northerly for 12 miles, being an extension of a Manitoba and Northwestern Ry. branch, now in operation from Hazelcliffe to Russell, 11 mlies. Northern Construction Co., Winnipeg.

From Milden, Sask., on the Moose Jaw northwesterly line, for 34 miles, being part of the projected extension of the Bassano easterly branch from Empress, Alta. The total length of this line is 132 miles. John Stewart Construction Co., Vancouver.

Acme to Drumheller, Alta.—We are officially advised that it is proposed at present to build 37 miles of line, that work will be started at once, and that it is expected to have this mileage completed by Nov. 10. The location shows a maximum gradient of 0.65%, and a maximum curvature of 10 degrees. The track will be laid with 80 or 85 lb. steel rails. The contract for grading has been let to the John Stewart Construction Co., Vancouver.

A press report states that the general contractors have sublet the grading for this line to Burris, Jordon and Welsh, and that the second member of this firm is in charge of the work with headquarters at Granger, Alta. The route is reported to be through the Knee Hill River Valley, and the Red Deer Canyon, and through Carbon.

Columbia Gardens to Trail—A press report states that it is possible the company will soon begin the construction of a line from Columbia Gardens to Trail, B.C., 7 miles. This line was surveyed some years ago. Columbia Gardens is on the Great Northern Ry. line from Marcus to Nelson, at mileage 43, and Trail is on the C.P.R. Nelson-Rossland line.

Vancouver Pier Construction—Work is reported to have been started on the new pier on Burrard Inlet, the engineers being engaged in making borings for the foundations. We were officially advised at the end of February that the pier to be built is one of two which had been recommended by a committee of the company's officers which had considered the question of the facilities required for the company's ocean traffic. The dimensions of the piers had not then been settled, and the report referred to states that the details of the pier have not yet been finally settled. The work reported to be in progress probably has to do with the final settlement of the plans. (July, pg. 383).

Freight Traffic Manager for Vancouver. The Vancouver Board of Trade, and a number of other business organizations in that city, have joined together to establish a freight traffic bureau, with a view to securing alterations in existing conditions, with regard to freight rates both east and west, and also to look after the adjustment of claims, prepare cases for presentation to the Board of Railway Commissioners, etc.

Railway Rolling Stock Orders and Deliveries.

The C.P.R. between June 15 and July 15, received 3 locomotives from its Angus shops, Montreal.

The Cordoba Central Ry., (South America), a British owned railway, has ordered six 2-8-2 locomotives from the American Locomotive Co.

The G. T. R., between June 12 and July 15, received 4 switching locomotives from its Montreal shops, leaving one, of an order of 20, still under construction there.

The National Steel Car Co. between June 13 and July 15, delivered 276 box cars to Canadian National Rys. and a quantity of miscellaneous railway material for the Federated Malay States Railways.

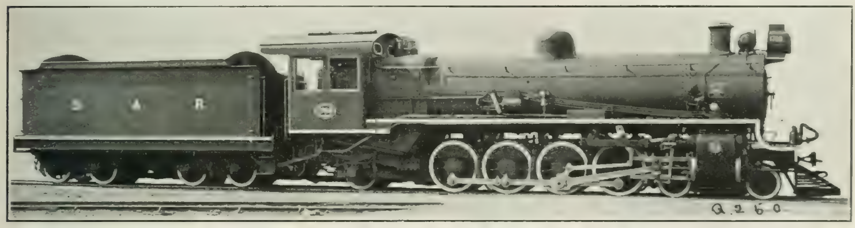
Canadian National Rys. have ordered 18 twelve section, single drawing room, standard sleeping cars, and 9 dining cars, from Canadian Car and Foundry Co., to be built at its Montreal plant.

The Nigerian Rys. (British West Africa), have ordered 10 locomotives from the American Locomotive Co. These will be similar to those built previously for the same system by the company.

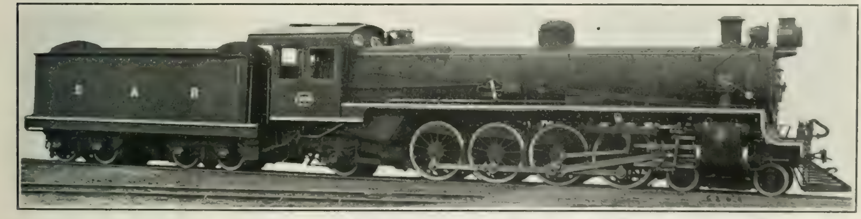
The Minister of Railway stated in the House of Commons July 5, that orders then given for rolling stock for the Canadian National Rys. were approximately as follows: Locomotives, $2,350,000; freight equipment, $8,650,300; passenger equipment, $4,450,000; a total of about $16,555,000.

The House of Commons, on July 5, voted $35,000,000 to acquire directly or indirectly, or to assist in acquiring during that fiscal year, railway equipment and materials for the purposes, and upon the terms, save as varied by the vote, mentioned in Chap. 38 of the statutes of 1918. The assistance as provided by the vote may be by way of advances to any Canadian railway or any Canadian rolling stock company, or by way of equipment or materials acquired by the Minister of Railways. This vote is chargeable to capital.

Canadian National Rys. has given the Canadian Car and Foundry Co. an order to build 20 of the colonist cars it has on order as previously mentioned, as tourist cars. This work is being undertaken at the company's Montreal plant. These cars will be of the C.N.R. standard tourist car type, 81 ft. 10 in. over couplers; 73½ ft. over end sills; 68½ ft.; total wheel base; 57½ ft. truck centers; 11 ft. truck wheel base, and with 4 ft. 2 in. vestibules. They will be equipped with 6-wheel trucks, with 5 x 9 in. axles, McCord journal boxes, rolled steel wheels, with latest type of clasp air brakes, Westinghouse L. N. equipment with 18 in. brake cylinder, Safety Car Heating and Lighting Co.'s electric lighting system, 30 volts, 300 ampere hour battery and lights so arranged inside of car as to provide half light on night circuit, 4 separate circuits arranged for lighting, and no gas to be used for auxiliary purposes, Vapor Car Heating Co.'s latest vapor heating system. DuPont fabrikoid seat covering, pantasote curtains, composition flooring, wood interior finish, steel exterior finish, gravity water system supplied from overhead tanks with special filling device from side of car, 3 wash basins at men's end, and 2 at women's end.



Locomotive, class 484 S 188, built at Montreal for South African Railways.



Locomotive, class 482 S 194, built at Montreal for South African Railways.

The Montreal Locomotive Works is, as stated previously in Canadian Railway and Marine World, building 40 mountain type locomotives for the South African Railways, duplicates of those built for the same system by the American Locomotive Co. last year. These are of two classes, 20 being built to each specification, an illustration of each type being given on this page. Following are the chief details:

	Class 482. S. 188	Class 482. S. 194
Gauge	3 ft. 6 in.	3 ft. 6 in.
Fuel	Soft coal	Soft coal
Cylinders, diar. and stroke	22 x 26 in.	22 x 28 in.
Driving wheel, diar	48 in.	57 in.
Boiler, inside diar	67½ in.	64 13-16 in.
Boiler pressure	190 lb.	185 lb.
Firebox, length and width	79⅞ x 65⅛ in.	88⅞ x 64¼ in.
Tues, no. and diar	139-2¼ in. 24-5½ in.	113-2¼ in. 21-5½ in.
Tubes, length	19 ft. 1⅞ in.	19 ft. 1⅞ in.
Wheel base, driving	12 ft. 9 in.	15 ft.
Wheel base, engine	30 ft. 8 in.	33 ft. 9 in.
Wheel base, engine and tender	59 ft. 9¼ in.	62 ft. 7¼ in.
Weight on leading truck	25,000 lb.	27,000 lb.
Weight on drivers	143,000 lb.	144,500 lb.
Weight on trailing truck	19,500 lb.	22,000 lb.
Weight, engine	188,000 lb.	194,000 lb.
Weight, tender	177,000 lb.	177,000 lb.
Heating surface, tubes	1,555 sq. ft.	1,265 sq. ft.
Heating surface, flues	657 sq. ft.	575 sq. ft.
Heating surface, firebox	138 sq. ft.	188 sq. ft.
Heating surface, total	2,350 sq. ft.	2,028 sq. ft.
Heating surface, superheater	558 sq. ft.	484 sq. ft.
Grate area	36 sq. ft.	40.2 sq. ft.
Maximum tractive power	42,300 lb.	37,400 lb.
Factor of adhesion	3.38	3.86
Tender, type	8 wheeled	
Capacity, water	4,250 imp. gals.	
Capacity, coal	22,400 lb.	

It is announced that 20 of these locomotives were shipped from Montreal on Elder Dempster and Co.'s s.s. Kwarra, July 18, to South Africa.

Demurrage Rates — The Board of Railway Commissioners will, on Aug. 2, at Ottawa, bring up the question of demurrage rates. In Aug., 1917, a standing scale of demurrage rates was put into effect to meet war conditions, and upon the cessation of hostilities a number of trade associations asked that the old rates be restored.

Canadian National Railways Construction, Betterments, Etc.

Appropriations—The House of Commons on July 4, passed an item in the estimates of $11,121,681 for construction and betterments on Canadian Government Railways to this amount; $6,[illegible] is to be expended on lines east of Quebec; $993,280 on the National Transcontinental Ry. west of Quebec; $1,600,000 on Halifax terminals; $524,[illegible] on the mechanical department, and $1,500,000 on general appropriations for construction and betterments.

Betterments Programme — We have been officially advised that the betterments on the Canadian National Railways for this year include the following: Nearly $6,000,000 will be spent on bridge work. This will include filling and replacing timber bridges with steel and concrete to take care of heavier power. One new structure included in this amount, is the overgrade highway bridge at Halifax docks in connection with the ocean terminals. New 85 lb. steel rails will be laid on 710 miles on a number of different sections, 350 miles of which will be on prairie lines and 360 miles on eastern lines. This will release about [illegible] miles of 80 lb. relay steel which will be used for relaying important branches. Roadbed and track work will include ditching, draining, trimming, tie plates, interlockers and signal apparatus, and various other items. On the eastern lines four sections of second track are to be constructed from Truro to Belmont; Springhill Jct. to Maccan; a section at Moncton; and from St. Rosalie to Bagot, these items alone representing over $1,650,000. This expenditure is being made to facilitate operations in and out of adjacent terminals, where in the past congestion has been experienced, and siding additions and improvements will be made at many places, including additions to west yard at Chaudiere, yard addition at Moncton and improvements in grades at McGivney Jct. to Fredericton. The expenditure on ballasting will amount to about $1,700,000, which will cover a large mileage on various lines in eastern and western Canada. Buildings will form a large item of expenditure, amounting to over $2,000,000, which will include extensions to locomotive houses, new stations and section houses, freight sheds, coaling plants, repair shops, water tanks, etc.

Prince Edward Island Ry.—The Minister of Railways stated in the House of Commons July 4 that the work to be done on the P.E.I.R. includes new 85 lb. rails, $1,900; Wellington section of extension, $390; North Wiltshire business siding, $1,600; Fredericton, two sidings, $2,700; third rail, Borden-Charlottetown-Summerside, $200,000. It is intended to complete the laying of a third rail on the line between Charlottetown and Summerside, so that it can be operated as either gauge. It is expected to get this work completed during the summer. The steamship Scotia, which ran formerly between Mulgrave and Point Tupper, is being fitted up so that she may be used between Borden and Cape Tormentine, when the Prince Edward is off for overhaul during the summer, or as an extra to take care of certain special kinds of traffic, such as gasoline in carload, or 10 [illegible].

Sydney, N.S., Coaling Plant—We have been officially advised that a contract has been let to Williams and Wilson Ltd., Montreal, for the erection of a coaling plant at Sydney, N.S.

Moncton Freight Shed—Tenders were received to July 17, for the construction of a brick and steel freight shed, 450 ft. long, and a brick freight office building at Moncton, N.B.

St. John, N.B., Station—A press report states that announcement of the decision to build a new station and to extend the yards at St. John, is expected to be made shortly. The report states that engineers, in addition to carrying out a survey in connection with the proposed new station and yard extension have made enquiries about property which will be required to provide additional space at the terminal. The plans for the new station are said to provide an elevated entrance.

Fredericton-McGivney Jct. Improvements.—We are officially advised that an engineering party is making surveys between Fredericton and McGivney Jct., N.B., on the old Canada Eastern Ry., in connection with the proposed revisions to make the line a circle in a direct route from the National Transcontinental Ry. into St. John.

Fredericton Bridge.—A. P. Barnhill, K.C., a director of the Canadian National Rys. is reported to have said recently that a new bridge across the St. John river at Fredericton, N.B., will be built as soon as possible.

Sackville Double Track Bridge.—We are officially advised that a contract for the construction of a double track bridge over the Tantraman River, about a mile east of Sackville, N.B., has been let to the Nova Scotia Construction Co., Halifax, N.S.

Intercolonial Ry. Second Track Line.—We are officially advised that contracts for the second track and diversion work, which was fully described in Canadian Railway and Marine World for July, pg. 379 have been let as follows:—

Truro to Belmont.—Grading for one additional main line track, for approximately 7.57 miles, Bate, McMahon Co., Ltd., Ottawa.

Springhill Jct. to Maccan.—Grading for one additional main line track for approximately 9.13 miles, A. Wheaton, and Dominion Construction Co., Ltd., Halifax, N.S.

Moncton.—Grading for double track railway, approximately 3.35 miles, consisting of grading on the north siding and parallel to the present track on the St. John subdivision from mileage 1.44 (approximately), and grading for double track from mileage 2.53, St. John subdivision to mileage 3.50 Newcastle subdivision, A. Wheaton and Dominion Construction Co. Ltd., Halifax.

St. Rosalie and Charlotte.—Grading for double track diversion from mileage 108.21 to 112.91, approximately 4.7 miles, Walters, Dobenny & Co., Montreal.

Section House Contracts.—We are officially advised that contracts have been let for the erection of standard section houses as follows:—To Hamilton and Collier, Campbellton, N.B., section houses at Sirois and near Grog Brook, N.B. To T. Roy, Green Point, N.B., section house at Grog Brook, N.B. To A. J. Morin, Garthby, Que., section houses at Lapoint, Picard, Bretagne, Lefebvre, Que.

Chicoutimi Station—Tenders will be received to Aug. 9 for the erection of a station at Chicoutimi, Que., at the Quebec and Lake St. John Ry. terminus.

Cap Rouge to Portneuf, Que.—We are officially advised that the rebuilding of some 20 miles of the Canadian Northern Ry. between Cap Rouge and Portneuf, Que., which was washed out last year, has been let to Vivian T. Bartram, of Toronto. The work will consist of heavy rock filling rip-rapping, broken stone ballasting and shore protection work along the St. Lawrence River. K. A. Morrison, railway sub-contractor, is General Manager of the work, and J. E. McDonald, of Whitley, Ont., is Superintendent.

Tenders for Ties—Tenders will be received to Aug. 28 for 1,375,000 railway ties, to be made and delivered between Oct. 1, 1919 and Oct. 1, 1920, to be delivered as follows: 1,000,000 between Port Arthur and Pembroke, Ont.; 50,000 on lines in Central Ontario; 25,000 on lines between Ottawa and Quebec; 200,000 on the Canadian National Rys. between O'Brien and Quebec, and 100,000 on lines in the Lake St. John district, Que.

Ontario District Buildings—Tenders will be received to Aug. 1, for the erection of 3 section houses and 2 stations of frame construction on concrete foundations, at different points in the Ontario District; also for 5 coal and oil houses and 21 bunk houses, all of frame. These two latter classes of buildings are to be loaded on flat cars and delivered f.o.b. to any C.N.R. siding in Ontario.

Port Arthur Elevator—We are officially advised that the workhouse to be built at Port Arthur, Ont., of which a contract has been let to the Barnett McQueen Co., will be 78 ft. 4 in. wide by 210 ft. 4 in. long by about 200 ft. high, and will have a grain storage capacity of about 700,000 bush. The unloading shed, at the end of the workhouse structure, will be 110 ft. 2 in. wide by 150 ft. long and will contain 4 automatic box car dumpers and 4 unloading pits. All buildings will be of reinforced concrete construction throughout. The equipment will be electrically driven with separate motors for each machine. The new workhouse will be built to handle the three present tile and concrete storage units, having a total capacity of 7,000,000 bush., and will take the place of the two timber workhouses, used formerly for that purpose. The elevator will have an unloading capacity of 300 cars a day, and a shipping capacity to steamships of 75,000 bush. of grain an hour. The cleaning equipment will consist of 15 no. 11 monitor receiving separators, 3 monitor northwestern separators, 2 no. 9A screening separators, 3 no. 8A flax separators, and 3 Richardson wheat and oat separators. The installation will include a complete dust collector system. A novel feature of this elevator will be the installation of 4 automatic box car dumpers, to take the place of the old system of hand shovelling. It is anticipated that the unloaders will greatly increase the speed of unloading cars, and, at the same time, will considerably reduce the number of men usually employed in this operation. The elevator equipment will be modern in every respect and the workhouse, when completed, will be the handling house for the largest grain elevator in the world.

Western Lines Contracts—The Canadian Construction Co., which has the contract for grading on the Hanna-Medicine Hat line, in Alberta, and the Lampman-Peebles line in Saskatchewan, is a recently organized company, with authorized capital of $200,000, office at Winnipeg, and the following officers: President, J. D. McArthur; Vice President, W. A. Dutton; Secretary, D. N. McLeod; Treasurer, E. J. Rankin. The company is reported to have sublet its contracts.

We are officially advised that J. W. Stewart is personally in charge of the various contracts in the prairie provinces and in British Columbia, let to John W. Stewart & Co., Vancouver, B.C.

Warman-Prince Albert Track Relaying—A press report of July 15 stated that the relaying of track from Warman, to Prince Albert, Sask., 75 miles, had been completed.

Kamloops - Vernon - Lumby Line. — A press report states that J. W. Stewart & Co., who have the general contract for grading, etc., on this line, have had to sublet the work in stretches of about 10 miles each to Angus Stewart, J. B. L. Macdonald, A. E. Griffith, ... Sharpe, C. Tupper, H. G. Barber, ... McLeod, Raubeim Bros. and Bouley & Co. With the exception of the latter two firms all the holders of sub-contracts are said to be returned officers, and it is reported that they are employing returned soldiers as far as available. Work is reported to be in progress at Kamloops, Armstrong, Monte Creek, and Long Lake.

New Westminster - South Vancouver Line—We are officially advised in connection with the projected line from New Westminster to South Vancouver, that it is proposed to build it from the end of the Fraser River bridge into New Westminster, a distance of 2,000 ft. at present. This short bit of line is one cutting, the contract for which was let to 15 returned soldiers with the city's approval to furnish needed work to the men, and to get a cutting which would take much line out of the way. For the remainder of the line, a trial survey has been run down the north arm of the Fraser River and around Point Grey to Kitsilano Reserve in order to get general information. No further construction is contemplated at present. (July, pg. 379).

A Reinforced Concrete Gondola Car has been built in the U.S. It has a steel skeleton body mounted on the standard center sills and bolsters of the U.S.R.A., 40 ft. 50 ton gondola car, and is designed for a capacity of 100,000 lb., plus the usual 10% overload. The end load was assumed at 200,000 lb., with an allowance of 25% for impact, equivalent to an end load of 250,000 lb. The floor is 2⅛ in. thick, and the sides, 1¾ in. thick, of reinforced concrete, ribbed at critical points. The total weight is 53,600 lb., but it is estimated that with proper facilities for construction, a similar car could be built weighing between 46,000 and 48,000 lb. It was in service recently on the Illinois Central Rd. for a 30 day test.

Mechanical Stokers—It is contended that all locomotives which weigh 200,000 lb. or more on the drivers, have a tractive effort of 50,000 lb., a grate area of 60 sq. ft., and which require more than 4,000 lb. of coal an hour for long periods, should be equipped with mechanical stokers.

Traffic Orders by Board of Railway Commissioners.

Regulations Governing Baggage Car Traffic.

28,477. June 19.—The application of Eastern Canadian Passenger Association under Sec. 31 of the Railway Act, for leave to publish for three weeks in the Canada Gazette, rule 23 of the regulations governing baggage car traffic in Canada, as amended by general order 191, May 26, 1917: It is ordered that leave be granted the applicants to publish for three weeks in the Canada Gazette said rule, which reads as follows: "Storage—Rule 23. Exception (4)—Immigrant baggage will be stored free of charge for any portion of a period of, but not exceeding, five days after arrival at the ports of Montreal, Toronto and Winnipeg."

28,478. June 19.—Re application of Eastern Canadian Passenger Association, under sec. 31 of the Railway Act, for leave to publish for three weeks in the Canada Gazette, rule 26(d) of regulations governing baggage car traffic in Canada, as amended by general orders 179, 181 and 262, dated, respectively, Jan. 29 and Feb. 3, 1917, and May 8, 1919: It is ordered that leave be granted the applicants to publish for three weeks in the Canada Gazette said rule 26(d), which reads as follows: "26(d)—In case of non-delivery of baggage or other articles checked, notice must be given in writing to the originating or terminating carrier within 20 days after arrival of passenger at destination. In case of damage or delay to baggage or other articles checked, or loss of any of the contents from a receptacle, such notice must be given within 20 days after delivery of such baggage, article or receptable. Otherwise the carrier shall not be liable."

28,480. June 17.—Granting application of Eastern Canadian Passenger Association, under sec. 31 of the Railway Act, for permission to publish general orders 191 and 262, dated, respectively, May 26, 1917, and May 8, 1919, in two consecutive issues of the Canada Gazette.

Newsprint Paper Dates From Thorold.

28,518. July 11. — Re complaint of Ontario Paper Company, Thorold, Ont., against rate of 22c per 100 lb. charged by G.T.R. on newsprint paper, in carloads, from Thorold to Chicago, Ill. Upon hearing the complaint at Ottawa, June 10, 1919, in the presence of counsel of the complainant and counsel and a representative for the G.T.R., the evidence offered and what was alleged, and upon reading the exhibits filed, and the report of the board's Chief Traffic Officer, it is ordered that the complaint be dismissed.

Wood Pulp Rates From Quebec Points.

28,537. July 12.—Re complaint of Chicoutimi Pulp Co, that the Canadian Northern Ry. tariffs on wood pulp from Chicoutimi and Val Jalbert, Que., to points in the United States, known as Central Freight Association territory, are 6c per 100 lb. higher than those from Hawkesbury, Ont., instead of 5c as formerly, and that the rates on wood pulp from Hawkesbury to points in Central Freight Association territory are ½ per 100 lb. higher than the rates prescribed by order 26,547, Sept. 20, 1917. Upon hearing the matter at Ottawa, July 5, 1919, in the presence of counsel for the Canadian National Rys., and counsel and representatives for the G.T.R. and C.P.R., the complainant, the Montreal Board of Trade, the New York Central Rd. and the Riordan Pulp and Paper Co. being represented, it is ordered that the complaint be dismissed.

Freight and Passenger Traffic Notes.

A petition of the Acadia Sugar Refinery, against railway freight rates on sugar, was heard by the Privy Council at Ottawa, July 9.

The Canadian Pacific Ocean Services Ltd., general passenger department has been removed from 2 St. Peter St., Montreal, to the ground floor of the Dominion Express Building, 141 St. James St.

It was reported in Winnipeg, July 14, that the accumulation of freight and express matter gathered at various points in the west, consequent on the recent strike in Winnipeg, had been cleared away, and that traffic was again practically normal.

The Alberta and Great Waterways Ry. put in effect July 24, a change of train service between Edmonton, and Lac la Biche, Alta. The train leaves Edmonton, as formerly, at 7.20 a.m., but on Thursdays instead of Fridays, and returns from Lac la Biche at 5.30 a.m. on Fridays instead of Saturdays.

The Board of Railway Commissioners made an order June 3 authorizing the Canadian National Rys. to operate trains and establish a service over the portion of the Victoria and Sidney Ry. from Sidney to the point when it crosses the Canadian Northern Pacific Ry., for three months pending the making of a traffic agreement between the railways.

J. D. McArthur, President, Edmonton, Dunvegan and British Columbia Ry., Alberta and Great Waterways Ry. and Central Canada Ry., is reported to have said in Edmonton, Alta., July 4, that since Sept., 1918, the railways had carried 25,000 cattle into the Peace River Country, of which only one carload had been returned, and that over 100,000 tons of hay had been taken out during 1918.

The Canadian National Rys. is operating a train daily except Sundays on the Halifax and South Western Ry., leaving Halifax at 7.05 a.m., and arriving at Yarmouth at 6.30 p.m., in connection with which steamships leave Yarmouth for Boston, Mass., Tuesdays, Wednesdays, Fridays and Saturdays. Steamships arrive in Yarmouth from Boston the same mornings connecting with the train which leaves Yarmouth, daily except Sundays, at 8.45 a.m., reaching Halifax at 7.05 p.m. A parlor buffet car is attached to these trains.

The Quebec and Saguenay Ry. began on July 1, operating daily, except Sundays, a train leaving the Quebec Ry., Light and Power Co.'s station at St. Paul St., Quebec, for Baie St. Paul, Les Eboulements, St. Irenee, Pointe a Pic, Murray Bay, and all intermediate stations. The train leaves Quebec at 8 a.m., reaches Murray Bay at 1 p.m., leaves there on the return trip at 3 p.m., and arrives at Quebec at 8 p.m. It carries passengers and express matter. Freight is carried by a train for all stations to Murray Bay on Wednesdays and Saturdays, and from Murray Bay to Quebec, Tuesdays and Fridays.

Mainly About Railway People Throughout Canada.

E. W. Beatty, K.C., President, C.P.R., is announced as one of the speakers at the industrial congress to be held at Calgary, Alta., Aug. 13 and 14.

Senator F. L. Beique, one of the C.P.R. directors, has been elected President Saguenay Pulp and Power Co., which owns the Roberval-Saguenay Ry.

Major Graham A. Bell, C.M.G., who was appointed acting Deputy Minister of Railways and Canals in June 1918, has been appointed Deputy Minister.

Sir George McLaren Brown, European General Manager, C.P.R., and Lady Brown, were entertained to dinner at London, Eng., July 5, by the local staff, in honor of Sir George's recent knighthood. Among the several congratulations received, was a letter from E. W. Beatty, K.C., President, C.P.R., which was sent overseas by the Vickers-Vimy aeroplane which made the first non-stop trans-Atlantic flight recently.

Sir Geo. Bury, who has removed from Montreal to Vancouver, on his election as President, Whalen Pulp & Paper Mills Ltd., has taken a house on Shaughnessy Heights, Vancouver.

Mrs. H. R. Charlton, wife of the General Advertising Agent, G.T.R. and G. T.P.R., is spending the summer at Old Orchard, Me.

Jas. D. Coleman, who died at Winnipeg, July 1, aged 75, was, for some time in C.P.R. service at Winnipeg, as Inspector of Ties for Manitoba. D. C. Coleman, Vice President, Western Lines, C.P.R., Winnipeg, and G. T. Coleman, Inspector of Transportation, C.P.R., Montreal, are sons.

Sir Henry Drayton, Chief Railway Commissioner, Ottawa, accompanied Sir Robert Borden on the latter's cruise down the St. Lawrence River in July. He is mentioned as being about to resign his position, and to enter the Dominion Government, probably as Finance Minister.

J. L. Englehart, Chairman, Timiskaming & Northern Ontario Ry. Commission, Toronto, has been staying at the Algonquin Hotel, St. Andrews, N.B., since early in July and will probably remain there until towards the end of August.

N. J. Fraser, who died at Peers, Alta., July 5, aged 57, was in G.T.R. service for some time as Foreign Freight Agent, after which he managed the Johnston Steamship Line at Montreal, resigning in 1904.

J. P. Gordon, of Pas., Man., ex-Assistant Chief Engineer, Hudson Bay Ry., is reported to have discovered a solid dyke of quartz, containing gold at Copper Lake, north of Pas, and east of Flin Flon copper mines.

Henry E. Graves, who was for 26 years in G.T.R. service, as Commercial Agent in the U.S., and who retired from active service several years ago, died at his home at River Forest, Ill., June 25.

Grant Hall, Vice President, C.P.R., left Montreal, July 7, on an inspection trip of the company's lines to the Pacific Coast, and was accompanied over the Western Lines by D. C. Coleman, Vice President, Western Lines. Mr. Hall was expected to return to Montreal about Aug. 1.

C. M. Hamilton, of McTaggart, Sask., who is one of the Canadian National Rys. directors, has been elected, by acclamation, as member for Weyburn, in the Saskatchewan Legislature. He was the Liberal nominee.

John Harrower, who has been appointed acting Chief Draftsman, car department, G.T.R., Montreal, was born at Glasgow, Scotland, Dec. 23, 1883, and from June, 1897, to Sept., 1902, junior draftsman, Glasgow Locomotive Works, Glasgow, Scotland; Sept., 1902 to Apr., 1904, draftsman, Babcock and Wilcox Ltd., Renfrew, Scotland; May to Sept., 1904, draftsman, Hamilton Patent Office, Hamilton, Ont.; Sept, 1904 to Nov., 1911, draftsman, G.T.R., Montreal; Nov., 1911 to Nov., 1912, chief draftsman, Motive Power & Car Department, Grand Trunk Pacific Ry., Rivers, Man.; May, 1912 to May, 1919, draftsman and supervisor of apprentices, G.T.R., Montreal.

Mrs. W. P. Hinton, wife of the Vice President and General Manager, Grand Trunk Pacific Ry. Co. and Miss Hinton, are spending the summer at their cottage at Minaki on the National Transcontinental Ry.

Robert Bernard Jennings, who has been appointed Division Engineer, Canadian National Rys., Toronto, was born at Paris, Ont., June 29, 1888, and entered transportation service in Apr., 1906, since when he has been, to Oct., 1906, chainman, Toronto-Sudbury Line, C.P.R.; Oct., 1906 to Oct., 1907, rodman, Saskatoon-Edmonton Line, Grand Trunk Pacific Ry.; Oct., 1907 to Dec., 1908, instrument man and Resident Engineer, Saskatoon-Edmonton Line, same road; Dec., 1908 to Oct., 1909, leveller, Toronto-Ottawa Line, Canadian Nothern Ontario Ry.; Oct., 1909 to Jan., 1916, Resident Engineer, Toronto-Ottawa, Sudbury-Port Arthur and Hawkesbury-Montreal Lines, Canadian Northern Ry.; Apr., 1916 to Jan., 1917, Manager, Jennings and Ross Co., Milwaukee, Wis.; Jan., 1917 to May, 1919, Major, 10th Battalion, Canadian Railway Troops, C.E.F., in service in France.

Mrs. Johnson, of Montreal, widow of Lacey R. Johnson, formerly of the C.P.R. Mechanical Department, and who, when he died, was that company's General Welfare Agent, is visiting her daughter, Mrs. W. F. Evans, in Vancouver.

Sir Hormisdas Laporte, one of the Canadian National Rys. directors, is spending the summer at his house, at Coteau du Lac, Que.

R. S. Logan, Vice President, Land, Tax and Claims, G. T. R., Montreal, and his family, visited the Saguenay district recently.

George Peter MacLaren, who has been appointed Engineer, Ontario District, Canadian National Rys., Toronto, was born at London, Ont., Apr. 4, 1878, and was, from Jan. to Dec., 1897, rodman, draftsman and instrument man on sewage disposal work, under the City Engineer, London, Ont.; Jan. to Nov., 1898, Resident Engineer between St. Thomas and Walkerville, Ont., Lake Erie and Detroit River Ry.; Jan. to Dec., 1899, draftsman, Algoma Central and Hudson Bay Ry.; 1900 to 1910, transit man on location, Canadian Northern Ry.; 1902 to 1904, Resident Engineer on construction, same road; 1904 to 1911, Division Engineer on construction, in Nova Scotia, Quebec and Ontario, same road; 1911 to 1915, District Engineer, North Bay District, same road; 1915 to 1916, Division Engineer, Toronto Division, same road. In 1916 he enlisted and went overseas as Chief Engineer, of the 10th Battalion, Canadian Railway Troops, and was appointed to his present position on his return to civil life recently.

A. C. Mackenzie, formerly of Mann & Mackenzie, railway contractors, and for some years President of the Northern Construction Co., who had been a prominent railway contractor for many years, died suddenly, July 25, at the Winnipeg Electric Ry.'s new power plant on the Winnipeg River, where his company had a contract. "Big Archie," as he was familiarly known, was about 56 years of age, and had his home at Beaverton, Ont., where he is survived by a son and three daughters, and where he was buried.

Sir Donald Mann, who visited British Columbia recently, going to Prince Rupert by the G.T.P.R., does not intend to leave Toronto, to reside in the Pacific province, as stated in a Vancouver press dispatch. He will, however, probably spend considerable time there in the future, in connection with extensive mining interests which he has acquired in the Cassiar district, in northern British Columbia, in the vicinity of the Portland Canal, where he built the Canadian Northeastern Ry. a few years ago.

F. H. McGuigan, at one time Fourth Vice President, G.T.R., is representing the Toronto master bakers on a board of conciliation as to journeymen bakers' wages.

W. H. Moore, ex-Secretary, Canadian Northern Ry., and General Manager, Toronto & York Radial Ry., who wrote "The Clash," a book dealing with racial strife in Canada, has been given the degree of doctor in letters, by Laval University, Quebec.

A. Z. Mullins, who was appointed Division Freight Agent, G.T.R., Grand Rapids, Mich., recently, was born at Appin, Ont., Feb. 14, 1862, and entered G.T.R. service Feb. 10, 1884, since when he has been, to May, 1887, telegraph operator, Komoka, Ont.; May, 1887 to Oct, 1896, rate clerk, chief clerk and Travelling Freight Agent, Buffalo, N.Y.; Oct., 1896 to Apr., 1900, Agent, National Despatch—Great Eastern Line, Grand Rapids, Mich.; Apr., 1900 to June, 1907, Agent, Lackawanna—Grand Trunk Line, Detroit, Mich.; July, 1907 to Apr. 30, 1919, Commercial Agent, Grand Rapids, Mich.

Arthur Osmore Norton, President of A. O. Norton, Ltd., Coaticook, Que., and of A. O. Norton, Inc., Boston, Mass., died suddenly at his house at Coaticook, June 8, while writing a letter to his wife. He was born on a farm in Barnston Tp., near Coaticook, Feb. 17, 1845, and began his business career as a clerk in a country store. When about 30 years old, he started a jewelry business in Coaticook, and subsequently established a wholesale jewelry business there; then he started a wholesale jewelry business in Boston, Mass., under the firm name of Norton Bros. & Butters. In 1888 he started manufacturing the Norton ball-bearing lifting jacks, having factories at Coaticook and Boston, and is said to have been the first manufacturer of non-fluid, self lowering jacks, and he was also a pioneer in making ball-bearing screw jacks. He has been succeeded as President by his son, Harry A. Norton, heretofore, Vice President, Treasurer and

General Manager, and F. L. Gormley, heretofore Mechanical Superintendent, has been elected Vice President.

Senator M. J. O'Brien, President, Canada & Gulf Terminal Ry. and railway contractor, Renfrew, Ont., has been elected a director of the Bank of Nova Scotia.

Hiram L. Piper, of the Hiram L. Piper Co., railway and steamship supplies, etc., Montreal, left Montreal, July 12, for an extended motor trip in the United States.

C. W. Rennells, passenger agent, North Street station, Canadian National Rys., Halifax, N.S., has been superannuated after 47 years service. The station staff presented him with a club bag.

Col. G. S. Rennie, Chief Medical Officer, Toronto, Hamilton & Buffalo Ry. and Dominion Power & Transmission Co., Hamilton, Ont., has been appointed chief coroner for Hamilton.

Reuben S. Richardson, who has been appointed Superintendent, Canadian National Rys., Fort William, Ont., was born at Napanee, Ont., Apr. 9, 1865 and entered transportation service in 1878, since when, in 1884, he filled various positions from messenger to freight clerk, operator, ticket clerk, switchman and baggage master, Canadian Express Co. and G. T. R., at various points; 1884 to 1887, brakeman, conductor, station agent and Soliciting Freight and Passenger Agent, Bay of Quinte Ry., at various points; 1897 to 1901, brakeman, conductor and Terminal Yardmaster, Canada Atlantic Ry., Ottawa; 1901 to 1907, General Yardmaster and acting Trainmaster, C.P.R., Smiths Falls and North Bay, Ont.; 1907 to 1911, Assistant Superintendent, Canadian Northern Ry., Montreal, Quebec and Ottawa; 1911 to 1913, Superintendent of Operating and Construction, MacDonnell and O'Brien, contractors on the National Transcontinental Ry., La Tuque, Que., 1913 to May, 1915, General Yardmaster of Terminals and Assistant Superintendent, Intercolonial Ry., Halifax, N.S., Moncton and St. John, N.B., and from May, 1915 to Mar. 27, 1917, Superintendent, District 3, Transcontinental Division, Canadian Government Railways, Fort William, Ont. In Mar., 1917, he was given leave of absence for military duty, went overseas as Lieutenant, no. 2 Section, Skilled Railway Employes, and was later transferred to No. 13 Light Railway Company R.E., British Expeditionary Force.

Lord Shaughnessy, Chairman of the C. P. R. Co., arrived at St. Andrews, N. B., early in July, to spend some time at his summer house, Fort Tipperary.

A. W. Smithers, Chairman G.T.R., sailed from England, for Canada, July 25. It is said to be his intention to endeavor to complete the negotiations between the Dominion Government and the company regarding the G.T.R.'s future.

Lord Mount Stephen, first President, C.P.R. Co., who was 90 years of age on June 5, and Lady Mount Stephen, were paid a visit at Brocket Hall, near Hatfield, Eng., recently, by the Queen and Princess Mary.

Percy R. Todd, formerly President, Bangor and Aroostook Rd., Bangor, Me., and latterly Assistant to District Director, U. S. Railroad Administration, and General Manager, Bangor and Aroostook Rd., Bangor, Me., has been appointed District Director, New England District, U. S. R. A., vice, J. H. Hustis resigned. He was born at Toronto, Dec. 4, 1859, educated at Ottawa, Ont., and commenced railway work as clerk and telegraph operator, St. Lawrence & Ottawa Ry., now part of the C. P. R., and from 1875 to 1882 was Canadian Agent, Ogdensburg & Champlain Ry.; to 1885, General Travelling Agent, National Despatch Line, Chicago, Ill.; July to Dec., 1885, Commercial Agent, New York, West Shore & Buffalo Ry., Albany, N. Y.; to Oct., 1886, chief clerk, General Freight Department, same road, New York; Oct., 1886, to Dec., 1889, General Freight and Passenger Agent, Canada Atlantic Ry., now part of the G. T. R., Ottawa; Dec., 1889, to Feb., 1901, General Freight Agent, West Shore Rd.; Feb. 1901, to Nov., 1903, Second Vice-President, New York, New Haven & Hartford Rd.; Nov., 1903, to 19005, First Vice-President, same road; Jan., 1907, to Jan., 1913, Vice-President, Bangor, Aroostook Rd., and subsequently President same road, Bangor, Me.

Guy Tombs, Assistant Freight Traffic Manager, Canadian National Rys., Montreal, has resigned on his appointment as Traffic Manager for the Canadian Export Paper Co., representing eight of the chief pulp and paper companies of the Dominion and several in the U.S. He is in direct charge of the transportation by land and sea, and will also act as Traffic Manager for the Laurentide Co., Price Bros., Brampton St.; Maurice and Belgo-Canadian companies, and J. H. A. Acer Co., export agents, handling 1,000,000 tons a year. He was born near Lachute, Que., Nov. 22, 1877, and entered railway service in Sept., 1892, since when he has been, to Apr., 1895, junior import clerk, C.P.R., Montreal; Apr., 1895, to Aug., 1897, secretary to General Manager and Secretary, United Counties Ry., St. Hyacinthe, Que.; Sept., 1897, to May, 1899, chief clerk to Canadian Agent, Central Vermont Ry., Montreal; June, 1899, to June, 1900, rate clerk, Division Freight Office, G.T.R., Montreal; June, 1900, to Apr., 1901, Travelling Freight Agent, Central Vermont Ry., St. Johns, Que., and St. Albans, Vt.; May, 1901, to May, 1903, General Northern Ry. of Canada, Quebec, Que.; May, 1903, to June, 1912, General Freight and Passenger Agent, Canadian Northern Quebec Ry., also from Apr. 1, 1908, same position, Quebec & Lake St. John Ry., and also from Apr., 1910, Montreal Representative, Canadian Northern Steamships, Ltd.; June, 1912, to Nov., 1916, General Freight Agent, Quebec Division, Canadian Northern Ry., Montreal; Nov., 1916, to Feb., 1917, General Freight Agent, Eastern Lines, Canadian Northern Ry., Montreal; Mar. 1, 1917, to Dec., 1918, Assistant Freight Traffic Manager, Canadian Northern Ry., Montreal, and from Dec., 1918 to July, 1919, Assistant Freight Traffic Manager, Canadian National Rys., Montreal.

William Walkden, who has been appointed Bridge Engineer, Western Lines, Canadian National Rys., Winnipeg, was born at Alderley Edge, Cheshire, Eng., June 1, 1885, and served as an indentured pupil and assistant with P. Pierce and Son, Architects and Engineers, Stockport, Eng., from Oct., 1902 to July, 1907. He entered transportation service in Nov., 1907, since when he has been, to July, 1909, draftsman, Engineering Department Canadian Northern Ry.; July, 1909 to May, 1912, draftsman and Assistant Engineer, Bridge Engineer's Department, same road; May to Nov., 1912, chief draftsman, same road; Nov., 1912 to Feb., 1917, Assistant to Bridge Engineer, same road; Feb., 1917 to Apr., 1919, acting Bridge Engineer, same road, all at Winnipeg.

Mrs. T. Walklate, wife of the General Tie & Lumber Agent, C.P.R., Montreal, and Miss Walklate, are spending the summer on the Maine coast.

J. J. Warren, President, Kettle Valley Ry., and Managing Director, Consolidated Mining and Smelting Co., has also been elected President of the latter company, and will combine that position with that of Managing Director. Both companies are closely associated with the C. P. R.

The Inverness Railway & Coal Co.'s Financial Difficulties.

Towards the end of June application was made to the Nova Scotia Supreme Court, at Halifax, by the National Trust Co., of Toronto, for foreclosure of its mortgage on the Inverness Ry. & Coal Co.'s property. It was stated that Jno. MacGillivray, formerly General Manager of the company, who had been receiver and manager since July, 1915, had resigned, and that the Eastern Trust Co. had been appointed as his successor. The hearing of the application was adjourned to July 29. We have since been advised that R. E. McLeod, heretofore Chief Accountant and assistant to the Manager, is in charge of the mines and railways for the receiver. While the appropriation of $11,121,681 for construction and betterments on the Canadian National Rys., was under discussion in the House of Commons, July 4, attention of the Minister of Railways was called to the fact that the Inverness and Richmond Ry. and Coal Co.'s railway was to be closed at an early date, and that it was reported that the Inverness coal mine was to be closed July 10, and he was asked as to the probability of the government taking the property over. The Minister of Railways said he made up his mind a year or two ago that the government should take over the branch lines in Nova Scotia and New Brunswick and so do away with all the troubles the people were having because of those lines not being operated properly. Last year the government made arrangements for taking over several of the branch lines in New Brunswick, but the owners of two of these lines had not accepted the offers made. The government had been urged to take over the Inverness Ry. and Coal Co.'s line and another line on Cape Breton Island. The owners valued the Inverness and Richmond Coal Co.'s line at $150,000; the rolling stock and equipment, including 7 locomotives and 131 coal cars at $175,000, and supplies on hand at $25,000, and offered to accept those prices. He replied that the offer to sell the line at $150,000 would be submitted to the government, with a proposition to take the equipment and supplies on the basis of a valuation to be made by D. B. Hanna, President Canadian National Rys. The government could act under the Branch Lines Act, and the agreement could be submitted for ratification next session. In the meantime, in order that operations might not cease, orders had been given for 1,800 tons of coal a week.

An Inverness correspondent writes us that the Canadian National Rys. will take all the Inverness Coal & Ry. Co.'s railway in the near future and that the company's colliery property will, in all probability, be leased to some one who will operate it for a fixed period.

Acquisition of Maritime Province Railways by Dominion Government.

The House of Commons on July 5, passed in the supplementary estimates by way of revote the following amounts for the purchase of branch lines in Nova Scotia and New Brunswick: York and Carleton Ry., $18,000; St. Martins Ry., $67,000; Moncton and Buctouche Ry., $70,000; Elgin and Havelock Ry., $30,000; Salisbury and Albert Ry., $75,000, interest on these amounts estimated from the date of taking possession to Mar. 31, 1920, not exceeding $34,000. The details of the vote set out that the purchase price is not to exceed the amount stated above for each railway (the debts of each railway to the Canadian Government Railways to be cancelled); interest on the purchase price at 5% to be paid from the time of taking possession to the date of the transfer of title, and authorization is given to such of the railways as were under the Dominion Parliament's jurisdiction to sell their lines.

The supplementary estimates passed by the House of Commons, May 20, 1918, contained similar amounts to those mentioned above for the purchase of the railways named, together with $200,000 for the purchase of the Caraquet and Gulf Shore Ry., and $60,000 for the Kent Northern Ry. The owners of these two companies declined to accept the prices offered, but the other five did, viz: the Elgin and Havelock Ry., the Moncton and Buctouche Ry., the St. Martins Ry., and the York and Carleton Ry., being taken over as from June 1, 1918, and the Salisbury and Albert Ry., as from July 1, both 1918, since which dates they have been operated as Canadian Governments Railways branches.

We were officially advised July 15, that the details of taking over these five railways had not been completed, and that it was not expected that all the papers in connection with the transfer of title would be in shape before the end of September. The New Brunswick Legislature passed an act last session giving or confirming titles to right of way to small lines, and giving permission to sell their undertakings.

Ontario Workmen's Compensation Board Report for 1918.

The total number of accidents reported to the Board during the year was 47,848, and the amount of compensation awarded was $3,514,648.57, including claims in respect of a number of 1917 accidents which had not been adjusted at the close of that year, and not including the amount required to meet unadjusted claims of 1918, which it is estimated will amount to $157,852.18.

Accidents in connection with railway and canal construction, dredging, fishing, etc., are classified under Schedule 1, which come under the assessment or collective liability system. The total amount collected on estimated pay rolls from the employers of the above mentioned classes of labor was $83,675.78, and the total amount available to meet claims for the year was $83,318.13. The total expended for medical aid, compensation, pensions, etc., was $40,313.64, leaving a balance of $42,986.19.

Accidents to workmen occurring in connection with steam railways, electric railways, navigation companies, express and sleeping car companies, telephone and telegraph companies, are dealt with under Schedule 2, in which the employer is individually liable for payment of compensation for accidents as they occur. The amounts paid during 1918 as compared with 1917, were as follows:—

	1918	1917
Pensions	$511,964.32	$392,404.71
Other awards	251,546.70	231,151.66
Total	$763,511.02	$623,556.37

The increase was due in the main to the increased pension cost in the fatalities to railway employes during the severe weather of early 1918. During 1917 the pension awards in the steam railway industry group were $290,245.21, and in 1918, $379,263.66.

The cash in bank and invested in connection with schedule 2 industries at Dec. 31, 1918, was $1,036,251.99 against $589,608.45 at Dec. 31, 1917. The amount of the awards in connection with transportation companies was as follows:—

	Awards, not pensions	Pensions.	Total
Steam railways	$153,183.06	$379,263.66	$532,446.72
Electric railways	9,421.20	21,278.23	30,600.43
Navigation companies	6,526.12	14,429.05	20,955.17
Ex. and sleeping car companies	1,699.13	723.06	2,422.19
Telephone and telegraph companies	596.25	7,725.47	8,321.72
Total	$171,425.76	$423,419.47	$594,845.23

Accidents on Steam Railways in 1917-1918.

The Railways Department report for the year ended June 30, 1918, deals with accidents to life and limb under two heads, viz: those caused by the movement of trains, and those from other causes. The following tables give the details:

By Movement of Trains.

	Killed		Injured	
	1917-18	1916-17	1917-18	1916-17
Passengers	32	24	322	410
Employes	154	177	1,868	1,909
Trespassers	129	150	140	124
Non-trespassers	64	64	173	193
Postal clerks, etc	4	4	46	46
Total	383	419	2,549	2,682

Other Causes.

	Killed		Injured	
	1917-18	1916-17	1917-18	1916-17
Passengers	....	....	22	22
Trackmen, etc.	6	8	798	653
Station men	3	0	434	371
Shopmen	4	7	1,188	952
Other employes	11	17	1,064	711
Other persons	3	1	34	38
Total	27	33	3,540	2,747
Grand total	410	452	6,089	5,429

The number of accidents at railway crossings of highways was 132, against 144 for the year ended June 30, 1917. The number of highway crossings by railways at June 30, 1918, was 26,894, of which 2,077 were protected by gates, bridges, subways, or other means, and 24,817 were unprotected.

Great Northern Railway's Report for 1918.

The directors report for the calendar year 1918, states that the company's railways were taken over for operation by the United States Government Jan. 1, 1918. The contract under which this was done provides that each of the Canadian railway companies which had theretofore been operated with and as a part of the Great Northern Ry.'s system of transportation, shall continue to maintain and operate its railways in conjunction and co-operation with the Director General's operation of the G.N.R. Co.'s railways, as nearly as possible, in the same manner as they were operated prior to U.S. federal control. The Canadian companies thus included in the contract are: The Midland Ry. of Manitoba; Manitoba Great Northern Ry.; Brandon, Saskatchewan and Hudson Bay Ry.; Crowsnest Southern Ry.; Nelson and Fort Sheppard Ry.; Red Mountain Ry.; Vancouver, Victoria and Eastern Ry. and Navigation Co.; New Westminster Southern Ry.

The annual compensation to be paid by the U.S. Government for the use of all the G.N.R. lines is $28,771,360.78, which is the average annual railway operating income of the several companies for the three years from July 1, 1914 to June 30, 1917.

The company's investment in Canadian companies, on account of advances made to pay for property, construction additions and betterments was increased during the year as follows:—Brandon, Saskatchewan and Hudson Bay Ry., $1,276.26; Manitoba Great Northern Ry., $4,840.30; Nelson and Fort Sheppard Ry., $1,846.65; Red Mountain Ry., $28.74; Total, $7,991.95.

Taxation of Steam Railways.

Taxes are collected from Canadian railways by the various provinces, as well as by the municipalities therein. The total amount paid by the Canadian railways in respect of lines in Canada, and to state and municipal authorities in respect of their lines in the United States, for the year ended June 30, 1918, was $4,011,088.38, against $4,354,172.52 for the year ended June 30, 1917. The following are details as given in the Railways Department's report:

	Provincial tax.	Municipal tax.	Total tax
Nova Scotia	$ 25.00	$ 1,680.13	$ 1,705.13
New Brunswick	54,262.11	4,184.10	58,446.21
Quebec	117,756.25	507,060.11	624,816.36
Ontario	702,756.25	990,589.39	1,693,129.38
Manitoba	234,543.48	102,597.34	337,140.82
Saskatchewan	135,999.20	27,187.17	163,186.37
Alberta	112,611.82	97,455.51	210,067.33
British Columbia	457,819.91	291,602.88	749,422.79
Yukon	6,826.17	....	749,422.79
Outside of Canada	159,476.45	6,871.37	166,347.82
Totals	$1,981,860.38	$2,029,228.00	$4,011,088.38

Ties Used for Maintenance on Steam Railways.

The consumption of ties on Canadian steam railways during the year ended June 30, 1918, apart from those used for construction work on new mileage was, according to the Railways Department's report, as follows:

	1917-1918	1916-1917
Ties used	7,785,831	8,852,861
Total cost	4,701,312	4,368,124
Cost per tie	60.3c	49.3c

The following details are given:

	Number	Total cost	Average
Cedar	610,158	$ 381,377	62.5c
Oak	686,886	592,747	86.3
Hemlock	301,103	137,211	45.1
Spruce	88,087	28,645	32.4
Fir	63,678	25,903	40.6
Tamarack	180,269	102,526	56.8
Pine	1,309,852	995,596	54.0
Chestnut	131,087	24,724	67.7
Treated	3,106,636	1,471,266	53.8
Unclassified	1,233,655	941,317	76.3
Total	7,785,831	$4,701,312	60.3c

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Canadian Transportation Men, Engineers, Etc. in the War.

Timiskaming and Northern Ontario Railwaymen's Patriotic Association, contributed $99,446.50 to the Canadian Red Cross Society and the Canadian Patriotic Fund up to Feb. 28.

PERSONAL NOTES.

Mrs. Insketter, widow of Lt.-Col. G. A. Insketter, who was killed in France, while in command of the 4th Divisional Canadian Engineers, in 1916, died at Waterdown, Ont., July 18, aged 31.

Lt.-Col. C. W. P. Ramsey, C.M.G., formerly Engineer of Construction, Eastern Lines, C.P.R., Montreal who has returned to C.P.R. service after four years active service overseas, was born at Bury, Que., Jan. 15, 1883, and entered C.P.R. service as apprentice in the Mechanical Department, in 1893, in the company's Delormier Ave. shops, Montreal. From that date to Sept. 19, 1903, he served the company in various minor capacities, and on the latter date he was appointed draftsman in the Construction Department, Montreal, and then passed through the various grades of transitmen, Assistant Engineer and Division Engineer, to Mar. 15, 1912, when he was appointed Engineer of Construction, Eastern Lines, and continued in that position until Feb. 25, 1915, when he was granted extended leave of absence to take command of the Canadian Overseas Railway Construction Corps. He was made a Companion of the Order of St. Michael and St. George, for services in the field, in June 1916, and in 1918 was seconded to the War Department, London, Eng. for special services there. During his connection with the C.P.R. he was closely identified with the construction of the Lindsay, Bobcaygeon & Pontypool Ry., the Toronto-Sudbury Branch, and the double tracking of considerable portions of the Eastern Lines, and lastly he had charge of construction of the Campbellford, Lake Ontario & Western Ry., which constitutes the C.P.R. Lake Shore Line from Glen Tay to Agincourt, Ont. He is at present relieving superintendents on Eastern Lines, who are on their vacations.

Lieut.-Col. Blair Ripley, C.B.E., D.S.O., formerly Engineer of Grade Separation, C.P.R., Toronto, who has returned to the company's service after his active military service overseas, was born at Oxford, N.S., Aug. 29, 1880, and was from 1901 to 1903, Assistant Engineer, Canadian Northwest Irrigation Co.,Great Falls & Canada Co., Alberta Ry. & Coal Co., and St. Marys River Ry., in Alberta and Montana respectively; 1903 to 1905, Chief Engineer of Construction, St. Marys River Ry. in Alberta, and from 1904 to 1905, also Chief Engineer of Construction, Alberta Ry. & Irrigation Co.; 1905 to 1907, Resident Engineer on Construction, Grand Trunk Pacific Ry. in Manitoba and Saskatchewan, and Assistant Engineer on harbor work, G.T.P. R,. Prince Rupert, B.C.; 1907 to May 1, 1916, Resident Engineer on grade revision, C.P.R., Maple Creek to Medicine Hat, Alta.; Resident Engineer on field work, Lethbridge viaduct, C.P.R.; Assistant Engineer in charge, Old Man River viaduct, C.P.R., Macleod, Alta.; Assistant Engineer in charge, Outlook viaduct, C.P.R., Outlook, Sask. On the completion of these works he was sent by the C.P.R. to Nova Scotia to report on betterments and improvements for the Dominion Atlantic Ry., and to organize and prepare for the replacement of some large and difficult bridges on the waters of the Bay of Fundy. In 1912 he was appointed Engineer in charge of Grade Separation, C.P.R., North Toronto. In 1916 he was appointed Lieutenant-Colonel of the Canadian Railway Troops, raised for general railway and bridge construction work at the front. He was subsequently given the D.S.O. for services in the field and at the close of the war was made a Commander of the Order of the British Empire.

Lieut.-Col. John Wise, who has been given the Distinguished Service Order, the Military Cross and the Croix de Guerre, entered the Nova Scotia Tramways & Power Co.'s employ, as a motorman, Apr. 29, 1913, working in that capacity until Apr. 28, 1914, when he was granted three weeks leave of absence on account of illness. He did not return to work, and in Oct., 1914, enlisted in the 25th Nova Scotia Battalion, as a private. When the battalion left for England, about six months later, he was acting sergeant. He received his commission as lieutenant in France, was promoted to captain, then major, and finally lieutenant-colonel of the battalion in which he enlisted.

Major G. A. Wood, M.C., who returned to Toronto from overseas, July 9, was, before entering military service, with the Toronto Harbor Commission, and is a son of D. O. Wood, Traffic Manager, Export and Import Department, Canadian National Rys., Toronto. He graduated from the School of Practical Science, Toronto University, in Apr., 1915, with the degree of B.A. Sc., and entered Toronto Harbor Commission's service in that year under the Chief Engineer. He received a commission as lieutenant in the Corps of Guides and went overseas in Nov., 1915, joining the Royal Flying Corps in England, where he received his training. He was later selected as a flying patrol man, and was sent to France in June, 1916, beginning his work in the Somme offensive, July 1, 1916. He was made captain on the field in Nov., 1916, and was awarded the Military Cross in June, 1917, for good services in France, having, after 9 months of flying, many enemy machines to his credit, and several narrow escapes. In 1917 he was transferred to the United Kingdom, having passed through his service in France without a scratch and with nerves unshattered. On account of his knowledge of the aeroplane, and being a science graduate, he was selected to lecture on construction matters to young officers, on the various subjects connected with flying, and he also designed a strengthener for the substructure of battle planes, which was adopted by the Air Board, and used on several machines in active service. He was promoted to major in Mar., 1918, and was specially selected to establish the first Royal Air Force training camp in Ireland, and later established a second one, at Collinstown, Ireland.

Montreal Incline Ry.—A press report, July 14, states that the company, which is in the hands of a receiver, has refused the terms offered by the Montreal Administrative Commission, and that the railway will not be operated this year.

Transportation Appointments Throughout Canada.

The information given under this head which is gathered almost entirely from official sources is compiled with the greatest care so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Canadian Government Merchant Marine Ltd.—D. O. WOOD, Traffic Manager, Export & Import Department, Canadian National Rys., Toronto, is handling traffic matters for Canadian Government Merchant Marine Ltd., until such time as it may be necessary to appoint a separate staff. W. A. CUNNINGHAM, Export & Import Freight Agent, Canadian National Rys., Montreal, is doing the booking of traffic intended for C.G.M.M. ships.

Canadian National Rys. — W. H. BEVAN has been appointed Division Engineer, Ottawa Division. Office, Ottawa.

R. B. JENNINGS has been appointed Division Engineer, Toronto Division. Office, Rosedale, Ont.

R. KING, who has been acting as Superintendent at Fort William, Ont., during the absence of R. S. Richardson on active service, is now acting as relieving Superintendent on Western Lines.

J. J. LEYDON, heretofore City Ticket Agent, Halifax, N.S., has been appointed City Passenger Agent there as reported in our last issue.

S. McILWAIN has been appointed Division Engineer, Nipissing Division. Office, Capreol, Ont.

K. E. McLEOD has been appointed District Passenger Agent, British Columbia Lines. Office, Vancouver, B.C.

G. P. MacLAREN, has been appointed District Engineer, Ontario District. Office, Toronto.

W. C. MOIR, has been appointed acting City Ticket Agent, Halifax, N.S., vice J. J. Leydon, City Ticket Agent, promoted.

H. K. MORRISON has been appointed Division Engineer, Superior Division. Office, Hornepayne, Ont.

L. F. MUNCEY has been appointed Assistant Superintendent, Pacific District, Vancouver, B.C.

R. S. RICHARDSON, recently on active service as Lieutenant, with No. 13 Light Railway Company, B.E.F., and formerly Superintendent, District 3, Transcontinental Division, Canadian Government Rys., Fort William, Ont., has resumed duty there as Superintendent, Canadian National Rys.

GUY TOMBS, Assistant Freight Traffic Manager, Montreal, has resigned an appointment as Traffic Manager, Canadian Export Paper Co. and allied interests.

Canadian Pacific Ocean Services Ltd.—CAPT. A. W. DAVISON, R.N.R., master of the company's s.s. Empress of Asia, is reported to have been appointed Marine Superintendent at Hong Kong, China.

Commander THOMAS FISHER, R.N., has been appointed General Manager, Atlantic Lines. Office, 8 Waterloo Place, London, Eng.

G. N. JACKSON, heretofore Agent, Manila, Phillippine Islands, has been appointed Agent, New York, vice E. T. Stebbing, whose appointment as Passenger Manager for Great Britain and the European Continent, Liverpool, Eng., was announced in our last issue.

JOHN R. SHAW, heretofore Agent, New York, N.Y., has been appointed Agent, Manila, Philippine Islands, vice G. N. Jackson, transferred to New York.

Canadian Pacific Ry.—K. K. DONNELLY, heretofore Purchasing Agent, Vancouver, B.C., has been appointed Purchasing Agent, Winnipeg, vice F. E. Gauthier, deceased.

A. HAYWARD, has been appointed Locomotive Foreman, Red Deer, Alta., vice J. McGown.

Grand Trunk Ry.—W. BIBBY, Supervisor of Track, District 4, Montreal Division, has had his jurisdiction changed to cover section 516, Cornwall, east to Montreal West station. Office, Montreal.

N. C. FOSS, Assistant Purchasing Agent, and General Storekeeper, Pere Marquette Rd., Detroit, Mich., is reported to have resigned to enter G.T.R. service.

J. B. FRANKLIN, Supervisor of Track, District 5, Montreal Division, has had his jurisdiction changed to cover sections from Cornwall, Ont., including Sec. 517 to Manitoba Yard. Office, Brockville, Ont.

JOHN HARROWER, heretofore draftsman and supervisor of apprentices, has been appointed acting Chief Draftsman, Car Department, vice W. J. Hyman, Chief Draftsman, resigned. Office, Montreal.

C. A. SAYLOR, heretofore Locomotive Foreman, Windsor, Ont., has been appointed Locomotive Foreman, Sarnia, Ont.

A. A. SNYDER has been appointed acting Supervisor of Track, District 4, Montreal Division, vice W. Bibby, assigned to other duties. Office, Montreal.

W. H. WENSLEY, has been appointed Locomotive Foreman, Windsor, Ont., vice C. A. Saylor, transferred to Sarnia, Ont.

Grand Trunk Lines in New England (U.S.R.A.), A. B. McNAUGHTON, Superintendent, has had his office removed from Island Pond, Vt., to Portland, Me.

Inverness Ry. & Coal Co.—J. MacGILLIVRAY, Receiver and Manager, having resigned, the Eastern Trust Co., Halifax, N.S., has been appointed Receiver, and has appointed R. E. McLeod to manage the mines and railway.

Pere Marquette Rd. (U.S.R.A.)—W. BRACY, has been appointed Tie and Timber Agent. Office, Detroit, Moch.

C. R. COUCHMAN, heretofore Tie and Timber Agent, is reported to have been appointed Assistant Purchasing Agent, and General Storekeeper, vice N. C. Foss, resigned to enter G.T.R. service.

United States Railroad Administration—A. T. HARDIN, heretofore Assistant Regional Director, Eastern Region, has been appointed Regional Director, Eastern Region, succeeding A. H. Smith, resigned.

The Cornwall Terminal Co., is the title of a business concern which purposes to handle pulpwood from Quebec and New Brunswick, destined for pulp mills in various parts of New York State. Among those interested are B. H. Brown, W. T. Rodden, F. C. Shorey, Montreal, who are reported, July 17, to have visited Cornwall, Ont., and interviwed the municipal authorities with a view to securing a guarantee of $50,000 of bonds.

The Canadian Railway Troops' Splendid Work in the War.

Since the article under the above heading was published in Canadian Railway and Marine World for July, we have received some additional information which enables us to give a number of names not mentioned in the Minister of Canadian Overseas Military Forces' report.

It was stated that in 1914 some well known Canadian railway contractors requested the Militia Department to be allowed to raise a railway construction unit, but on account of the French General Staff having at that time assumed the entire responsibility for the maintenance and construction of railways in the British Armies' zone on the western front, the proposal was not approved. The contractors referred to were: Angus McDonnell, J. W. Buchanan and "Jim" Macdonald, British Columbia.

The two railway construction companies which in the spring of 1915, the War Office requested the Canadian Government to send over and of which the Canadian Pacific Railway Co. undertook the organization, and which proceeded overseas in Aug., 1905, were under command of Major C. L. Hervey and Major A. T. Lefevre, respectively, both of Montreal, each of whom now has the D.S.O.

The Canadian Overseas Railway Construction Corps, which went over in June, 1915, was under command of Lt.-Col. C.W.P. Ramsey, formerly Engineer of Construction, C.P.R., now C.M.G.

The ten battalions of Canadian Railway Troops were under the command, respectively, of the following officers, whose present ranks, ets., are given in each case. Lt.-Col. Blair Ripley, C.B.E., D.S.O., Toronto; Lieut.-Col. J. B. L. MacDonald, D.S.O., Vancouver; Lieut.-Col. C. L. Hervey, D.S.O., Montreal; Lieut.-Col. A. E. Griffin, D.S.O., Vancouver; Lieut.-Col. A. Earchman, D.S.O., Toronto; Lieut.-Col. J. B. Harstone, D.S.O., Edmonton; Lieut.-Col. J. K. Cornwall, D.S.O., Croix de Guerre, Edmonton; Lieut.-Col. W. H. Moodie, D.S.O., Winnipeg; Lieut.-Col. W. A. McConnell, D.S.O., Toronto; Lieut.-Col. W. A. Munro, D.S.O., Winnipeg; Lieut.-Col. A. C. Garner, D.S.O., Winnipeg; Lieut.-Col. S. P. McMordie, D.S.O., Prince Rupert.

Other commanding officers were as follows: Canadian Overseas Railway Construction Corps: Lieut.-Col. J. G. Reid, D.S.O.; 58th Broad Gauge Operating Co., Captain A. H. Kendall, M.C.; 13th Light Railway Operating Co., Capt. R. McKillop; 69th Waggon Erecting Co., Captain H. H. Pinch; 85th Locomotive Crew Co., Lieut. and Acting Capt. B. B. Shaw.

Brevity in Railway Reports.

"Don't be so long-winded in your reports as you have been in the past," said the manager of the Wild West Railway to his overseer. "Just report the condition of the track as ye find it, and don't put in a lot of needless words that ain't to the point. Write a business letter, not a love letter."

A few days later the railway line was badly flooded, and the overseer wrote his report to the manager in one line:—

"Sir—Where the railway was the river is.—Yours faithfully, ——." —Blighty (London).

Steel Rails for Canadian Railways.

We are officially advised that up to July 12, the Dominion Iron and Steel Co. had delivered 95,257 gross tons of steel rails, on orders placed by the Dominion Government in Nov., 1918. The rails were distributed to the following railways:—

	Tons.
Canadian Government Rys.	33,212
Canadian Northern Ry.	1,593
Canadian Pacific Ry.	30,878
Grand Trunk Ry.	29,413
Timiskaming and Northern Ontario Ry.	161
Total	95,257

Telegraph and Telephone Line Estimates for 1919-1920.

In addition to the Public Works Department estimates of which particulars were given in Canadian Railway and Marine World for May, pg. 287, the supplementary estimates for the year ending, Mar. 31, 1920, submbitted to the House of Commons during the recent session, contained the following items, chargeablbe to income:—

NOVA SCOTIA.	
Cape Breton telegraph system, renewal of poles between Grand Narrows and Beaver Cove	$ 1,275
Cape Breton telegraph systems, renewals of poles between East Bay and Ball's Creek	1,600
NEW BRUNSWICK.	
Chatham, Escuminac and Point Sapin telephone line extension from Point to Kouchibouguac, revote, $2,000	2,500
QUEBEC.	
Long Point of Mingan, to rebuild office and residence	2,800
ONTARIO.	
Bath, Amherst Island telephone line, to grant subsidy of $1,200 to Amherst Island Telephone Co., and to provide able	2,200
BRITISH COLUMBIA.	
Caribou District, branch line, Clinton to Gong Ranch, via Kelly Lake, 50 miles	10,000
Construction to telephone line from Slocan Jct. to Slocan City	6,000
Kamloops District, completion of Heflly Lake line to Blucher Hall and Adams Lake, 22 miles	4,500
Kamloops District, extension from Goose Lake to Long Lake (south of Kamloops), 10 miles	2,000
Kamloops District, Merrit to Kingsvale via Coldwater Valley, 20 miles	3,800
Kootenay, extension, Windermere to Fairmount, 18 miles	3,120
Mainland telegraph and telephone lines, general repairs and improvements, further amount required	16,000
Mainland telegraph and telephone lines, to provide for second wire between Similkameen and Princetown	7,300
Skeena District, to complete branch line, Houston to west end, Ootsa Lake	1,516
Skeena District, establishment local exchange, Smithers	850
Skeena District, extension from west end Ootsa Lake to Ootsa Lake post office and Francois Lake	7,200
South Okanagan, extend Marron Lake Branch 4 miles to Lusk's Ranch	700
South Okanagan, branch line from Okanagan Falls to Mathison wharf to Myers' Flat, 15½ miles	3,000
Vancouver Island, extension of telegraph or telephone line, Shaw Cove to Egmont	3,350
Vancouver Island, construction of branch telephone line from Sechelt to Shaw Cove	2,500
Vancouver Island, extension from Squamish (Newport) to Cheakamus House	2,100
Vancouver Island, construction of branch telephone line from Vancouver Island to Port Harvey on Cracroft Island	7,500
VARIOUS.	
Contingencies	5,000
	$ 97,111

During the last 8 years, revolutionists and bandits have destroyed 10,000 freight cars, and many passenger cars, in Mexico.

Telegraph, Telephone and Cable Matters.

The Board of Railway Commissioners has approved the Marconi Wireless Telegraph Co. of Canada's conditions for the acceptance of marconigrams filed for transmission via C.P.R. telegraphs, Great Northwestern Telegraph Co. and Western Union Telegraph Co.

A London, Eng., dispatch of July 25, states that the Marconi Co. has been awarded £500,000 damages against the British Government, for breach of contract in connection with the construction of an Imperial wireless telegraph system. The company's claim was for £1,000,000.

It is announced that cablegram and telegraph money transfer business is now conducted between Canada and points in Germany. The restrictions which were in force during the war have been modified to the extent that business messages in plain English or French may be accepted for German points. Personal messages, or personal matters in business messages, are not permitted, and code addresses must not be used.

The laying of the Atlantic cable has always been a source of dispute as to who is entitled to the credit. It is generally claimed that the credit should go to the U.S. and the U.S. Ambassador, at a recent dinner in London, Eng., claimed that "Cyrus Field tied the two sides together with cables." Chas. Bright, in the London Times, however, has said "that the first Atlantic cable was laid by my father, the late Sir Chas. T. Bright, for which he was knighted at the age of 26. Cyrus Field was Managing Director of the company concerned in the project."

Judgment on Express Companies Application for Increased Rates.

The Board of Railway Commissioners gave judgment recently in regard to the express companies' application for increased rates. The judgment is a lengthy one, and declares that railways and express companies are carrying on business at a large loss. Increases are allowed in the general merchandise scale, and in the special scale N, those in the former case averaging 45.94% in the east; 23.75% in the prairie provinces, and 11.48% in British Columbia. The higher rates in the east are accounted for by the abolition of discriminatory rates and the extension of similar treatment to all districts. The present rates in the prairie provinces average 39.55% higher than those in the east, and under the new rates are 17.88% higher; in British Columbia the averages are, 29.29% and 15.01%, respectively, above those in the east.

The increases in scale N are tempered by changes in the basing and graduate tables, and the reduction from first class by absolute, instead of average, deductions. The result in this scale will be to increase the cost per lb. by one-fifth of a cent for the 50 mile distance, and for a movement of 450 miles, to increase the cost of transportation two-fifths of a cent per lb.

In giving judgment, the Chief Commissioner said: "I am ready to admit that the value of all the commodities has very greatly increased since commodity rates first came in, and that one of the elements in rate making relates to the value of the commodity carried and to the increased risk undertaken. As against the shippers and vendors of these articles of daily necessity, there is no difficulty in the express companies justifying a reasonable increase. I do not think, however, that the matter ought to be considered at the moment. The companies will obtain a fair measure of increase in their first and second class rates. That increase, it is hoped, will prove sufficient to properly maintain the companies and the business, but whatever increase is placed on these commodities would form a reason, a comparatively small one, it is true, in most instances, but still a reason, for further increases in the charge made to the consumer. In the past experience it would appear that the increase in charge to the consumer would be much greater than the increased cost per pound or per pint of the commodity. The cost of living is still mounting. As I see it, it is not to the public interest, and not to the interest of the express companies themselves, to afford the excuse that a raise in the price of transportation of these essential commodities would give for still higher charges against the public. Over and above the essential interest of the consumer, a further and very real ground for withholding increases in these commodity rates, unless it proves to be absolutely necessary, lies in the position of the producer. The commodity rates are the producer's rates. He produces in quantity and ships in bulk. On the pound unit of production his resultant profit is small. His costs have greatly increased. I would dismiss the companies' applications, in so far as the commodity rates are concerned, entirely."

The judgment also increased the wagon service of the companies, extending it on the basis of population. Other changes were made in the companies' tariffs, providing that goods will be carried at a lower rate than hitherto, when originating in, or being delivered to, points without a wagon service. This reduction is 30c per 100 lb., and between points where but one wagon service exists, 15c per 100 lb., having regard in each case to the appropriate graduate table. The graduate table has been recast under multiples of 5, and the pound unit is extended from 10 to 15 lb.

CANADIAN NATIONAL RAILWAYS —EASTERN LINES

Quebec District.

SEALED TENDERS addressed to the undersigned will be received until 12 o'clock noon, Saturday, August 9th, 1919, for the erection of a Station Building at Chicoutimi.

Plans and specifications may be seen at the office of the District Engineer, Champlain Market, Quebec, Que., and at the office of the Division Engineer, Tunnel Terminal Station Building, Cor. Lagauchetiere and St. Monique streets, Montreal, Que.

Tenders will not be considered unless accompanied by an accepted cheque on a chartered bank equal to 5% of the full amount of the Tender, payable to the order of Treasurer, Canadian National Railways.

Lowest or any Tender not necessarily accepted.

A. F. STEWART,
Chief Engineer,
Eastern Lines, Can. National Raiways,
No. 27 Wellington St. East, Toronto.

Electric Railway Department

Proposed Lease of Guelph Radial Railway by Grand River Railway.

Negotiations have been going on for some little time between Canadian Pacific Ry. and Grand River Ry. officials on the one hand, and Guelph, Ont., city officials on the other hand, for the leasing of the Guelph Radial Ry. to the Grand River Ry. At a special meeting of the Guelph City Council, July 15, it was decided to submit to a vote of the ratepayers, Aug. 11, a bylaw approving of an agreement between the city as owner of the Guelph Radial Ry., and the Grand River Ry. Co., for the lease of the Guelph Radial Ry. to the Grand River Ry. Co.

The agreement, as set out in the bylaw, is made between the Grand River Ry. as purchaser of the franchise of the Galt, Preston and Hespeler St. Ry., the Guelph Radial Ry., and the corporation of the City of Guelph, and is to run for 25 years, from Sept. 1, 1919. The Grand River Ry. agrees to undertake the management and operation of the Guelph Radial Ry., in all respects the same as its own line, provided that the cost of management, as distinct from the cost of operation shall be no greater than that of its own line; as soon as the bylaw approving the agreement is passed to spend $16,500 on the roadbed, overhead work and equipment (other than rolling stock), of the leased line, and any additional amount required for repairs to be provided from time to time from the gross earnings of the leased line; to build a line from its present terminus at Hespeler to connect the same with the leased line in Guelph, and to build a spur or branch line from some point on that line to the city's property at Puslinch Lake. This line is to be built within a year, and the city agrees to grant land at the lake for terminal purposes, such land to be returned to the city in the event of the spur line ever being taken up. The Grand River Ry. is to operate a service on the leased line on a 10-minute headway, as soon as the improvements have been effected. The leased line is to be operated for the joint benefit of the two railways, and the proceeds after paying operating expenses, etc., are to be divided equally between the two companies. The fixed charges to be met are stated to be interest on $169,000 of debentures, issued by the city, and it is provided that the city may issue other debentures in respect to capital expenditure for which it may be liable. Any deficit is to be borne by the city, and the Guelph Radial Ry. All rolling stock, plant and material on hand at the time of transfer may be used or sold by the lessee, but the value of the same is to be credited to the Guelph Radial Ry., the proceeds of the sale of the present cars to be applied to the cost of purchasing 10 one-man cars, or such other number as may be required to provide the 10-minute service agreed to. Such additional rolling stock as may be required and the purchase of which is agreed upon is to be paid for out of the Guelph Radial Ry. share of the profits of operation. The fares are to be as follows: Single cash fare, 5c; six tickets to be sold for 25c for limited hour traffic, and children's tickets, 10 for 25c. Other provisions in the agreement refer to the carrying of freight traffic; the method of accounting, the contracts with the Hydro Electric Power Commission of Ontario for power, etc. The final clauses provide that the agreement may be cancelled at any time by the city on the non-fulfilment of any of its terms, and that it may be renewed upon termination for a further term of 25 years. In the course of the discussion it was stated that the city would probably have to issue an additional $30,000 of debentures in connection with the line; that the estimated cost of the extension from Hespeler to Guelph was $400,000, and that the spur to Puslinch Lake would leave the main line either at Kribbs Mills, or the lime kiln, approximately the same point as was projected when the city proposed to build a line to Hespeler with a branch to Puslinch Lake.

The agreement has to receive the Hydro Electric Power Commission of Ontario's consent; the City of Guelph having passed a bylaw in 1916 with respect to the construction of an electric railway from Toronto to Windsor, under the terms of the Hydro Electric Railways Act of 1914.

The Guelph Ry. Co was incorporated by the Ontario Legislature in 1895 to carry out an agreement made Aug. 7, 1894 between the Guelph City Council and George Sherman for the construction of an electric railway in the city. The title of the company was changed in 1903 to the Guelph Radial Ry., and the line subsequently passed under the city's control. The company has power under the act of 1908 and amending acts, to build a line to Hespeler with a branch to Puslinch Lake. The Guelph Radial Ry. has 8.03 miles of first main track. It has $193,000, of common stock, held by the city. It has 8 closed and 3 open cars, 1 snow plough, 1 sweeper and 1 locomotive. For the year ended June 30, 1918, its gross earnings from all sources were $52,814, and its operating expenses $41,280. No taxes were paid. It carried 1,125,552 fare passengers and 23,712 tons of freight.

The Grand River Ry. Co. is a C.P.R. subsidiary owning or controlling the Galt, Preston and Hespeler St. Ry. and the Preston and Berlin Ry., and has power to build a number of other lines which was obtained under the title of the Berlin, Waterloo, Wellesley and Lake Huron Ry. Co. This company took over the G.P. and H. St. Ry. and P. and B.R. and subsequently its name was changed to the Grand River Ry. at the Dominion Parliament's recent session, the section of the act authorizing the amalgamation of these two lines of railway, but which declared that they were still to remain subject to the jurisdiction of the Ontario Legislature was repealed, thus bringing them under the control of the Dominion Parliament. The Grand River Ry. is operated under the same management as the Lake Erie and Northern Ry.; another C.P.R. subsidiary, with which it connects at Galt and which runs from there to Port Dover, 51 miles.

Sir Adam Beck Intervenes—The Ontario Hydro Electric Railway Association's executive committee, at a meeting in Toronto, July 23, at which Sir Adam Beck was present, passed the following resolution:—"That the executive officers of the association be directed to assist Guelph citizens in the defeat of the proposed bylaw in the agreement with the Grand River Ry. and any such agreement which is against the interests of other municipalities having a hydro electric railway agreement which Guelph is party thereto. The executive council associations strongly urges the Hydro Electric Power Commission of Ontario to withhold its consent to all agreements with municipalities, which in any way conflict with any proposed or contemplated hydro electric railway when a contract with such railway has received the assent of the electors, having in view not only the interests of other municipalities, but the contemplated provincial system of hydro electric railway construction."

The Winnipeg Sympathetic Strike and the Winnipeg Electric Railway.

Winnipeg's general sympathetic strike was called off by the strike committee on June 26, at 11 a.m., having lasted exactly six weeks, and having accomplished practically nothing. An article in Canadian Railway and Marine World for July described the early developments of the strike, and told of the attempt of the strike leaders to completely tie up all industries and public utilities in the city. The splendid voluntary services of the citizens, who resisted such a ruthless assault, and who saw in it an attempt to establish the rule of the Soviet, kept all utilities operating, and after the third week of the strike, employes began to drift back to their respective jobs. The city council, however, decided not to take back any employes who refused to sign a pledge, expressing complete loyalty to the city, declining to join a union affiliated with any outside organization, and also refusing at all times to go out on sympathetic strike. This applied to the firemen and policemen, who went out on strike at the strike committee call, and now all utilities are manned by regular staffs, while the majority of the former police and firemen are back on their old jobs, having "signed the pledge." The ignominious ending of the strike, resulting in complete defeat for the strikers, when, had they accepted the proferred arbitration at first they would most certainly have gained something, has resulted in a serious split in the labor ranks. The saner element are dissociating themselves from the more radical trade unionists, and denunciation of the strike leaders by the mass of the workers is general.

As previously stated, the Winnipeg Electric Ry. was ordered by the city council to resume service after the strike had been in progress four weeks. The company made an appeal to the men to return, but without success, and on June 17, A. W. McLimont, Vice President and General Manager, issued an ultimatum, which stated "Employes who do not report, and are not available when required to enable the company to resume service, will be replaced by permanent new employees, and will lose their seniority. New employes taken into the service will not be dismissed, to make places for any old employe who may subsequently decide to return to duty." This ultimatum expired at 8 a.m., June 19th, and resulted in several employes returning to work. These, together with supervisors and inspectors, manned the cars and gave service on the principal lines of the city. Fourteen cars were operated on June 19, and this number was gradually increased up to 50 cars by the time the strike was called off. Upon "peace" being declared the company's employes returned in a body and normal service was restored in the course of a day or so.

The strike, on a whole, was a very orderly one. On two occasions the strikers clashed with the special police, but only on the recent occasion, June 21, were street cars running. One of the cars had to pass a large crowd of strikers, who were forming up in a parade in defiance of the mayor's proclamation. The crowd attacked the car, pulled the trolley off, smashed every window, and tried many times in vain to upset the car. Unable to do this they piled newspapers in the interior, and set fire to them. Just at this moment a detachment of Royal Northwest Mounted Police arrived on the scene, the fire was put out, and the car was driven back to the barns. At the time they sought to rescue the car the mounted police were stoned by the crowd, and this resulted in the police retaliating with their revolvers. Two of the crowd were killed, and scores injured.

One offshoot of the strike is the arrest of a number of the strike leaders, who face charges of seditious conspiracy.

During the six weeks of the strike many employers filled the vacancies caused when their workers were called out on sympathetic strike, and the ending of the strike left hundreds of men and women without employment.

The strike was called off by the strike committee unconditionally, but the Manitoba Government has appointed H. A. Robson, former Public Utilities Commissioner for Manitoba, as a commissioner to enquire into the origin and the whole circumstances surrounding it.

Increases in Electric Railway Fares, Etc.

British Columbia Electric Ry.—The first case to come before the Public Utilities Commissioner for British Columbia recently in connection with electric railways, was the application of the British Columbia Electric Ry. for power to increase its fare to 6c on its Vancouver lines. The application was heard July 10, and decision was reserved on certain points of procedure. Section 11 of the act provides that no new rates of fare can be put in operation without the commissioner's approval, but subsection 2 makes an exception in favor of the B.C.E.R. Co. in respect to its Vancouver and mainland lines. The effect of the subsection is that the company was permitted to charge a rate of 6c from April 9, the excess over the former rate to be paid into a special account and retained there until the commissioner should fix a rate, when, in the event of the 6c rate being established, the money was to be paid over to the company, or in the event of the old rate being established the money would be paid to the Vancouver City Hospital. The burden of proof of the necessity for an increase of rates rests with the company.

At the opening of the hearing the commissioner laid down the mode of procedure viz: that the company's case be presented in two parts: (1) The investment and the present value of the property, with reference to the appraisal, and (2) revenue and expenditure, with reference to profit and loss and maintenance and operation. W. G. Murrin, Assistant General Manager, argued that the investigation must cover the company's business as a whole, as no one rate was independent of the others. Of the company's total revenue, 28% comes from Vancouver, and any serious interferance with that would affect the credit of the company, and make it difficult, if not impossible to raise money for equipment, rolling stock, extensions, etc. The highest return during the last five years was 3.5% on the book values; and no dividend has been paid to the holders of ordinary stock since 1914. G. E. McCrossen, counsel for the city, claimed that the application should be tried on its merits as a local issue arising out of a violation of the franchise and that the issue should be limited to the city limits of Vancouver, except to include Hastings Townsite and D.L. 301. The mayor claimed that the company should be required to operate its lines under the terms of the franchise granted by the city.

The Hull Electric Co. made a number of changes in its passenger fares June 15. The fares within Hull city limits remain as before, the changes affecting suburban points only and being in several cases an advance of 5c on previous fares, but they do not exceed the standard mileage rate of 2.875 which the Board of Railway Commissioners authorized some time ago.

Lethbridge Municipal Ry.—The Lethbridge, Alta., City Council took up recently the consideration of a proposal to increase the charges for all public utilities. The proposal includes, according to a press dispatch, the raising of fares on the municipal railway to 10c cash, or 4 tickets for 25c. The reason for this proposal is stated to be the recent devision of a board of conciliation granting an all round increase of 15% to civic employes.

London and Port Stanley Ry.—The Dominion Parliament has confirmed the agreement with the City of London authorizing the charging of 50c return fares for adults and 25c return for children between 4 and 12 years on the semi-weekly excursion trains from London to Port Stanley, Ont., in place of the 30c return fare for adults and children, between May 15 and Oct. 15, authorized by the original agreement of Nov. 28, 1913. The new fares are to be in operation on Wednesday and Saturdays, from May 24 to Sept. 10.

Moncton Tramways, Electricity and Gas Co.—The New Brunswick Public Utilities Commission is reported to have made an order June 26, authorizing the Moncton Tramways, Electricity and Gas Co. to do away with special tickets for workmen and children. In Nov., 1918, the commission authorized the raising of the fare from 6 tickets for 25c, to a straight 5c rate, and gave power to abolish the limited hour tickets for workmen at 8 for 25c, but made no change in regard to the school children's tickets at 8 for 25c. The new schedule was to remain in force for four months. An investigation of the company's books was directed to be made and R. Carter, Halifax, has been engaged in the work. The order made in Nov., 1918, now appears to have been varied so as to authorize the company to charge a straight 5c faire for all classes of passengers, and at all hours of the day.

Montreal Tramways Co.—The Montreal Tramways Commission was reported on July 2 to be studying the fare question on the M.T. Co.'s lines for this year. The increase of wages agreed to recently means that an additional expenditure of approximately $1,300,000 will have to be provided for as well as some other expenditures. The commission has before it the complete figures of the operations for the year ended June 30, and the estimates of the requirements for this year. Under the new franchise plan the commission has power to fix the fares at such figures as will produce the revenue required to pay operating expenses, maintenance, interest at 6% on a capital of $36,286,000, and a rental to the city of $500,000.

Waterloo-Wellington Ry. Offered for Sale.

A press report states that the electric railway owned by the Berlin and Bridgeport Electric St. Ry., the title of which was changed in 1912 to the Berlin and Northern Ry., and which was further changed at the Ontario Legislature's last session to the Waterloo-Wellington Ry., has been offered to the City of Kitchener, Ont., which already owns the street railway in the city. The line extends from Kitchener to Bridgeport, Elora and Fergus. The present franchise has three years to run. W. H. Breithaupt, Kitchener, Ont., is President.

We are officially advised that the proposal is being considered by the Kitchener Light Commissioners who have charge of the city's street railway department. Under the terms of the franchise the city has the option of taking over the railway in 1922, but Mr. W. H. Breithaupt is willing to sell the line, plant, etc., at once. The property consists of [illegible] miles of line, with a park and casino at Bridgeport; 1 double track car and 2 single track cars. Power is supplied from the Kitchener and Waterloo St. Ry.'s plant.

Kamloops - Kelowna Power Development—A project is reported to have been initiated at Vernon, B.C., for the development of a hydro-electric power plant at Shuswap Falls, on the Adams River, for the supply of power for the district lying between Kamloops and Kelowna. It is stated that one of the objects of the promoters is to supply power for the operation of the Canadian National Rys'. Kamloops-Vernon-Lumby line, now under construction. Arrangements are reported to be in progress for holding a conference of the municipalities of the area to give further consideration to the plans.

The Toronto Railway Employes' Strike.

The strike of Toronto Ry. employes, which commenced at midnight, June 21, ended with the renewal of car operation on July 4 at 5 a.m. The wage schedule under which the men were working, expired June 15, and prior to this, they had given notice of a demand for a flat rate of 55c an hour, an 8 hr. day, and several changes in working conditions. An agreement, made between the company and the men on June 16, 1917, for two years, provided wages, per hour, as follows:

Motormen, conductors and motor and truck repair men: First 6 months, 30c; second 6 months, 32c; second year, 35c; third and subsequent years, 37c.

Shedmen: Foremen, 37c; operating shedmen, 33c; general shedmen, 32c; car cleaners, 31c.

Sunday work was paid an additional 1c an hour, platform time, and emergency crews and motor and truck repair men were paid time and one-fifth. Towards the end of 1918, the men decided to ignore this agreement, and asked for an increase by way of bonus, commensurate with the increased cost of living, which they claimed to average from 29.7 to 53.3%. They applied for the appointment of a board of conciliation, but the company objected on the ground that a wage agreement was in existence. The Labor Department, however, granted the application, and a board was appointed, consisting of County Judge Barron, Stratford, Ont.; F. H. Phippen, K.C., representing the company, and H. W. Harper, the men. A majority report, signed by the two first named, recommended that employes, whose wages under the schedule were 30c an hour, be given an increase of 2½c, and all other employes an increase of 2c an hour, dating from Nov. 1, 1918. The men's representative, in a minority report, held that the men were entitled to their full demands, but the award was put into effect.

During June, steps were taken by various public bodies with a view to heading off a strike, and the mayor held numerous conferences with the company's officials, the employes, the board of trade, and the Ontario Government, as well as the board of control and the city council, when numerous suggestions, practicable and impracticable, were made and discussed, several of them being of a more or less intimidatory nature, either to the company or its employes, and as a consequence, considerable bitter feeling was engendered. A proposal to the Ontario Premier, that a royal commission be appointed to investigate the company's affairs, elicited the fact that the government had no power to grant such an application, but suggested in response that both sides agree to submit the dispute to a commissioner to be appointed by the government, on the understanding that the decision be binding on both parties, but this offer was declined.

The Toronto Ry.'s General Manager received a delegation of the employes June 6, to consider their demands, and after definitely stating that the company was not in a financial position to meet the same, and on June 10, the company applied to the Labor Department for the appointment of a board of conciliation under the Industrial Disputes Investigation Act, and named F. H. Phippen, K.C., as its representative. The men opposed the appointment of a board, and declined to nominate anyone to act on their behalf, and at a mass meeting, June 14, confirmed this position, but decided to postpone any action for a week, pending the outcome of negotiations between the city council and the Ontario Government. On June 20, the Labor Department appointed W. H. Hevey to represent the men on the board of conciliation, and County Judge Barron, Stratford, Ont., was appointed chairman. The board held its first meeting at Toronto, June 21, making it a general conference of all concerned, and it was agreed to hold a public meeting the same night, to further ventilate the matter. This meeting was more or less of a fiasco, each party strongly maintaining its previous position, without any signs of compromise, thus creating an impossible situation.

The men ceased work at midnight, June 21, and at a meeting of the board of control, June 23, it was decided to apply to the Ontario Railway and Municipal Board for an order to compel the Toronto Ry. to operate its cars and give an adequate service, and the board made such an order. In the meantime the city was without an electric car service, except such as is operated in some of the outlying districts, by the Toronto Civic Ry., the Toronto & York Radial Ry. and the Toronto Suburban Ry. Vehicles of all kinds were utilized in an endeavor to handle the traffic, the police commissioners fixing the maximum fare for an unlicensed jitney at 25c, but omitting to specify what distance was to be covered for that fare. The consequence was that in many cases, 50c and more was often paid for a ride, which the Toronto Ry. is compelled by its franchise to give for less than 4c.

The conciliation board held several meetings, but for some time, any usefulness it possessed, was, to say the least of it, obstructed by the interference of outside parties on questions of jurisdiction, first, it being claimed that it had too much jurisdiction, which the mayor desired curtailed; second, that it had too little jurisdiction, which the mayor desired should be increased, and third, that it had no jurisdiction at all, on account of a temporary change in the management.

On June 24, the company gave notice that it intended to attempt to carry out the Ontario Railway and Municipal Board's order to operate its cars, and requested that it be given adequate police protection for the purpose. This had been promised, but the company was advised not to proceed with the attempt, and on June 26, on the city's application, the Ontario Railway and Municipal Board issued the following order:—

"It having been made satisfactorily to appear to the board that the agreement between the City of Toronto and the Toronto Ry. Co. has been violated by the company by reason of its failure to operate its railway on June 23, 24 and 25, and that the railway is not being operated. And it appearing that the board's order, June 23, directing the company to commence forthwith to operate its railway, and to continue to operate an adequate service, has not been obeyed by the company;

"The board orders and directs that for the proper enforcement of such order the board do enter upon, seize and take possession of the railway of the said company, and the real and personal property of the company, together with its books and offices, for the purpose of preventing the violation of the said agreement and disobedience to said order, and ensuring a car service pursuant to the terms of the said agreement; and for that purpose do assume and take over all powers, duties, rights and functions of the directors and officers of the said company so far as may be necessary for the foregoing purpose; and do supervise and direct the management of the said company and its railway in all respects, including the employment and dismissal of officers and servants of the company until such time as the board shall otherwise order. And in order to carry into effect the foregoing purposes, the board doth hereby appoint and employ Roland C. Harris, Commissioner of Works of the City of Toronto, to be the Manager of the said railway while it shall be and remain in the board's possession as aforesaid."

In an endeavor to settle the strike, R. C. Harris, acting for the Ontario Railway and Municipal Board, offered the men the rates per hour paid to the civic railway employes, as follows:

First 6 months, 40⅛c; second 6 months, 42⅜c; second year, 45¾c; third and subsequent years, 48c. He also agreed that if the conciliation board recommended a higher rate, it would be paid. At a meeting of the men, this offer was rejected by a large majority.

On June 30, the conciliation board made an interim report recommending the following scale per hour: First 3 months, 50c; next 9 months, 52½c; thereafter, 55c, and also recommended that 8 hours constitute a day, with an extra half hour for the completion of run; time and a half after 8½ hrs.; time and a quarter for Sundays, and time and a half on holidays. It was also recommended that an investigation of the company's books be made, for the purpose of ascertaining the correctness of the company's claims, and if it be found that the operating revenue is insufficient to meet the situation the fare be raised to a straight 5c, except for children's tickets, the whole of the increase to be available to pay the increase in the men's wages, and not to be subject to any percentage payment to the city, which is to be based on the present average fare. At a mass meeting of the employes, July 2, the interim award of the board was accepted as regards the wage scale, and on July 3, the Ontario Railway and Municipal Board agreed to pay this, no further mention being made as to the straight 5c fare.

Following on the pressure that was being brought to bear on the authorities for an examination of the company's books to refute, or otherwise, the company's contention that it was not in a financial position to pay the men's demands, without some modification of the franchise terms as to fares or percentage payable to the city, what was termed a "sensational development" occurred, when it transpired that the company's books had been sent to Montreal. Immediately, on the Ontario Railway and Municipal Board's request, the books were returned to Toronto, for an audit under the board's order.

On July 8, D. M. McIntyre, K.C., chairman of the Ontario Railway and Municipal Board, issued the following statement:—"R. J. Fleming, representing the directors of the company, elected by the shareholders, on the evening of July 4, advised the Ontario Railway and Municipal Board that the aforesaid directors were desirous of regaining control of the company's affairs and service, which the board agreed to restore upon the company agreeing to observe the terms of the interim award of the conciliation board, as to wages and hours and days of labor, with the further stipulation that such observance is to continue for the period ending June 16, 1920, and irrespective of the gross revenues of the company. The directors, under seal of the company, authorized Mr. Fleming to act in their behalf. This morning the requisite written undertaking, as approved by the board's counsel, I. F. Hellmuth, K.C., was deposited with the board, whereupon we relinquished possession of the company, having accomplished the resumption of the street railway service, the purpose for which we took possession of the railway."

The company announced July 22 that schedules were being prepared, so that an 8 hr. day might be made effective Aug. 1.

The conciliation board resumed its sittings, July 23, to deal with working conditions, etc.

Nova Scotia Tramways and Power Co. Issues $1,000,000 Securities to Prove for Improvements.

The Nova Scotia Public Utilities Commission had before it on June 25 an application by the company to issue $1,000,000 of 3-year gold coupon notes at 7%, being the first half of an issue of $2,000,000 of such notes the issue of which had previously been authorized by the company's shareholders. It was reported to the commission that proceeds of the issue would be used to make improvements to the company's gas and power plants and its electric railway, the total estimated cost of the improvements, according to the schedule submitted being $1,021,000. This amount it is proposed to spend as follows:—Power house, $147,500; gas depot, $79,000; track, $452,000; electric distribution, $122,000; car barns and cars, $221,000. The commission granted the necessary approval July 11.

An issue of 3-year 7% coupon gold notes, due June 1, 1922, was offered to the public in July. The prospectus states that the notes are a direct obligation upon the company and rank senior to the $2,0778,800 of 6% preferred stock and $2,510,000 of common stock, and that with the exception of first mortgage bonds, no mortgage bonds or debentures may be issued unless the coupon gold notes are secured in the same manner as such new issue. The company's gross earnings for 1918 are stated to have been $998,702, and the earnings for the current year, on the basis of earnings ascertained to date, are estimated at $1,325,000. The management of the company has been entrusted recently to Stone and Webster, Inc., of Boston, Mass.

British Columbia Electric Ry.—A London, Eng., cablegram states that the company has declared an interim dividend of 2½% for the half-year to be paid June 29. The payment of an interim dividend was omitted for June, 1918.

Ontario Hydro Electric Railways.

The Hydro Electric Power Commission of Ontario in its annual report for the year ended Oct. 31, 1918, gives the following information with regard to its work in connection with the promotion of the construction of electric railways under the provisions of the Hydro Electric Railways Act of 1914:—

As the 1916 amendment to the Railway Act forbade active construction of the proposed hydro electric railways during the continuance of the war, the staff was reduced to a minimum, but the general work of the department in compiling specifications and preparing standard designs, was carried on. The freight traffic data, collected by canvass in the more important cities, towns and villages of the province, was carefully gone over and classified and is now in a convenient form so that it may be used for future estimates. Some time has been spent in arranging the details of the preliminary estimates that were prepared on the Toronto Northeastern, Toronto-London and other lines. When these estimates were prepared, time was not available for presenting them in as complete detail as might be desired, but this work is now well in hand. During the past year all the agreements made by the commission and the various companies absorbed by the commission, in regard to wire crossings, underground crossings, and matters referable to the Board of Railway Commissioners and the Ontario Railway and Municipal Board have been placed under one complete filing system. All engineering matters pertaining to agreements, leases, etc., effected with the various railway companies operating under these boards are now handled through a branch of the commission's railway department.

Acting on a request from the City of London a number of estimates were prepared showing the effect of uniting the London & Lake Erie Ry. and Transportation Co.'s line, and the London & Port Stanley Ry.; also estimates of the probable operating revenue and expense of operating of portions of the Lake Erie line. Several meetings were held at London during the year but it was found impossible to recommend the purchase of any portion of this line, with a view to putting it in operation, as the receipts appeared to be too low to warrant such action. Negotiations having failed, it was found advisable by the owners of the line to dispose of the property as scrap, which is now being done.

Work in connection with estimates on a proposed line between Kinmount Jct. and Minden was proceeded with and when the estimates were completed, it was found that sufficient business could not be secured to allow of a favorable report being presented. The municipalities having been so informed, a deputation called at this office in Mar., 1918, and it was the opinion of those present that further traffic could be located. A committee was appointed to look into the matter but they were unable to secure any further traffic than that which had already been located by our men; however, on their request, an engineer visited the district in Sept., 1918, and an active canvas was commenced of the shippers in the district. The data so secured are being compiled but the outlook for a favorable report is not promising.

Sir Adam Beck, Chairman of the Hydro Electric Power Commission of Ontario, is reported to have stated in Toronto, July 23, that he had that day been given authority by the commission to sign all the agreements with municipalities, under the Hydro Electric Railways Act of 1914, and amendments thereto. These acts not only authorized the building of electric railways within Ontario by the commission, but confirmed agreements with a large number of municipalities for the construction of electric railways, including one from Toronto easterly to Whitby, etc., with a number of branches; one from Toronto to Guelph, towards Sarnia, and a third from Toronto to Hamilton and the Niagara frontier. An act passed at the Ontario Legislature's last session authorized municipalities which had passed bylaws approving of the agreements, to enter into supplementary agreements under which they are to deposit debentures, pro rato, to cover the cost of the lines through municipalities where the bylaws were defeated. These supplementary agreements were on July 23, all reported to have been signed, notwithstanding a press report of July 17 that the mayor of St. Catharines had stated he would not sign.

The report of July 23, also credited Sir Adam Beck with stating that engineers were in the field revising surveys for the Toronto-Hamilton line, and that construction on it would probably be started in the autumn.

Edmonton Radial Railway Finances.

The City Comptroller of Edmonton, Alta., presented his annual review of the financial condition of the city's affairs to the city council recently. Referring to the Edmonton Radial Ry. he he said:—"The accumulated deficit of the department is now $363,102.38, and attention is again directed to the necessity of providing for it, especially in view of the interest charges, which are steadily increasing and creating an additional handicap on the successful operation of the utility.

"In spite of loss in revenue of approximately $20,000, due to the influenza epidemic during Oct. and Nov., 1918, an increase in gross earnings is shown by this utility of $19,407.60 over the previous year, and a somewhat exceptional coincidence is that the cost of operation and maintenance, which in every other department reflects a considerable advance, in the case of the street railway shows a reduction of $554.98. This is mainly due to the adoption of one-man cars, as wages and materials have of course increased in this class of service here as well as elsewhere. The net result, however, shows a deficit of $143,732.11, compared with $163,731.94 for 1917.

"Comparative figures of mileage and passengers carried for 1917 and 1918 are as follows: Car mileage: 1917, 1,860,883 miles; 1918, 1,972,461. Passengers carried; 1917, 10,086,213; 1918, 9,909,529."

Nova Scotia Tramways and Power Co.—We have been officially advised that it is the new directors' intention as soon as they have had sufficient time to study the company's lines, to improve and build up the property both by making betterments and extensions.

Electric Railway Statistics for Year Ended June 30, 1918.

Following are extracts from the Railway Department's report on electric railway operations in Canada for the year ended June 30, 1918:

Length of Lines, Miles.

	1918-19	1916-17
[illegible]	[illegible]	1,743.54
[illegible]	[illegible]	345.72
[illegible]	[illegible]	188.70
Total	[illegible]	2,277.96

In connection with the figures given above, the Comptroller of Statistics says: "There was not an actual reduction of first track mileage in 1918. There was merely an accurate statement of second track mileage, following special correspondence with units which had been making incorrect returns, the immediate effect of which was to reduce first track mileage. The mileage of all tracks remained practically unchanged."

When the Railways Department's statistics for 1916-17 were issued, it was apparent that the mileage figures given for electric railways were incorrect. As an example, the Winnipeg Electric Railway was shown as having 110.20 miles of first main track, and no second main track. Canadian Railway and Marine World called the attention of the Comptroller of Statistics to this and to some similar errors in regard to other companies, in consequence of which he said he would issue a special circular to the companies so the figures for 1917-18 may be considered more reliable than those for previous years.

Capitalization.

	1917-18	1916-17
[illegible]	[illegible]	$ 70,606,520
[illegible]	[illegible]	90,628,219
[illegible]	[illegible]	$161,234,793

Earnings, Operating Expenses, Etc.

	1917-18	1916-17
[illegible] earnings	$21,943,644.04	$27,621,582.36
[illegible]	[illegible]	1,[illegible]47,909.69
[illegible]	268,122.82	96,803.64
[illegible]	512,414.26	471,357.94
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	$ 1,209,900.62
[illegible]	[illegible]	1,646,611.02
[illegible]	[illegible]	3,012,809.71
Operation of cars	7,801,063.13	[illegible]
Total operating expenses	[illegible]	$20,098,634.35
[illegible]	[illegible]	$10,030,029.19
Miscellaneous income	2,311,176.60	2,292,200.76
[illegible]	[illegible]	$12,415,229.95
Taxes, interest, etc.	6,150,074.21	7,552,368.55
[illegible]	[illegible]	[illegible]
Appropriated to re[illegible]	[illegible]	[illegible]
[illegible]	1,671,358.93	2,468,686.61
[illegible]	[illegible]	
[illegible]		[illegible]

Miscellaneous Statistics.

	1917-18	1916-17
[illegible]		
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	629,441,997
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	—
[illegible]	[illegible]	—
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	4,295
[illegible]	[illegible]	11,696
[illegible]	[illegible]	[illegible]
[illegible]	77	63
[illegible]	[illegible]	2,728

It will be noted that there are several matters in connection with the above figures requiring explanation to account for their differences. The figures covering capitalization do not include $493,346 cash aid given to electric railways by governments and municipalities. The fact that the Montreal Tramways Co. and two other units do not make reports to the department is explained as the reason for variations in other figures. For 1916-17 the earnings of the Montreal Tramways Co. were included, but not for 1917-18; while that company's operating expenses are included in the total operating expenses, but do not figure in the details. The amount required to meet appropriations for reserves and dividends exceeded the amount available for that purpose, from the 1917-18 earnings, by $212,680.83, but was apparently not out of the undivided surplus of $1,124,620.57 carried over from 1916-17.

Standard Safety Cars for Levis County Railway.

The Levis County Ry., Levis, Que., bought recently, in the U.S., 12 standard safety cars, specially fitted for the Canadian climate. Following are the principal dimensions:

Length over all	28 ft. ½ in.
Length over dashers	26 ft. 9½ in.
Length over body corner posts	17 ft. 9½ in.
Width over all	8 ft.
From floor to point of arch	6 ft. 6 in.
Aisle width	22 in.

The cars have straight sides, round ends, arched roof, top sash stationary, lower sash to raise, platform floor on same plane as body floor, folding doors and steps, 2-motor electrical equipment and air brakes with safety features. These cars are of the double end type and have 14 reversible cross seats of the waylo type. The seats will fold up towards the back to allow one passenger to pass the other. The total seating capacity of each car is thirty-two, and there are 7 windows on each side of the car, equipped with special rubber seat, winter sashes. All the windows are provided with pantasote curtains and guarded with five bar guards.

The cars are double lined throughout and have double floors, with roofing paper between, and are finished in cherry. They have Agasote inside lining below window sills. There is a 12 in. foot gong at each end of the car. Electric bells are installed, operated off the trolley circuit. Twelve consolidated truss plank electric heaters are installed. Eight exhaust ventilators are placed in the roof, and one 56-watt Ohio Brass Co. golden ray headlight is placed at each end of the car. There are also an Ohio Brass Co's. trolley retriever at each end of the car. One illuminated car sign is placed at each end of the car, over the right hand vestibule window.

Two sand boxes are provided, with Ohio Brass Co's. sanding valves. Fenders of the wheel guard type are provided at end of the car.

One 12 in. drop handle brake and shaft is installed at each end of the car. Westinghouse air brakes and equipment are installed, together with safety car automatic devices. Two 4 in. semaphore tail and marker lights are provided at each end of the car.

The trucks with friction bearings have a wheel base of 8 ft. Wheels 26 in diameter.

The electrical equipment consists of G.E. No. 258 two-motor equipment, with K-10 controller, and includes solid pressed gears, together with all the necessary equipment.

The cars have been specially designed for operation in cold weather. The installation of the air equipment and the automatic devices are special for cold climates, the interior of the car being lined for warmth, and special storm sashes provided all around the car. It is claimed that the Levis County Ry. is the first to be properly and fully equipped with the new standard safety car in Canada.

Mainly About Electric Railway People.

Lieut.-Col. G. D. Fearman, Chief Accountant, Dominion Power & Transmission Co., Hamilton, Ont., has retired from the command of the 13th Royal Regiment.

James Gunn, Superintendent, Toronto Ry., died in Toronto, July 25, aged 80. He was born in Scotland and came to Canada in 1867 and entered Toronto St. Ry. service in 1869 as Secretary and occasionally took his turn as a conductor on the old horse cars. He continued in the service of the railway during the various changes in ownership, and when it was taken over from the city, was appointed General Manager, and when the present company acquired the property was appointed Superintendent, and early this year he completed his 50th year of street railway service. He was for some time a director of the company as well as Superintendent.

Geo. Kidd, General Manager, British Columbia Electric Ry., was expected to return to Vancouver about the end of July from England, where he has been for some time on the company's business.

W. H. Moore, General Manager, Toronto & York Radial Ry., who wrote "The Clash," a book dealing with racial strife in Canada, has been given the degree of doctor in letters, by Lavalle University, Quebec.

Sir Augustus Nanton, President, Winnipeg Electric Ry., has been elected a vice president of the Dominion Bank.

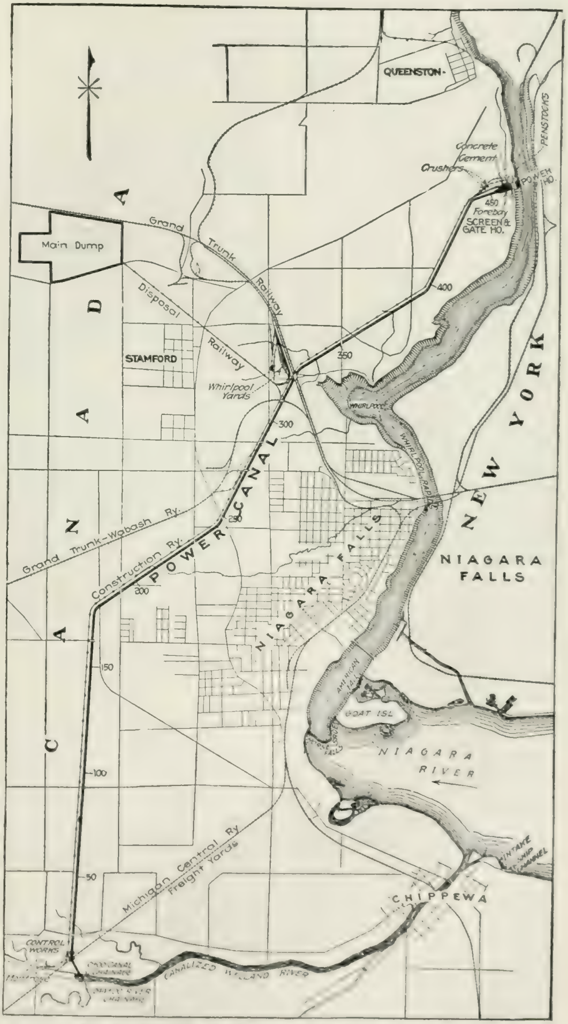
J. I. Newell, Electrical Superintendent, British Columbia Electric Ry., Vancouver, B.C., has taken over the Hydro Electric Engineer's duties, F. S. Easton, who occupied that position, having resigned to enter the Mexican Light & Power Co.'s service.

R. M. Reade, Superintendent, Quebec Ry., Light & Power Co., who is a member of the Quebec Board of Trade's Industrial Committee, is taking a very active interest in securing new industries for the city.

David A. Starr, M.I.E.E., General Manager, Clyde Valley Electrical Power Co., Glasgow, Scotland, who died recently, was born at Halifax, N.S., April 11, 1858. Last December he left Glasgow, on extended leave of absence, to recuperate after an attack of pneumonia, going via New York to Florida, Cuba and Jamaica, thence to New York again, and after visiting Toronto, Ottawa, Montreal, and Halifax, he sailed towards the end of April for Glasgow to resume his duties.

Nova Scotia Tramways and Power Co.—We are officially advised that although there has been a change in the directorate, there has been practically no change in the stock ownership.

The Hydro Electric Power Commission of Ontario's Construction Railway at Niagara Falls


QUEENSTON
PENSTOCKS
Concrete
Cement
Crushers
POWER HO.
450
Forebay
SCREEN & GATE HO.
400
Main Dump
Grand Trunk Railway
Disposal Railway
STAMFORD
Whirlpool Yards
350
300
WHIRLPOOL
WHIRLPOOL RAPIDS
CANADA
NEW YORK
POWER CANAL
250
Grand Trunk-Wabash Ry.
Construction Ry.
200
NIAGARA FALLS
NIAGARA FALLS
150
AMERICAN FALLS
GOAT ISL
HORSE SHOE FALLS
NIAGARA RIVER
100
Michigan Central Ry
Freight Yards
50
INTAKE SHIP CHANNEL
CHIPPEWA
CONTROL WORKS
Montrose
CANALIZED WELLAND RIVER

In order to provide additional power the Hydro-Electric Power Commission of Ontario, decided to undertake the construction of the Queenston-Chippawa power canal. After three years of exhaustive surveys and investigation, the route was finally fixed in 1917. It is about 12.75 miles long with the intake on the Niagara River at Hog Island, Chippawa, above Niagara Falls, and the tail race on the Niagara River about a mile above Queenston. A full description, with plan showing route of canal and of the construction railway, etc., appeared in Canadian Railway and Marine World for Dec., 1918. The report of the commission for the year ended Oct. 31, 1918, issued recently gives some additional details as to the work to be done, and what has been accomplished.

For the purposes of construction, a double track railway is being built for the full length of the canal from Montrose, near where the canal leaves the Welland River, to the forebay at the power house, 8.50 miles, and a 2.50 mile spur connects the main line with the 200 acre area bought at St. Davids as a dumping ground for the disposal of excavated earth and rock. Various other branches of the railway will be built from time to time as needed. One railway will probably be built from the power house to connect with the Michigan Central Rd. at Queenston to bring in the machinery and to take out the material excavated from the power house substructure. Preliminary work was done during the year in the location of this piece of line.

During the year, under review, 11 miles of double track construction railway were electrified along with the yards and sidings. A special form of overhead trolley support was designed by the commission's line construction department so as to locate the trolley wire 7 ft. to one side of the center line of track, thus leaving a clear overhead above the running rails to enable the locomotive cranes and other similar equipment to operate up and down the tracks without fouling the trolley wire. The trolley wires are carried in clamps, which, with the hangers suspending them from the poles, are all made up of standard material, and are so arranged that the temporary use of the material does not injure it. Framed timber trestles are set alongside the dump and other temporary track to carry the trolley wire. These trestles are mounted on wheels or skids and can be moved readily by a locomotive crane, when it is necessary to shift the track. The construction department reports that this system is working satisfactorily.

The rolling stock in use on the line consists of 150 20-yard western air dump cars of 80,000 lb. capacity each; 7 40-ton steam locomotives, and 12 50-ton electric locomotives. The steam locomotives are switchers bought in the United States. The electric locomotives were built by the National Steel Car Co., Hamilton, Ont., 6 of them having the General Electric Co.'s equipment, and 6 the Westinghouse Co.'s equipment. There are also 3 40-ton and 2 15-ton locomotive cranes for general utility work.

In connection with the canal excavation work four bridges have to be built to carry railways under or over the canal—one for the Niagara, St. Cath-
will be reinforced concrete arch bridges.
arines and Toronto Ry., one for the Wabash Rd., one for the Michigan Central Rd., and one for the Grand Trunk Ry., and the Michigan Central Rd. These The following information with respect to the construction of them is given in the report:—

The undercrossing of the N.S. & T.R. involved the diversion of the existing single track to one side of the bridge [illegible] and the construction of a double track reinforced concrete arch with 86 ft. span, having a rise of 25 ft. This arch was designed for Coopers' E-60 loading, and contained approximately [illegible] cubic yards of concrete and over [illegible] tons of steel. The depth from base of rail to foundations was 52 ft. Lackawanna sheet piling was driven around the abutments, coffer dams were unwatered and material excavated to required depth during the winter of 1918. A great deal of trouble was occasioned with water due to saturation of surrounding subsoil. The concrete in the abutments and arch ring was poured during the summer of 1918, and arch completed and traffic restored to the original alignment in December. A temporary timber trestle was designed to carry the N.S. & T.R. main line over the construction railway tracks. which are in the canal prism paralleling the center line of same.

The Wabash Rd. main line was diverted on a timber trestle over 40 ft. high, extending across the previously excavated canal section. The excavation of the canal prism thus provided natural drainage for the foundations which are in the course of preparation for the 100 ft. reinforced concrete arch to be built. This arch differs in design from that of the N.S. & T.R., having straight wing gravity walls, instead of the reinforced cantilever type used in that arch. There are approximately 3,000 yds. of concrete and 65 tons of reinforcing steel involved in the construction. It is proposed to get all the form work in place during the winter of 1918, and proceed with the concrete work as soon as weather conditions permit. Upon completion the structure will provide for the carrying of two tracks, spaced 13 ft. centers, which will take care of the immediate requirements of that railway for a great many years to come. The main line tracks of the Wabash Rd. are carried over the construction railway by means of a temporary trestle.

A 3-track trestle about 400 ft. long has been built for the diversion of the main line of the Grand Trunk and branch line of the Michigan Central Rd. When the traffic diversion is effected on these two lines the portion of the arch lying to the north and south of the diverted tracks will be constructed. Upon completion of the outside portions of the arch it is intended to re-divert traffic to the present alignment. The structure at this point consists of a reinforced concrete arch, having a span of 72 ft. and rise of 20 ft. and involves the placing of 10,000 cubic yards of concrete and 325 tons of steel. The structure thus built will provide for 10 tracks. Owing to the high cost of the diversion of these lines, and the probable need of future extensions, it was decided to carry the arch through under the M.C.R. and G.T.R., making one continuous structure. In the restoration of the G.T.R. and M.C.R. to the original alignment, a temporary timber trestle will carry tracks over the construction railway undercrossing. The [illegible] for the diversion and relocation of railway involves the use of over 300,000 ft. of timber.

Upon the completion of the three arches above described the construction railway and excavating equipment will be free to move, and the innumerable delays already occasioned will be entirely removed. This will facilitate matters very generally in the pursuit of disposal tracks from a junction with the main line construction railway between the Wabash Rd. and M.C.R. and G.T.R. It is thus important that these structures be completed at the earliest possible moment, so as to interfere as little as possible with the output of the excavating equipment.

New Brunswick Power Co.'s Employes Offered Representation on Directorate.

L. R. Ross, President, New Brunswick Power Co., which owns and operates the electric railway in and around St. John, issued the following circular to all employes recently:—"In order that the employes may be kept more closely in touch with the company's affairs, and to promote a better mutual understanding, it has been decided to give the employes the right to elect an employe as a member of the board of directors of the company, with all the authority and privileges enjoyed by other directors. This director shall be elected by a popular vote of all the empoyes in the following manner: Any employe being properly nominated by five employes shall be considered a candidate. Nomination papers to be placed in the hands of the Secretary of the company on or before July 12 and the Secretary will then forthwith post the names of all candidates in conspicuous places throughout the company's premises. On election day, July 22, a locked ballot box will be taken to the different departments, into which each employe may place his ballot. Each candidate may select a scrutineer, and they, together with the company's Secretary, will count the ballots, and the candidate having the largest vote will be a director of the company until its next annual meeting. July 22 has been selected as the election date for this year, thereafter the election date will be that of the company's annual meeting."

The date for receiving nominations was extended from July 12 to July 17, when the employes decided not to take any action for at least six months.

Electric Railway Notes.

The City of Saskatoon, Sask., has asked tenders to be sent in by Aug. 20 for 5 fully equipped one-man supply cars to be delivered before Dec. 1.

The Nova Scotia Tramways and Power Co., according to a press report of July 14, expects to buy shortly 12 or perhaps 20 new cars for its electric railway in Halifax, N. S.

The Nipissing Central Ry., the electric railway operated by the Timiskaming and Northern Ontario Ry. Commission, has received 2 electric car bodies from Preston Car & Coach Co.

Property owners of River Ave., Winnipeg, waited on the city council, July 15, to advocate the removal of the Winnipeg Electric Ry. tracks from that street and the operation of a bus service in place of electric cars.

The Montreal Tramway Co., by order of the Montreal Tramways Commission, put in effect July 28, a new schedule on Notre Dame St., limiting the number of stops, and establishing definite transfer points, with a view to giving a more rapid service.

The Edmonton, Alta., Radial Ry. is reported to have under consideration the adoption of a plan for marking the street cars, so that the route and destination of an approaching car can be readily distinguished. Each route will have a different shaped and colored sign, placed over the route board.

The expected report on the electric railway situation in Hamilton, Ont., has not yet been presented to the city council, and Alderman Aitchison, chairman of the Street Railway Committee is reported to have said, July 10, that the matter had been sidetracked for the time being, but that something would be doing very soon.

The Levis County Ry. laid a complaint before the Quebec Public Utilities Commission, against the South Shore Turnpike Trust for failure to clear the public road of snow, whereby the company was inconvenienced in the operation of its electric railway. The company, at a hearing before the commission recently, made an offer of $1,000 a year towards the cost of the work, on the section of road on which its car line was placed. Judgment was reserved.

Hamilton, Ont., west end residents are agitating for a more efficient service on the portion of the Hamilton and Dundas Electric Ry. within the city. The bylaw passed in 1897, provides for the running of cars as the public convenience may require under such directions as the city council may from time to time prescribe. It is claimed that traffic has increased fivefold, and that the hourly service that has been given since 1897, is not sufficient.

Ontario Liberals' Policy Respecting Public Utilities.

Among the resolutions passed by the Ontario Liberals, at their recent convention in Toronto, were two pledging the party to the following measures:—"The construction of a system of hydro-radial railways throughout the province wherever conditions warrant expectation of successful operation. In the construction of these railways there should be co-operation with the directors of the Canadian National Rys. so that duplication of service shall be avoided and the Dominion and provincial authorities may work together for the development of province-wide systems of transportation.

"Refusal to confer franchises hereafter upon private corporations for railways, power, lighting, heating, telephone or other services requiring for their successful operation the use of the highways, or which come into competition with similar services owned and operated by public authorities."

Electric Railway Situation at Niagara Falls—A committee is reported to have been appointed by the Niagara Falls Chamber of Commerce to investigate the electric railway problem in that town. The ratepayers in January voted in favor of taking over the Niagara Falls, Wesley Park and Clifton Tramway, 456 miles, a part of the Niagara-St. Catharines and Tralo Ry. on the expiration of the franchises in Mar. and April, 1920. The N. St. C. and T. Ry. is owned by the Canadian Northern Ry., which now forms part of the Canadian National Railways, owned by the Dominion Government, and since the vote in January, a feeling has developed in favor of government rather than municipal operation of the line.

Electric Railway Projects, Construction, Betterments, Etc.

Calgary Municipal Ry.—A press report states that work will shortly be started on a new line, which will run up Center St., over the bridge, and as far as 16th Ave. North, at Calgary, Alta. The new line will be about 0.75 of a mile long, and will consist of a single track. The same report states that an extension will be made on the Killarney line for a short distance on 29th Ave. We had already been advised of the proposal to rebuild the first mentioned line, and that the necessary material for its construction was on hand. (July, pg. 392).

We were officially advised July 18, that in addition to the one wide extension on the Carter St. worth line, the city council had in contemplation the construction of a half-wide extension of another line. (July, pg., 392).

Cape Breton Electric Co.—A deputation from New Waterford, N.S., waited on A. S. Pratt, President, Cape Breton Electric Co., in Sydney, N.S., recently to discuss a proposal to extend the company's line to New Watford. Mr. Pratt is reported to have informed the deputation that the extension would not earn the operating cost and the interest on the cost, which would be about double what it would have been when the proposal was last considered in 1913. At present money could not be obtained to build such an extension, therefore the company could not undertake it. If the people of New Waterford were prepared to build the line the company would cooperate with them in every way. (June, pg. 324).

Fort William Electric Ry.—We are officially advised that the finishing up work is about to be undertaken on a mile of track laid on Frederick St., Fort William, Ont., in 1914. The line is yet to be ballasted, for which purpose 2,000 cubic yds. of gravel are required. A. F. Farquharson, Fort William, Ont., is Manager. (July, 1918, pg. 308).

Montreal Tramways Co.—In connection with the projected construction of a new line on Park Ave., the Montreal Tramways Co. has applied to the Board of Railway Commissioners for leave to cross their track with a double track line between Atlantic and Beaumont Aves., Montreal.

G. A. Mountain, the board's chief engineer, reported recently that after the application had been heard by the board, he visited the site of the proposed crossing in company with engineers representing the M. T. A., the C. P. R., and the city, and as a result of the inspection he came to the conclusion that the crossing was one that he could not recommend. He thought that the third track, which was an industrial spur, could be moved to the west of Park Ave., and would leave a 2-track subway proposition. A 60-ft. subway could be built at a cost of approximately $200,000, exclusive of land damages. The highway is junior to the railway, and was opened across the railway on an order by the board. The two tracks are not used to any particular extent for passenger purposes, but as an outlet to the outramont yard.

The Board of Railway Commissioners is also being asked for leave to carry the M. T. Co's. tracks across the Canadian National Ry., on Mariev Ave., in order to connect the M. T. Co's. branch track on Mariev Ave. with the main double track on Notre Dame St. E.

Negotiations are reported between the Montreal Harbor Commissioners and the city council with respect to the location of the tramway line on Commissioners and Common Sts. The tramway lines are on the side of the streets named beside the revetment wall, and as the commissioners wish to use this part of the street for an extension of the harbor railway lines, it is desired to have the tramway lines removed to the other side of the street. (July, pg. 392).

Nova Scotia Tramways and Power Co.—A press report, July 11, states that is expected that the projected extension across the common will be made at an early date. As originally planned the line was to run up Cogswell St., across between the north and centre commons to Queenpool Rd., and join the belt line there. A suggestion has been made that the line run out Cunard St. and join the belt line there instead of across the common.

W. L. Webster, of Stone and Webster's emergency staff, is reported to have said, July 14, that men were employed on the line , removing faulty roadbed, laying new rails, and generally putting the track in order. It was also planned to change all single track intersections to double track intersections, and that the amount to be spent on track improvements this year would depend, to some extent, on the city's paving programme. (July, pg., 392).

Oshawa Ry.—A press report states that it has been decided to extend the track on Duke St., Oshawa, Ont., and to put in a switch to the new plants of the General Motors and Steel Products Co.

The Vancouver Sympathetic Strike and the British Columbia Electric Railway.

Street railwaymen on the British Columbia Electric Ry's. Vancouver city lines resumed work on June 30, after a strike of 25 days. They stopped work on the night of June 4, in sympathy with the general strikes in Vancouver and Winnipeg, which took on revolutionary aspects. The car men went back, although the general strike in Vancouver had not been called off, but was collapsing. Following telegrams from the international officials, ordering the men back to work in accordance with their agreement, a meeting was held on June 25, which was addressed by union leaders and W. G. Murrin, the company's Assistant General Manager. It was then decided to take a ballot. The vote taken the following Saturday showed a majority of 45 in favor of resuming work out of a total vote cast of 750.

New Westminster city lines and the Central Park and Burnaby Lake interurban lines, all of which come under the New Westminster local, were not in operation from June 18 to June 23 at 4 p.m. The New Westminster Trades and Labor Council declared a general strike, on the arrest of the strike leaders in Winnipeg, and although the street and interurban railway men voted 70 per cent. to stay at work, they were forced out. On June 23, however, of their own volition, they decided to go back to work. Station agents and dispatchers on the Fraser Valley and Lulu Island lines were involved in this phase of the strike, and the company reduced its passenger service by one train a day on the Fraser Valley line, and discontinued most of its freight service. The trainmen on these lines are members of the railway brotherhoods, and did not strike.

In Vancouver, jitneys charging 10c fares, plied during the strike. After midnight, they charged 20c and more. On the morning the street cars resumed, the jitneys practically disappeared.

Electric Railway Finance, Meetings, Etc.

British Columbia Electric Ry. and allied companies—

	May, 1919	May, 1918	11 mons. to May 31, 1919	11 mons. to May 31, 1918
Gross	$628,847	$486,876	$6,650,954	$5,497,564
Expenses	473,908	394,538	4,922,911	4,242,672
Net	154,939	92,338	1,728,043	1,254,892

Edmonton Radial Ry.—A press report states that the deficit on the operation of the municipal railway for the five months ended May 31, was to $39,425 against $44,914 for the same period of 1918.

Toronto Ry., Toronto and York Radial Ry. and allied companies—

	May, 1919	May, 1918	5 mons to May 31, 1919	5 mons to May 31, 1918
Gross	$1,032,717	$1,090,747	$5,290,599	$5,320,237
Expenses	624,113	587,331	3,100,256	2,873,259
Net	408,604	503,416	2,190,343	2,446,978

Winnipeg Electric Ry. and allied companies—

	May, 1919.	May, 1918.
Gross	$248,191	$280,935
Expenses	198,092	212,343
Net	50,099	68,592

The Niagara, St. Catharines and Toronto Ry. freight sheds at Niagara-on-the- Lake, Ont., were destroyed by fire, due to lightning, July 10.

London & Lake Erie Ry. & Transportation Co.—We were officially advised July 14 that the dismantling of this company's line was being proceeded with, the principal work then going on being the taking down of the wire and overhead work, which it is expected to sell in the near future.

The Winnipeg River Power Co., which is closely allied with the Winnipeg Electric Ry. Co., is reported to have started the construction of a power development plant at Lac du Bonnet Falls, on the Winnipeg River, about 75 miles northwest of Winnipeg. The plant will, it is said, when fully completed, consist of 6 units of 28,000 h.p. each, and is estimated to cost between $6,000,000 and $7,000,000.

Railway Statistics, Collection, Etc. Canadian Railway and Marine World is officially advised that the collection, compilation, etc., of railway statistics, heretofore carried on in the Railways & Canals Department under the Comptroller of Statistics, is after this year to be done by the Dominion Bureau of Statistics, transportation division, which will work in close co-operation with the Board of Railway Commissioners, and that it is the intention to transfer the Department of Railways and Canals' statistical staff to the Dominion Bureau of Statistics, in due course.

Marine Department

Canadian Government Merchant Marine, Ltd., Shipbuilding, Operation, Etc.

Additional Steamship Construction—In speaking in the House of Commons on May 8, in committee of supply, on an item of $30,000,000 for the construction of ships in accordance with the Dominion Government's shipbuilding programme, the Minister of Marine said: "The value of the contracts which have been placed is, in round figures, about $52,000,000 and up to the end of the present fiscal year $20,000,000 of that will have been paid. The item that we are asking the committee to pass is for $30,000,000, which with the $20,000,000, constitutes, in round figures, the total amount of all the contracts, $52,691,450."

Further on in his speech the Minister said:—The $30,000,000 I am dealing with now is to complete the contracts we have already let, but in view of the fact that there is a great demand for ships and also that we could sell some of our ships under contract at present, if the government deemed it wise to do so, we are not going to discontinue shipbuilding for the moment. We realize that there are 30,000 men engaged in the shipyards throughout Canada, from Prince Rupert to Halifax, and there are fully 10,000 more engaged in making engines, boilers, etc., and to cause 40,000 men to be out of employment at this time would be rather a dangerous thing. It is therefore not the government's intention to cease its shipbuilding programme now. We are going to order additional ships, at least to keep the yards that are requiring work busy throughout the balance of 1919, and probably for a few months in 1920. I do not want this house or the shipbuilders to think that the government can go on forever ordering ships, because there must be a limit to the number of ships that the government can use, and we are getting very near to that point. So that when I say that it is the government's intention, subject to parliament's approval, to order more ships, the shipbuilders must not expect that there will be many more orders to follow, and they must therefore look for orders for their shipyards in the same way as any other industry in the country would."

The item of $30,000,000 was passed by the House of Commons May 8, and a further sum of $10,000,000 was passed in the supplementary estimates for the year ending Mar. 31, 1920, making, with the $20,000,000, provided previously, a total of $60,000,000.

Canadian Railway and Marine World was officially advised July 15 that in pursuance of the policy as outlined by the Minister, he had decided to give contracts to the Collingwood Shipbuilding Co., Collingwood, Ont., for 2 more steel cargo steamships of 3,750 long tons d.w. capacity each, which will be duplicates of the 4 ordered previously from that company, to be built at its Collingwood yard, and of the one to be built at its Kingston yard. The price for the two additional steamships is to be $180 a long ton d.w., against $205 for those ordered previously. They are to be ready by the opening of navigation next spring. Up to July 15 no other additional orders had been placed, but it is expected that some will be in the near future.

Delivery of Steamships—The steel cargo steamships which are being built for the Marine Department, and which have been completed so far, were delivered to Canadian Government Merchant Marine Ltd., for operation, as follows:

Feb. 22, s.s. Canadian Voyageur, 4,575 tons, d.w.; Canadian Vickers Ltd., Montreal.

April 26, s.s. Canadian Warrior, 3,995 tons, d.w.; Collingwood Shipbuilding Co., Collingwood, Ont.

May 9, s.s. Canadian Pioneer, 8,408 tons, d.w.; Canadian Vickers Ltd., Montreal.

May 23, s.s. Canadian Ranger, 8.382 tons, d.w.; Canadian Vickers Ltd., Montreal

June 7, s.s. Canadian Recruit, 3,964 tons d.w.; Collingwood Shipbuilding Co., Collingwood, Ont.

Steel cargo steamship, Canadian Volunteer, approximately 4,300 tons d.w., built for Canadian Government Merchant Marine Ltd., by Wallace Shipyards Ltd., North Vancouver, B.C.

June 19, s.s. Canadian Volunteer, 4,530 tons, d.w.; Wallace Shipyards Ltd., North Vancouver, B.C.

July 16, s.s. Canadian Trader, approximately 3,400 tons, d.w.; Port Arthur Shipbuilding Co., Port Arthur, Ont.

Dead Weights of Vessels—In the table "Orders for steel cargo steamships for Canadian Government Merchant Marine Ltd.," which has appeared in each issue of Canadian Railway and Marine World for several months past and, which has been brought up to date and is repeated on page 454 of this issue, the deadweight tonnage of the ships is given, with other information. Except when preceded by an asterisk, these figures are approximate only, and are subject to revision after the completion of the respective ships. The contracts between the Marine Department and the various shipbuilders contain a clause similar to the following, which is in the contract with the Collingwood Shipbuilding Co. for the s.s. Canadian Warrior.

"It is understood that it is contemplated to build one cargo vessel, having a total deadweight capacity, as specified, of approximately 3,750 tons, and it is agreed that should the total deadweight vary above or below 3,750 tons, on the British Corporation summer load line for salt water, the price of the ship to be modified accordingly, so that the total price shall be $205 per ton deadweight."

As the various ships are completed, and their deadweight capacity determined, and advices of same are received by Canadian Railway and Marine World, the approximate figures given in our monthly table are changed, and the final ones inserted. The following table shows the variations between the approximate deadweight figures for six of the vessels and the finally determined figures:

	Approximate	Determined
Canadian Pioneer	8,100	8,408
Canadian Ranger	8,100	8,382
Canadian Recruit	3,750	3,964
Canadian Volunteer	4,300	4,530
Canadian Voyageur	4,300	4,575
Canadian Warrior	3,750	3,995

These changes in tonnage, of course, caused a corresponding change in price. For example, the approximate price of the Canadian Warrior, as first stated, was $768,750, while the price actually paid was $818,975, an increase of $50,225.

Officers of Steamships—Following is a list of captains and chief engineers of steamships so far appointed by Canadian Government Merchant Marine Ltd., the first column containing the name of the vessel, the second that of the captain and the third that of the chief engineer:

Canadian Pioneer	T. R. Coffin	P. C. Bennett
Canadian Ranger	A. S. M. Nicholls	R. J. Webster
Canadian Recruit	J. D. MacKenzie	J. W. Ayers
Canadian Seigneur	F. Ferguson	J. Gladstone
Canadian Trader	D. Campbell	....
Canadian Volunteer	A. O. Cooper	John Young
Canadian Voyageur	A. L. Starrett	J. T. Meredith
Canadian Warrior	E. C. Sears	L. Marshall

Voyages of Steamships — Following are particulars of voyages made by Canadian Government Merchant Marine Ltd., steamships, after they were transferred to that company for operation:—

Canadian Voyageur, voyage one, sailed from Halifax, N.S., Mar. 2, with miscellaneous cargo, for Barbadoes, Trinidad and Demerara, and returning, carried a cargo of sugar to New York, arriving there Apr. 4. Voyage two, sailed from New York, Apr. 17, with miscellaneous cargo for St. Kitts, Antigua, Guadeloupe, Martinique and Barbadoes, returning carried a cargo of sugar to Montreal, arriving there June 5. Voyage three, sailed from Montreal July 10, for Barbadoes, Trinidad and Demerara, with miscellaneous cargo of hay, oil, meals, oats, cement, bran, flour, lumber and fish, etc., and Canadian Warrior, sailed from Montreal, May 20, with miscellaneous cargo of flour, oats, bran, cement, lumber, hay, etc., arriving at Barbadoes, June 1, at Trinidad, June 4 and Havana, June 14. Left Havana June 24 with cargo of sugar, arriving in Montreal July 8.

S.S. Canadian Pioneer, sailed from Montreal, May 22, for Buenos Ayres, with general cargo of newsprint paper, agricultural machinery, malt, automobiles, window glass, etc., arriving at Buenos Ayres, June 21.

S.S. Canadian Ranger, sailed from Montreal May 30, with general cargo of sugar, meats, canned goods and lumber, arriving at Liverpool, Eng., June 13.

S.S. Canadian Recruit, sailed from Montreal, June 20, with general cargo of flour, cement, oats, lumber, bran, etc., arriving at Kingston, Jamaica, July 1, and Havana, Cuba, July 7, bringing back a full cargo of raw sugar from Cuba.

S.S. Canadian Volunteer, sailed from Victoria, B.C., July 11, with a cargo of lumber for the United Kingdom, via the Panama Canal.

Names of Steamships—Since the last list of names chosen by the Marine Department, for steel cargo steamships for Canadian Government Merchant Marine Ltd., was published in Canadian Railway and Marine World, we have been advised of the following additional ones:

Canadian Sealer; Marine Department contract 40; builder's yard no. 5; Nova Scotia Steel & Coal Co., New Glasgow, N.S.; approximately 2,800 tons d.w.

Canadian Miner; Marine Department contract 40; builder's yard no. 6; Nova Scotia Steel & Coal Co., New Glasgow, N.S.; approximately 2,800 tons d.w.

Canadian Otter; Marine Department contract 44; builder's yard no. 4; British American Shipbuilding Co., Welland, Ont.; approximately 4,350 tons d.w.

Canadian Squatter; Marine Department contract 45; builder's yard no. 5; British American Shipbuilding Co., Welland, Ont.; approximately 4,350 tons d.w.

It is possible that some of the names chosen previously for other vessels of the fleet will be changed, and that names ending with "er" will be substituted, so as to have the names of all the vessels in the fleet end in that way.

Directors of Canadian Government Merchant Marine Ltd.—As stated in Canadian Railway and Marine World for May, Canadian Government Merchant Marine Ltd., which is operating the steel cargo steamships build for the Marine Department, had then five directors, all of whom are directors of the Canadian National Rys., viz: D. B. Hanna, President; A. J. Mitchell, Vice President and Treasurer; Major Graham A. Bell, C.M.G., Deputy Minister of Railways; Robert Hobson, Hamilton, Ont., and E. R. Wood, Toronto. On July 10, four more of the Canadian National Rys. directors were also elected directors of Canadian Government Merchant Marine Ltd., viz: Sir Hormisdas Laporte and F. P. Jones, Montreal; Thos. Cantley, New Glasgow, N.S., and A. P. Barnhill, St. John, N.B.

The s.s. Canadian Volunteer, the first of the Canadian Government Merchant Marine vessels to be built in British Columbia took on a cargo of lumber at Victoria, B.C., for Great Britain early in July. The loading was considerably hindered, owing to a longshoremen's strike. The Canadian Volunteer was built by Wallace Shipyards, Ltd., North Vancouver, and is of the single deck, poop, bridge and forecastle type, 4,300 tons d.w. The keel was laid Oct. 1, 1918 and she was launched Apr. 5.

The Minister of Marine stated in the House of Commons recently, in answer to a question, that the s.s. Canadian Volunteer, has a gross tonnage of 3,188. The department had no information as to the port for which she was to sail, what cargo she carried, or what rate was paid for freight.

The s.s. Canadian Warrior—The Minister of Railways, in answering a question in the House of Commons recently as to the rate of freight per ton received on 2,000 tons of general cargo and 76,000 ft. of lumber carried from Montreal to Barbados and Trinidad by the s.s. Canadian Warrior, said:—"The Canadian Warrior is operated by the Canadian Government Merchant Marine Ltd., who advise that it is not in the company's interest that rates of freight paid by private shippers should be made public. They advise full information covering the company's operations will be submitted to the shareholders, who are the government, at the close of the company's fiscal year."

British American Shipbuilding Co., Welland, Ont., which is building 2 steel cargo steamships, each approximately 4,350 tons d.w., for Canadian Government Merchant Marine Ltd., and, which laid the keel of one, its builder's yard no. 4, on Mar. 29, laid the keel of the second one, builder's yard no. 5, July 14. These ships will be named Canadian Otter, and Canadian Squatter, respectively. They will have approximate d.w. capacity of 4,350 tons each, and will be of the single deck, poop, bridge and forecastle type, of the following dimensions, length overall, 333 ft. 7 in.; length, b.p., 320 ft.; breadth moulded, 43 ft. 10 in.; depth moulded, 25 ft. They will be equipped with triple expansion engines, with cylinders 23 x 38 x 63 in. diar. and 42 in. stroke, and supplied with steam by 2 Scotch boilers, each 15½ x 11½ ft. at 180 lb.

J. Coughlan & Sons, Vancouver, B.C., advised us July 14 that, while work was going on at their yard, conditions had not returned to normal. There had been a decided split in the labor ranks and while some of the trades were will to return to work others were not, and as a consequence only about half of the firm's normal force was working. They expected to lay the keel of the s.s. Canadian Inventor, Marine Department contract 36; builder's yard no. 13, approximately 8,100 tons d.w., about July 25. This would leave one more keel to be laid under the Marine Department's order, viz: the s.s. Canadian Prospector, Marine Department's contract 37; builder's yard no. 14, also approximately 8,100 tons d.w. No dates had been set for the launching of the s.s. Canadian Importer and the s.s. Canadian Exporter, both also approximately 8,100 tons d.w., the keels for which were laid Apr. 26 and May 3, respectively.

Halifax Shipyards Ltd., Halifax, N.S. —We were advised July 10 that the construction of all the company's buildings was held up for six weeks in May and

Details of the Different Types of Steamships for Canadian Government Merchant Marine Ltd.

The following are comparative details of the six different types of steamship being built for Canadian Government Merchant Marine Ltd.:

	2,800 ton.	3,400 ton.	3,750 ton.	4,300 ton.	5,100 ton.	8,100 ton.	10,500 ton
Length, overall	280 ft.	260 ft.	260½ ft.	333 ft. 7 ins.	341 ft.	413 ft. 1 in.	445 ft.
Length, bet. perpendiculars	270 ft.	251 ft.	251 ft.	320 ft.	331 ft.	400 ft.	430 ft
Breadth, moulded	38 ft.	43½ ft.	43½ ft.	44 ft.	46½ ft.	52 ft.	56 ft.
Depth, moulded	20½ ft.	23 ft.	26 ft.	25 ft.	25½ ft.	31 ft.	38 ft.
Draft, loaded	17¼ ft	20 ft.	22 ft. 2 in.	21 ft. 2 ins.	21 ft. 8 ins.	25 ft. 1 in.	29 ft
Type	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	Lake, s.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	2d., p.b. & f'c's'le	3d., p. & f'c's'le
Engines—Type	Tri-compound	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion
Cylinders, diar.	17½ x 28¾ x 47 ins.	20½ x 34 x 56 ins.	18 x 30 x 50 ins.	25 x 41 x 67 ins.	25 x 41 x 68 ins.	27 x 44 x 73 ins.	29½ x 50 x 80 ins.
Stroke	33 ins.	40 ins.	36 ins.	45 ins.	45 ins.	48 ins.	54 ins.
Ind. h.p.	875	1,300	1,200	1,800	2,500	3,000	Single ended
Boilers—Type	Single ended	Single ended	Single ended	Single ended	Single ended	Single ended.	4
No.	2	2	2	2	3	3	15½ x 11¾ ft
Diar. and length	12¾ x 10¾ ft	15 x 11 ft.	14 x 10¾ ft.	15½ x 11½ ft.	14 x 11½ ft.	15½ x 11½ ft.	180 lbs
Working pressure	185 lbs.	190 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.	....
Furnaces—No.	2	6	6	6	9	9	....
Grate surface	80 sq. ft.	135 sq. ft.	100 sq. ft.	132 sq. ft.	156 sq. ft.	198 sq. ft.	4,000
Heating surface	3,000 sq. ft.	4,670 sq. ft.	3,900 sq. ft.	5,162 sq. ft.	7,275 sq. ft.	7,743 sq. ft.	...
Speed	8½ knots	9 knots	9 knots	11 knots	11 knots	11 knots	12 knots
Classification	Lloyd's	Lloyd's	Brit. Corp.	Lloyd's	Lloyd's	Lloyd's	Lloyd's

[illegible] on account of a local strike of the building trades. On the date of our advices, the construction of a power house building was completed, the boilers and machinery were being erected and the first turbine generating unit, of 1,000 k.w. capacity, was expected to be in operation in August. Good progress was being made with the erection of the plate shop and of the office and stores building.

Harbour Marine Co. Ltd., Victoria, B.C.—The keel of the first of 2 steel cargo steamships of approximately 8,100 tons d.w. each for Canadian Government Merchant Marine Ltd., was laid July 14. It is stated that practically all the steel required for the first hull has been delivered at the yard and that rapid progress in construction will be made during the next few months. The construction is under the supervision of J. Clark, Naval Architect and Engineer. It is expected that the vessel will be ready for launching during Jan., 1920. The contract for these two vessels was awarded to the Victoria Machinery Depot Co. and the Harbour Marine Co. was organized to carry out the work.

A great deal of work was entailed in preparing the yard. A large electrical crane has been erected which travels on a 20-ft. gauge track between the slipways, and has a radius of action of 75 ft. and serves two ships. It has a lifting capacity of 3 tons at the extreme distance. A 60 x 5 ft. bar furnace, burning oil fuel, has been constructed. The erection of large septic and oil tanks was necessary before the yard was ready for operation. The main plate shop is 60 x 100 ft., equipped with shears, punches with automatic tables, planer, rolls and other tools. The frame setting and beam bending shops, 180 x 80 ft., are equipped with the above mentioned furnace, horizontal punch, beam bender, angle cutter, friction cut off-saw, and [illegible] slab floors and forge fires.

The company employs ex-service men and the large majority of the employes are war veterans, though there are quite a number of naval and military men who have seen active service in previous wars. [illegible] of the watchmen was serving in the Royal Navy in 1858. Another was soldiering in Africa before the Franco-Prussian war. The most friendly relations exist between the employes and the management. A suggestion box is kept so that any man can convey his ideas direct to the management and suggestions which are adopted are paid for. The company has its own restaurant, which is managed by a disabled soldier and his family. A yard association has been formed to further employes' interests. The scope and activities of this association are very varied, and embrace all forms of games, together with sick relief and provision for dependents. There is a grievance committee, which deals with all trouble in the yard, and a fire committee which looks after fire protection. Under these conditions mutual confidence and co-operation are developing in a marked degree. The idea of building up a shipyard with service men is an experiment introduced by the President, C. J. V. Spratt. When the recent strikes were on, the company was able to carry on its work steadily, owing to the understanding which existed between the management and the men.

The Nova Scotia Steel & Coal Co., New Glasgow, N.S., which is building 2 steel cargo steamships, of approximately 2,800 tons d.w. each, for Canadian Government Merchant Marine Ltd., and which laid the keels of the s.s. Canadian Sealer, builder's yard no. 5, Mar. 27; and of the s.s. Canadian Miner, builder's yard no. 6, Mar. 31, expects to launch Canadian Sealer in September and Canadian Miner in November.

Steel cargo steamship, Canadian Recruit, approximately 3,750 tons d.w., built for Canadian Government Merchant Marine Ltd., by Collingwood Shipbuilding Co., Collingwood, Ont.

Port Arthur Shipbuilding Co., Port Arthur, Ont., advised us recently that it had not laid the keels for the 2 steel cargo steamships of 4,300 tons each for which it has contracts from the Marine Department, viz: Marine Department contracts 32 and 33, builder's yard nos. 43 and 44, and that owing to the delay in securing material, it was impossible to say when they would be laid.

The company delivered the s.s. Canadian Trader, approximately 3,400 tons d.w., Marine Department contract 19; builder's yard no. 39, to the Marine Department, July .....

The Prince Rupert Drydock & Engineering Co., Prince Rupert, B.C., advised us recently that it was impossible to tell when the keels for the 2 steel cargo steamships of 8,100 tons d.w. each, for which it has contracts from the Marine Department, for Canadian Government Merchant Marine Ltd., would be laid, as its operations had been badly handicapped by the strike prevalent on the Pacific coast.

Tidewater Shipbuilders Ltd., Three Rivers, Que., which has contracts for 4 steel cargo steamships of approximately 5,100 tons d.w. each, for Canadian Government Merchant Marine Ltd., expects to launch the s.s. Canadian Settler, builder's yard no. 5, about Aug. 15; and the s.s. Canadian Rancher, builder's yard no. 6, about Sept. 1. The keels for the s.s. Canadian Fisher and the s.s. Canadian Forester, builder's yard nos. 7 and 8, respectively, will be laid immediately after the launchings of the s.s. Canadian Settler and the s.s. Canadian Rancher respectively.

Wallace Shipyards Ltd., North Vancouver, B.C.—Immediately after the launching of the s.s. Canadian Trooper, 4,300 tons d.w., Marine Department contract 5; builder's yard no. 106, on May 31, this company laid the keel of the s.s. Canadian Scout, 5,100 tons d.w. Marine Department contract 7; builder's yard no. 102, the laying of the keel and the erection of the whole center vertical girder only taking 33 minutes.

The s.s. Canadian Volunteer, 4,300 tons d.w., Marine Department contract 4; builder's yard no. 100, was completed and delivered to the Marine Department, June 10.

Naval Service Department Estimates for 1918-1919 and 1919-1920.

In addition to the estimates of which particulars were given in Canadian Railway and Marine World for May, pg. 283, the supplementary estimates for the year ended Mar. 31, 1919, submitted to the House of Commons, during the recent session, contained the following item:—

Patrol of northern waters of Canada, further amount required	$25,000

The supplementary estimates for the year ending Mar. 31, 1920, contained the following items:—

Fisheries protection service, to provide for new vessels on Lake Erie	$150,000
Customs dues	500

Steamships for Pulpwood Trade—In reply to a deputation of pulp and paper manufacturers, at Montreal, July 11, the Minister of Marine, Hon. C. C. Ballantyne, in dealing with their complaints of difficulty in securing vessel room for shipments to England, stated that little relief could be expected until Canada owned and operated her own merchant marine. The Dominion Government could not influence the British Government to relax the restrictions placed on all British tonnage, but he pointed out that strong representations had been made on the matter. Speaking of what the Dominion Government was doing to provide the necessary accomodation, he stated that by the end of this year the government will own and operate 20 steamships, and that by the end of 1920 it would own and operate 50. At present controlls 264,000 tons of shipping.

Sorel Shipbuilding Yard—The estimates for the year ending Mar. 31, 1919, passed at the Dominion Parliament's recent session contained an item of $76,267 to pay estate D. & J. McCarthy the price fixed by Exchequer Court for expropriated land at Sorel on which the government shipyard is situated.

The Australian Government is reported to have placed orders with Vickers, Ltd., in England, for 3 cargo steamships with line capacity of 900,000 cub. ft. of which 400,000 cub. ft. is to be insulated.

Public Ownership of United States Steamships Opposed.

Following is a summary of recommendations made to the U.S. Congress recently by E. N. Hurley, Chairman U. S. Shipping Board:—

The shipping board recommends private ownership and operation as a fundamental policy for commercial shipping. The government should, therefore, contemplate retirement from commercial ship building, ship owning and ship operating activities at the earliest date which may be convenient and practical in order to give our overseas trade the full benefit of competitive service; to leave steamship operators free to render this competitive service, and to impart to present and prospective steamship operators that confidence which they must feel before they can be expected to invest their money in existing ships, and to place the orders for new ships without which the outlook for the U.S. shipbuilding industry will be not encouraging.

In order to carry out this policy, the government should construct no more ships, other than those now in the programme except such new vessels as may be needed to balance the fleet, and for the construction of which funds may be provided as specified. It should adopt, and rigidly adhere to, a definite plan for selling its ships. Obviously it would be impossible to sell the whole fleet at once, but during the period in which the ships are being sold it is essential that the government handle the unsold ships in a manner which will not permit their operation to react unfavorably upon the operation of the ships which have been sold, and will definitely tend to stimulate the purchase of more ships by private operators. This double purpose can be served by assigning unsold ships to managers, or operators, as has been, and still is, the shipping board's practice or by chartering vessels to private operators for limited periods and on terms which will not tend to remove the incentive to buy.

Act Respecting Transfer of Vessels Registered in Canada.

An act to amend the Canada Shipping Act re transfers of mortgages of ships, which has been passed by the Dominion Parliament, provides that a transfer, mortgage, or transfer of a mortgage of a British ship registered in Canada by a person not qualified to own a British ship, or to a foreign controlled company, shall not have any effect unless it be approved by the Minister of Marine, and any person who makes or purports to make such a transfer without such approval shall incur a fine not exceeding $5,000, or imprisonment for not exceeding 5 years, or both fine and imprisonment, on summary conviction, or on indictment.

A foreign controlled company means any corporation where the majority of directors are not British subjects; where the majority of the voting power is in the hands of persons who are not British subjects or who exercise directly or are in control on behalf of persons who are not British subjects; where the control is by any other means in the hands of persons who are not British subjects, and where the executive is a foreign controlled company, or where the majority of the executive are appointed by a foreign company. A corporation shall not be deemed to be a British subject, unless it be established in, and subject to the laws of some part of the British Dominions or a British protectorate, and has its principal place of business there. The Minister of Marine may require any person who is an owner, or mortgagee, of a British ship registered in Canada, or who applies to be registered as the owner or mortgagee, to furnish such particulars as appear necessary for the purpose of ascertaining if such person has been, or is, trustee for, or represents a foreign controlled company, and, in the case of a corporation, it may require the secretary, or other officer performing such duties, to furnish these particulars.

A fine of $1,000, or imprisonment for five years, or both fine and imprisonment, is provided for in the case of any person who fails to supply such particulars as are in his power that may be required.

The act is to remain in operation for three years.

Decision on a Salvage Claim.

Justice Hodgins gave judgment recently in the Exchequer Court, Toronto Admiralty District, in an action for salvage of the steamship Keyvive vs. the tug S.O. Dixon et al, as follows:—

"Under all the circumstances this should be considered upon the basis of a salvage claim in the sense that there was danger, apprehended danger at all events, and very real apprehended danger to these vessels, and that the Keyvive undertook the work under the belief that they were in some danger and at some risk to herself. I agree with the argument that has been made that a vessel of this size, 260 ft. long, and with the engines at the stern, a steel vessel, having to undertake to gather up and tow in waters that were somewhat confined, a tug and two barges, all of them unable to help themselves, would mean fairly good seamanship and might very easily have resulted in an injury to the salving vessel. I therefore pronounce in favor of plaintiffs that the claim is a proper salvage claim and they are entitled to recover upon that basis. Let judgment be entered for plaintiffs for $2,500 for salvage services, of which $2,000 will be apportioned to the owner, $200 to the master, and $300 to the crew of the Keyvive, according to their ratings. The defendants to pay the costs of the action, except those relating to the arrest and release on bail, including any applications relative thereto." Francis King, of Kingston, Ont., was counsel for plaintiffs.

The Dominion Steel Corporation's Requisitioned Steamships.

Mark Workman, President Dominion Steel Corporation, in speaking at its recent annual meeting, said:

Publicity has been given to the progress of negotiations in reference to the return of our chartered steamers which are in the hands of the British Shipping Controller. I would like to amplify the information already imparted by stating that we have succeeded in our actions against the owners of our British chartered vessels, by decisions in our favor, both in the court of first instance and in the court of appeal. As a result of these decisions it is established that the charters have not been "frustrated" by the requisitioning of the vessels, but remain in full force and effect.

Several months ago the British authorities issued a statement to the effect that all requisitioned vessels would be released on Mar. 1, 1919, or as soon after that date as the vessels' current voyages would permit. I found, however, that certain powers had been vested in the Shipping Controller, whereby he is authorized to "direct" steamers as he may desire, which, as far as we are concerned, amounts to virtual requisitioning. Representations have been and are being made to the Shipping Controller, both directly and indirectly, urging the immediate return of our vessels, in addition to which we are in almost daily communication with the steamship owners. I am distinctly hopeful in regard to the situation, and am confident that at least a portion of the tonnage will shortly be in our possession.

Dry Dock Subsidies Act Amendment.

An act was passed by the Dominion Parliament at its recent session amending the act to encourage the construction of dry docks in Canada by repealing the section which provided for the payment of a subsidy of not exceeding 3½% annually of the cost of construction of second class docks, and fixing the amount to be paid at 4½%, half yearly, for 35 years from the completion of the work.

The amended section is not to apply to any agreement heretofore made for the construction of any dry dock.

It also provides that no bonds or other securities are to be issued as a charge upon any dock until not less than $500,000 has been spent on the work and material, and that there are no outstanding liens or claims against the property, when such securities may be issued with the consent of the Minister of Public Works and any subsidy may be assigned to a trustee for the bondholders, to whom subsidy payments will be made direct. Until the dock is completed to the minister's satisfaction, the total amount of bonds to be issued shall not exceed 75% of the amount actually expended for work and materials, and the minister's consent must be obtained before any bond issue is made. Half-yearly payments may be made on account of the subsidy, at the rate of 4½% a year on 75% of the cost of work and materials, after an expenditure of $500,000 on the certificate of the Public Works Department's engineers.

Subway Under Detroit River.—The Mayor of Detroit, Mich., is reported to have sent a memorial to the Dominion Government, and to the United States Government, favoring the construction of a subway under the Detroit River, to connect Detroit, Mich., and Windsor, Ont. The distance between the two cities is approximately 1,200 yards, and it is suggested that the subway be constructed of such a size that, in addition to general traffic, electric cars may be operated through it. A press report, July 5, states that a Detroit contractor has made tentative proposals for building such a subway, and that the city engineer puts the cost of the work at $6,000,000. The plan suggested is that each city should build its own approaches to the subway, which would be built by a joint stock company.

Orders for Steel Cargo Steamships for Canadian Government Merchant Marine Ltd.

The following is a complete list of steel cargo steamships which the Dominion Marine Department has been authorized, by order in council, to place orders for, and which orders are to be carried out. The figures given in the column headed "Long tons d.w." and which are preceded by an asterisk (*) show the total deadweight capacities as determined after the ships have been completed. The other figures in that column, not preceded by an asterisk, show the approximate total deadweights, subject to modification as they may vary above or below the figures given and as may be ascertained after the ships are completed, and of course, the total prices will vary accordingly.

The following contractions are used in the column giving the type of the vessels to be built: s.d., single deck; 2.d., two deck; 3.d., three deck; lake, lake type; p., poop; b., bridge; f'c's'le, forecastle.

Con. No.	Contract date	Builder	Yard no.	Long tons d.w.	Price per ton d.w.	Total price	Type	Classification	Speed, knots	Approximate delivery date	Keel laid	Launched	Name
1	Mar. 8, 1918	Canadian Vickers Ltd., Montreal	66	*3,[illegible]	$[illegible]	$ [illegible]	S.d., p., b. and f'c's'le	Lloyd's	11	Dec. 31, 1918	June 11, 1918	Nov. 23, 1918	Canadian Voyageur
2	May 27, 1918	" "	67	*8,408	180.	1,513,440	2.d., p., b. and f'c's'le	"	11	Jan. 31, 1919	July 15, 1918	Dec. 3, 1918	Canadian Pioneer
3	May 18, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	61	*3,995	205.	818,975	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	May 1, 1919	Not stated	Dec. 21, 1918	Canadian Warrior
4	Mar. 15, 1918	Wallace Shipyards Ltd., North Vancouver, B.C.	100	*4,530	207.	937,710	S.d., p., b. and f'c's'le	Lloyd's	11	Mar. 31, 1919	Oct. 1, 1918	Apr. 5, 1919	Canadian Volunteer
5	Nov. 26, 1918	" "	106	4,300	217.	933,100	S.d., p., b. and f'c's'le	"	11	May 31, 1919	Nov. 15, 1918	May 31, 1919	Canadian Trooper
6	Nov. 26, 1918	" "	101	5,100	210.	1,071,000	S.d., p., b. and f'c's'le	"	11	July 31, 1919	Apr. 5, 1919		Canadian Aviator
7	Nov. 26, 1918	" "	102	5,100	210.	1,071,000	S.d., p., b. and f'c's'le	"	11	Sept. 30, 1919	May 31, 1919		Canadian Scout
10	July 5, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	62	*3,964	205.	812,620	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	May 15, 1919	June 3, 1918	May 3, 1919	Canadian Recruit
11	Oct. 17, 1918	" "	63	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 15, 1919	Jan. 16, 1919	June 28, 1919	Canadian Signaller
12	Oct. 17, 1918	" "	64	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	Feb. 10, 1919		Canadian Gunner
13	Aug. 9, 1918	Tidewater Shipbuilders Ltd., Three Rivers, Que.	5	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	Lloyd's	11	Aug. 1, 1919	Jan. 8, 1919	.	Canadian Settler
14	Aug. 9, 1918	" "	6	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Sept. 1, 1919	Jan. 10, 1919	.	Canadian Rancher
15	Jan. 24, 1919	" "	7	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 15, 1919	....	.	Canadian Fisher
16	Jan. 24, 1919	" "	8	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	May 15, 1920	....		Canadian Forester
17	Sept. 4, 1918	Davie Shipbuilding & Repairing Co., Lauzon, Que.	459	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 1, 1919	Mar. 11, 1919		Canadian Trapper
18	Sept. 4, 1918	" "	460	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 8, 1919	Mar. 28, 1919		Canadian Hunter
19	Sept. 4, 1918	Port Arthur Shipbuilding Co., Port Arthur, Ont.	39	3,400	205.	697,000	Lake, s.d., p., b. and f'c's'le	"	9	June 1, 1919	Dec. 9, 1918	May 5, 1919	Canadian Trader
19a	Mar. 1, 1919	" "	41	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Sept. 30, 1919	Mar. 31, 1919		Canadian Adventurer
20	Sept. 4, 1918	" "	40	3,400	205.	697,000	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	Dec. 10, 1918	May 31, 1919	Canadian Sailor
20a	Mar. 1, 1919	" "	42	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Oct. 31, 1919	Mar. 31, 1919	.	Canadian Cadet
21	Sept. 13, 1918	Halifax Shipyards, Ltd., Halifax, N.S.	1	8,100	195.	1,579,500	2.d., p., b. and f'c's'le	"	10	Dec. 19, 1919	Feb. 24, 1919	.	Canadian Mariner
22	Sept. 13, 1918	" "	2	8,100	195.	1,579,500	2.d., p., b. and f'c's'le	"	10	Apr. 1920	Mar. 15, 1919		Canadian Explorer
23	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	73	4,300	215.	924,500	S.d., p., b. and f'c's'le	"	11	May 27, 1919	Jan. 22, 1919	.	Canadian Navigator
24	Oct. 11, 1918	" "	68	*8,382	188.	1,575,816	2.d., p., b. and f'c's'le	"	11	May 1, 1919	Aug. 26, 1918	Apr. 19, 1919	Canadian Ranger
25	Oct. 11, 1918	" "	69	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	June 1, 1919	Nov. 30, 1918	May 7, 1919	Canadian Seigneur
26	Oct. 11, 1918	" "	70	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	July 1, 1919	Dec. 2, 1918	..	Canadian Miller
27	Oct. 11, 1918	" "	71	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	Aug. 1, 1919	Apr. 23, 1919	.	Canadian Spinner
28	Oct. 11, 1918	" "	72	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	Sept. 1, 1919	May 10, 1919	.	Canadian Planter
29	Jan. 24, 1918	Victoria Machinery Depot Co., Victoria, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Jan. 31, 1920	July 14, 1919	.....	....
30	Jan. 24, 1919	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Nov. 30, 1920	....	..	....
31	Dec. 11, 1918	Collingwood Shipbuilding Co., Kingston, Ont.	15	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	Nov. 1, 1919	Apr. 7, 1919	.	Canadian Beaver
32	Mar. 1, 1919	Port Arthur Shipbuilding Co., Port Arthur, Ont.	43	4,300	215.	935,250	S.d., p., b. and f'c's'le	Lloyd's	10½	Nov. 1, 1919	....	.....	....
33	Mar. 1, 1919	" "	44	4,300	215.	935,250	S.d., p., b. and f'c's'le	"	10½	Nov. 15, 1919	....	..	....
34	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	11	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	July 31, 1919	Apr. 26, 1919	.....	Canadian Importer
35	Nov. 22, 1918	" "	12	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Aug. 31, 1919	May 3, 1919	.....	Canadian Exporter
36	Nov. 22, 1918	" "	13	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Sept. 30, 1919	....	...	Canadian Inventor
37	Nov. 22, 1918	" "	14	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Oct. 31, 1919	....	.....	Canadian Prospector
38	Dec. 10, 1918	Halifax Shipyards Ltd., Halifax, N.S.	3	10,500	197½	2,073,750	3.d., p., and f'c's'le	"	12	Aug. 1, 1920	....	.....	....
39	Dec. 10, 1918	" "	4	10,500	197½	2,073,750	3.d., p., and f'c's'le	"	12	Nov. 1, 1920	....	.....	....
40	Mar. 31, 1919	Nova Scotia Steel & Coal Co., New Glasgow, N.S.	5	2,800	210.	588,000	S.d., p., b. and f'c's'le	"	8½	Oct. 1919	Mar. 27, 1919	.....	Canadian Sealer
41	Mar. 31, 1919	" "	6	2,800	210.	588,000	S.d., p., b. and f'c's'le	"	8½	Nov. 1919	Mar. 31, 1919	.....	Canadian Miner
42	Feb. 21, 1919	Prince Rupert Dry Dock and Engineering Co., Prince Rupert, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Feb. 1920	....	.....	....
43	Feb. 21, 1919	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	June 1920	....	.....	....
44	Jan. 23, 1919	British American Shipbuilding Co., Welland, Ont.	4	4,350	215.	935,250	S.d., p., b. and f'c's'le	Brit. Corp.	10	Nov. 1919	Mar. 29, 1919	....	Canadian Otter
45	Jan. 23, 1919	" "	5	4,350	215.	935,250	S.d., p., b. and f'c's'le	"	10	June 1920	July 14, 1919	.....	Canadian Squatter
46	....	Collingwood Shipbuilding Co., Collingwood, Ont.	....	3,750	180.	675,000	Lake, s.d., p. b., and f'c's'le	"	9	Apr. 1920	....	....	....
47	...	" "	..	3,750	180.	675,000	Lake, s.d., p. b., and f'c's'le	"	9	Apr. 1920	....	....	....
				272,904		$54,348,536							

General Shipbuilding Matters Throughout Canada.

Cholberg Ship Co., Victoria B.C.—The second auxiliary powered schooner built for the Porsgrund Damp and Seil Co., Porsgrund, Norway, by this company, was launched during July, and christened Washington, by Mrs. C. Cholberg, wife of the company's manager. On completion the vessel will go to the Columbia River for a cargo of railway ties for England.

The Dominion Shipbuilding Co., Toronto, launched the steel cargo steamship Hessa, July 12, the christening being performed by Mrs. J. B. Simpson, New York. This vessel is one of six steel cargo steamships built for ocean service during the war. She is of the single deck type, with poop, bridge and forecastle, steel texas on bridge, with wing deckhouses, chart room and pilot house, and is built on the transverse system, with steel hull divided into compartments by 4 watertight bulkheads and 1 screen bulkhead. She has cargo capacity for 151,466 cub. ft. of grain, with carrying capacity of 3,550 tons. She has a double bottom fore and aft for 779 tons of water ballast, and the water tank capacity is 5,053 imp. gals. There are 4 hatches, each 22 x 18 ft. She is schooner rigged, with 2 pole masts and is classed 100 A1 at Lloyd's for ocean service. The propelling machinery consists of inverted triple expansion engines with three cylinders, 20, 33 and 54 ins. diar., by 40 in. stroke, 165 n.h.p., 1,200 i.h.p., at 87.5 r.p.m., supplied with steam by two Scotch marine boilers, each 14½ ft. diar. by 11 ft. long, 2,730 sq. ft. heating surface, each boiler, at 180 lb. a sq. in.; average speed 10.2 knots on a fuel consumption of 20.1 tons in 24 hours. The screw is cast iron, 13¼ ft. diar. and has 4 wings, 12 ft. 8 in. pitch. The auxiliary equipment includes 8 reversible single drum, 7 x 5 in. cargo winches, anchor windlass 8 x 8 in., and steam steering gear 7 x 7 in. There is accommodation for 35 officers and men. Her dimensions are, length overall, 261 ft.; length between perpendiculars, 251 ft.; breadth moulded, 43½ ft.; depth moulded, 24 ft. 2½ in.; approximate tonnage, 2,300 gross, 1,400 register.

Foundation Co., Victoria, B.C.—The ninth of the 20 wooden steamships of 3,000 tons capacity, being built by this company at its Point Hope and Point Ellice yards for the French Government, was launched July 4, and named Trois Rivieres. The vessel built under yard no. 207, was completed early in the month, and underwent her trials July 5, and was turned over to her owners July 10. Over the measured mile she exceeded her contract speed of 11 knots, her maximum speed on the whole trip being 12.377 knots, with an average of 11.91 knots. The names selected for the 20 vessels are: Strasbourg, Metz, Mulhouse, Canada, Montcalm, Winnipeg, Ontario, Wilfrid Laurier, Trois Rivieres, Vancouver, Victoria, Quebec, Montreal, Ottawa, Frontenac, La Salle, Acadie, Montmagny, Alberta and Nouvelle Ecosse. They are full powered vessels, of the following chief dimensions: Length over all, 293 ft., length b.p., 276 ft.; beam extreme, 47½ ft.; beam moulded, 46½ ft.; depth moulded, 23½ ft., draft over keel, 23½ ft.; displacement, 5,655½ tons.

Grant & Horne, St. John, N.B., engineers and contractors, who built several steamships for the British Government, under orders from the Imperial Munitions Board, have dissolved partnership, E. G. Horne retiring, and J. A. Grant carrying on the business under the same name as heretofore. He will continue to build ships, if contracts can be obtained, but will particularly concentrate on construction work.

R. H. Howes Construction Co., Yarmouth, N.S., launched the schooner Maria A. Howes, 485 gross, 415 register, July 1. She is classed A1 at Lloyd's, and has been taken to St. John, N.B. to load lumber for Great Britain under charter.

T. H. & W. S. McDonald, Meteghan, N.S., have a three-masted schooner of 360 tons under construction for coal and general cargo coastwise trade. Several vessels have been built at this yard during the war, the last one, the barkentine T. H. McDonald, having arrived recently at Montevideo, where she is taking on a general cargo for a European port under charter to a New York company.

McKay & McLean, Parrsboro, N.S., launched the tern schooner Acadian Queen, 440 tons register, at the end of June. She is classed with Bureau Veritas for 12 years and is fitted with engine for hoisting power. It is stated that she will be operated in the coasting trade by her builders.

National Shipbuilding Co., Levis, Que. Canadian Railway and Marine World for January described an interesting operation performed by the National Shipbuilding Co. at its Levis, Que., shipyard, viz: the bringing out of the water on a specially constructed marine railway, of the steel suction dredge Galveston, for rebuilding and conversion into an ocean freighter for the Affrêteurs Réunis of Paris, France. The work of reconstruction was carried out during the past winter, and, although the slip was not protected or covered in any way, very little time was lost on account of cold or snow, and on May 31, the vessel was launched 95% completed and fitted out. The work consisted of the removal of all superstructures, dredging equipment and hoppers, and the construction of a new double bottom, with ballast tanks, cargo holds with 2 new watertight bulkheads, raising of the forecastle, main and poop decks, 8 ft., with new steel decks; construction of a bridge deck, and deck house accommodations amidships, with chart room and navigating bridge above, crew's quarters in forecastle and petty officers quarters in poop deck house, new masts with 6 cargo booms, and all standing and running rigging complete, 3 cargo hatches, deck winches, capstan and other deck auxiliaries; new rudder, rudder stock and quadrant; rearrangement of engine room auxiliaries with steam and water piping, complete electric installation, etc. The official trials were successfully carried out on June 21, under the supervision of officials of Bureau Veritas. The dimensions of this vessel, which has been renamed Pomone, are as follows: Length, between perpendiculars, 233 ft.; beam, 39 ft.; moulded depth, 23 ft. 6 in.; deadweight tonnage, 3110 tons.

The National Shipbuilding Co. is about to commence the reconstruction of a lake steamship, for a Cuban firm of ship owners, and it is negotiating with the French Government for the construction of several 6,000-ton steel freight steamships.

Quebec, Que.—T. M. Kirkwood, who is interested in a project for the construction of steel steamships in Quebec, addressed a meeting of the Quebec Board of Trade Council early in July, to discuss the establishment of a steel shipbuilding plant there. His proposal is to build a plant for the construction of at least 30 steel steamships of 10,000 tons d.w. capacity each, for a daily service between Quebec and European ports, the vessels to be registered and controlled in Quebec. He contends that the Provincial Government should guarantee the necessary bond issue, and also that the Dominion Government should interest itself in the matter.

The Great Lakes Transportation Co.'s Purchases of United States Vessels.

The Great Lakes Transportation Co., Midland, Ont., of which James Playfair is President and General Manager, has bought the steamships America, Brazil and Granville A. Richardson. The first two were owned formerly by the North American Steamship Co., Cleveland, Ohio, and the last one was owned by the Erie Rd. Steamship Line.

The s.s. America is a steel vessel of the spar deck type, with double bottom for watertight ballast, steel boiler house, 3 watertight bulkheads, and electric lighting equipment. She was built at Buffalo, N.Y., in 1889, and overhauled in 1913. Her dimensions are: Length b.p., 274 ft. 7 in.; breadth, moulded, 42 ft. 2 in.; depth moulded, 24 ft. 4 in.; tonnage, 2,171 gross; 1,748 net. The propelling machinery consists of fore and aft compound engine, with cylinders 28 and 52 in. diar. by 48 in. stroke, 750 i.h.p. at 82 r,p,m,, supplied with steam by 2 Scotch boilers, each 11½ by 12 ft., under forced draft, at 125 lb.

The s.s. Brazil is a steel vessel of the spur deck type, with double bottom for watertight ballast, 2 watertight and 2 nonwatertight bulkheads, steel boiler house, electric light, etc. She was built at Buffalo, N.Y., in 1890, and was overhauled in 1913. Her dimensions are: Length b.p., 276 ft. 1in.; breadth moulded, 40 ft. 2 in.; depth moulded, 24 ft. 4 in.; tonnage, 2,186 gross; 1,665 net. The propelling machinery consists of triple expansion engine, with cylinders 19½, 32 and 52 in. diar. by 45 in. stroke, 985 i.h.p., at 84 r.p.m., and supplied with steam by 2 Scotch boilers, each 11½ by 12 ft., at 160 lb.

The s.s. Granville A. Richardson is a steel vessel of spar deck type, with double bottom for watertight ballast, 6 watertight and 2 nonwatertight bulkheads, electric light, etc. She was built at Buffalo, N.Y., in 1893, and named George J. Gould. The propelling machinery consists of triple expansion engine, with cylinders 18, 30 and 48 in. diar. by 42 in. stroke, 800 i.h.p. at 83 r.p.m., supplied with steam by 2 Scotch boilers, each 11½ by 12 ft., at 160 lb. Her dimensions are: Length b.p., 266 ft., breadth moulded, 41 ft.; depth, 25½ ft.; tonnage, 2,237 gross; 1,790 net.

These vessels have been transferred to the Canadian register, and their names have been changed to Glenstriven, Glenbrae and Glencairn, respectively.

A steamboat service for freight was commenced early in July on the Saskatchewan River from Prince Albert north to Nipawin, about 100 miles.

Mainly About Marine People.

James Hugh Allan, a son of the founder of the Allan Line, who died recently in Great Britain, left an estate of $1,-[illegible].

Hugh Allan, formerly of the Allan Steamship Co., Montreal, and Mrs. and Miss Allan, all of whom have been in England for several years, are spending the summer at the Algonquin Hotel, St. Andrews, N.B.

Hon. C. C. Ballantyne, Minister of Marine and Naval Service, left Ottawa July 12, intending to spend about three weeks with Mrs. Ballantyne and their family, at the Algonquin Hotel, St. Andrews, N.B.

C. E. Benjamin, Passenger Traffic Manager, Canadian Pacific Ocean Service, Ltd., has returned to Montreal after a visit to England.

J. M. Clark, who has been appointed Naval Architect for the Harbour Marine Co., Ltd., Victoria, B. C., which has contracts from the Marine Department for 2 steel cargo steamships of approximately 8,100 tons d. w. each for Canadian Government Merchant Marine Ltd., has had an extended experience. Having familiarized himself with shipbuilding work on shore he spent 8 months at sea, as ship's carpenter, on the sailing ship Tycoon, to learn the working of a ship at sea. He was for 15 years with a large shipbuilding firm in England, during the last 7 years of which he was manager. While there he won a $4,000 prize offered by the Thames Conservancy Board in a competition open to the world. He laid out the dockyards at Bilbao, Spain, for building armoured cruisers. Later he spent 12½ years in Japan, where he designed and superintended the construction of ships built by the Mitsu Bishi Dockyard and also 14,000 ton steamships for the Toyo Kissen Kaisha.

Duncan D'Eyncourt Cooper, who has been appointed Agent, Export and Import Traffic, Canada Steamship Lines, Ltd., Toronto, was born at Buffalo, N.Y., July 8, 1862, and entered transportation service in Sept., 1881, since when he has been, to 1882 freight clerk, G.T.R., Montreal; 1882 to 1884, freight clerk, G.T.R., Toronto; 1884 to 1885, chief clerk to District Freight Agent, G.T.R., Toronto; [illegible] to [illegible], chief clerk to District Freight Agent, G.T.R., Toronto; 1885 to [illegible], City Freight Agent, G.T.R., Montreal; 1889, to the closing of U.S. railway offices in Canada by the U.S. Railroad Administration in 1917, Canadian Freight Agent, Lehigh Valley Rd., Toronto.

Capt. A. W. Davison, R. N. R., formerly master of the s.s. Empress of Asia, is reported to have been appointed Marine Superintendent, Canadian Pacific Ocean Services, Ltd., at Hong Kong, China. He was in charge of the Empress of Asia throughout the war, during which she acted as a transport between practically every country of importance in the world.

Mrs. G. J. Desbarats, wife of the Deputy Minister of the Naval Service, and her family, are spending some time at [illegible].

Robert Dollar, of the Dollar Steamship Co., is announced as one of the speakers at the industrial congress to be held at Calgary, Alta., Aug. [illegible] and 14.

Commander Thomas Fisher, C. B. E., R. N., who has been appointed General Manager, Atlantic Lines, Canadian Pacific Ocean Services Ltd., Liverpool, Eng., was born at Birmingham, Eng., in 1883, and underwent training at Dartmouth, Eng., on the old wooden battleship Brittania. He spent four years in China during the Boxer rebellion, and subsequently passed his examinations and secured rapid promotion, becoming a lieutenant at the age of 20. He served in the Mediterranean on H. M. S. Bacchante. After having qualified in gunnery, he served on the staff of the Director of Target Practice, and subsequently joined the H. M. S. Bellerophon, as gunnery officer, and after taking the staff course, was selected as a lecturer at the Naval College, Portsmouth, Eng. At the outbreak of war he served as Flag Commander in the Reserve Fleet, and was associated with the work of safeguarding the passage of the forces from England to France. At the end of 1914 he joined the Trade Division of the Naval War Staff at the Admiralty, and was in charge of part of the organization dealing with questions relating to neutral shipping. He took part in the supervision of movement of cargoes, etc., on neutral vessels, by means of control of their coal supply at ports both at home and abroad. In 1916 he acted as technical representative in negotiations for the use of neutral shipping by the allied powers, and incidentally gained valuable knowledge of European shipping interests. He served on various Government committees, dealing with commecial and shipping matters, and in 1917, was appointed liaison officer to link the British Ministry of Shipping with the U.S. Shipping Board, and while in the U. S. he had opportunities of examining at first hand shipping and transport problems of Canada and the U. S., his duties calling for visits to Canadian and U. S. ports on the Atlantic and Pacific oceans.

R. B. Teakle,
Manager, Canadian Government Merchant Marine Limited.

Mrs. Foy, widow of John Foy, formerly President Niagara Navigation Co., who died in Toronto recently, left an estate, valued at $41,253, to her two sons, F. C. Foy, Passenger Agent, New York Central Rd., Utica, N.Y., and J. V. Foy, General Passenger Agent, Canada Steamship Lines, Toronto, who are her executors, to be used for the maintenance of the family residence, and of those of her family who may be residing therein. Mrs. Foy, who was a daughter of the late Sir Frank Smith, also a former President of the Niagara Navigation Co., received a considerable annual income from his estate.

Capt. A. J. Hailey, R. N. R., Master of the Canadian Pacific Ocean Service's s. s. Monteagle, is reported to have been transferred to the company's s. s. Empress of Asia, succeeding Capt. A. W. Davison, transferred to shore service.

George Hall, head of the George Hall Coal Co. of Canada, Ltd., and other concerns which bear his name at Ogdensburg, N.Y., died at his house in Montreal, June 24, aged 72, and was buried at Ogdensburg. In his early days he was a telegraph operator and subsequently started business in coal transportation at Ogdensburg, being one of the first to enter the coal trade on the St. Lawrence River. When it became necessary for the Ogdensburg and Lake Champlain Rd. to change its locomotives so as to burn coal instead of wood, owing to the scarcity of lumber, he obtained the contract for 5,000 tons of coal which was brought down from Lake Erie. He later had a large contract for supplying coal to the C.P.R.

Sir Arthur Harris, Director General, British Ministry of Shipping, Canada, sailed from New York, June 28, on the s.s. Aquitania for England.

E. N. Hurley, Chairman, U. S. Shipping Board, has resigned, effective Aug. 1. It is stated that he will be succeeded by J. B. Payne, General Counsel, U. S. Railroad Administration, Chicago, Ill.

Col. G. Patterson Murphy, President, Ottawa Transportation Co., and Mrs. Murphy, are spending some time at Rye Beach.

Sir Henry M. Pellatt, C. V. O., Toronto, has been elected a director of Canada Steamship Lines, Ltd. He was at one time director of the Richelieu and Ontario Navigation Co., now one of the constituents of Canada Steamship Lines, Ltd.

Capt. J. E. Pettis, who died at Port Greville N.S., recently, aged 79, was one of the oldest sailing vessel masters along the Atlantic coast, and was at one time the owner of a large fleet. He is said to have built the first three-masted schooner launched in Canada. During the war he re-entered the shipbuilding business and was concerned with the building of two schooners at Spencers Island, the last one the Minas Prince, being launched in February.

Capt. G. E. L. Robertson, heretofore Agent Marine Department, Victoria, B.C., has been appointed Superintendent of Pilotage, at Ottawa, Ont. He was presented with a suit case by the employes of the department at Victoria, July 12, on leaving for the east.

John Roy Shaw, who has been appointed Passenger Agent, Canadian Pacific Ocean Services Ltd., Manila, Philippine Islands, was born at Montreal, June 28, 1871, and entered transportation service in 1885, since when he has been, to 1891, clerk in Passenger Department, C.P.R., Montreal; 1895 to 1898, clerk and ticket agent, C.P.R., Boston, Mass.; 1898 to 1904, Travelling Passenger Agent, C.P.R., Boston, Mass.; Feb., 1904 to June 1916, Passenger Agent, C.P.R., Yokohama, Japan; June, 1916, to June, 1917, General Agent, Passenger Department, Canadian Pacific Ocean Services Ltd., Shanghai, China; June, 1917, he was appointed General Agent, Passenger Department, same company, Hong Kong, China, and latterly to July, 1919, was Passenger Agent, same company, New York, N.Y.

Robert B. Teakle, whose appointment as Manager, Canadian Government Merchant Marine Ltd., Montreal, was announced in our last issue, was born at Quebec, Que., May 19, 1877, and entered transportation service in May, 1893, since when he has been to Apr., 1904, in various positions, Allan Line Steamship Co., at Quebec, Halifax and Portland, Me.; Apr., 1904 to Oct., 1914, in various positions at Montreal, and the latter portion of that time, as Manager, same company, St. John, N.B.; Oct., 1914 to Mar., 1918, Manager, same company, Boston, Mass.; Mar., 1918 to Apr., 16, 1919, Northeastern Manager, France and Canada Steamship Corporation, Boston.

Lorne C. Webster, President, Webster Steamship Co., left Montreal early in July, for Winnipeg, intending on his return to spend some time with his family at Metis, Que.

J. A. Wilson, Director of Stores, Naval Service Department, Ottawa, is to be appointed Assistant Deputy Minister, Naval Service. The supplementary estimates, passed at the Dominion Parliament's recent session, provide for increase of his salary, from $3,100 a year to $3,500, from July 1, 1918.

R. M. Wolvin, President Montreal Transportation Co., and Vice President, Halifax Shipyards Ltd., has been elected a director of the Dominion Steel Corporation.

The sinking of the s. s. Lusitania by Germans, which caused one of the principal sensations of the war, was again before the court at New York, July 14, when all claims against the Cunard Steamship Co., were dismissed, and all future claims barred, on the ground that the sinking of the vessel, May 7, 1915, was caused solely by an illegal act of the German Government acting through its instrument the commander of a submarine, and that the company was not liable to any extent for any loss, damage, injury or claim whatsoever arising in consequence of the commission of the unlawful act. All the claims were dismissed, without costs and the company's officers were absolved of any fault or neglect in connection with the loss. There were 64 claims aggregating about $6,000,000.

The York Steamship Co. Ltd., has been incorporated under the Dominion Companies Act with capital stock of 1,000 shares of no nominal or par value, provided that the amount with which the company shall carry on business shall be $5,000, and with head office in Toronto, to own and operate steam and other vessels for the carriage of mails, passengers and merchandise, and to carry on a general navigation and steamship management business.

Shipbuilding in Canada for the British Government.

Steamships Launched and Under Construction—Since the information given in our last issue respecting launchings of steamships under construction in Canada for the British Government was published, the following steel steamships have been launched: July 7, War Racoon, 3.500 tons d.w., by British American Shipbuilding Co., Welland, Ont.; July 23, War Algoma, 3.500 tons d.w., by Polson Iron Works, Ltd., Toronto, Ont.; July 28, War Company, 8,800 tons d.w., J. Coughlan & Sons, Vancouver, B.C.; July 26, War Vixen, 3,500 tons d.w., by Canadian Allis - Chalmers, Bridgeburg, Ont. This leaves 3 steel steamships still under construction with a total tonnage of 15,700. All the wooden steamships ordered for the British Government have been completed, viz: 46, with an aggregate d.w. tonnage of 141,680, and 38 steel steamships with an aggregate d.w. tonnage of 188,600, a grand total of 84 vessels and 330,280 tons. The following steel steamships are still under construction:

Builder.	Tons d.w.
J. Coughlan & Sons, Vancouver, B.C.—War Chariot	8,800
Midland Shipbuilding Co., Midland, Ont.—War Fury	3,400
Polson Iron Works, Ltd., Toronto, Ont.—War Halton	3,500
3 steel steamships	15,700

British American Shipbuilding Co., Welland, Ont.—The third of the steel steamships of 3,500 tons d.w. capacity, to be built for the British Government, under orders from the Imperial Munitions Board, was launched at this yard, July 7, and named War Racoon, by Mrs. H. T. F. Estrup. The first vessel, War Weasel, was launched Aug. 21, 1918, and the second, War Badger, Jan. 21. These vessels are of the standard type adopted by the board, for 3,500 tons d.w. capacity, and are 261 ft. long, 43½ ft. beam, 23 ft. deep, and are designed for ocean service.

Canadian Allis-Chalmers, Ltd., Bridgeburg, Ont.—The strike which had been in progress at this yard for about a month was settled and the men returned to work July 7. An 8 hr. day and an increase of approximately 10% in wages was granted. Work on the two steel steamships under construction for the British Government was considerably delayed. The second of the 2 steel cargo steamships of 3,500 tons d.w. which this company is building under orders from the Imperial Munitions Board for the British Government, was launched July 26, and named War Vixen. The other vessel, the s.s. War Magic, was launched Mar. 3, and is nearing completion.

Polson Iron Works, Ltd., Toronto—The s.s. War Algoma, built at this yard for the British Government under order of the Imperial Munitions Board, was launched July 23. This is the fifth of the 6 steel cargo steamships of 3,500 tons d.w. each built by this company under the Imperial Munitions Board's order. She is of the following dimensions: Length overall, 261 ft.; length b.p., 251 ft.; beam, 32½ ft.; depth moulded, 22½ ft., and she is equipped with triple expansion, surface condensing engine of approximately 1,256 h.p. The first of these vessels, War Taurus, was launched Sept. 19, 1918; the War Hydra, Oct. 15, 1918; War Hamilton, Dec. 22, 1918; and War Timiskaming, Feb. 8, 1919. The last of these vessels is to be named War Halton, and it is expected she will be launched shortly, thus completing the orders with this company for British Government vessels.

Steamship Companies' Bond Issues

The Bishop Navigation Co. Ltd., offered to the public recently, an issue of $1,000,000 of 6% mortgage serial gold bonds. The company was incorporated recently with authorized capital of $1,500,000 common stock, of which $1,428,000 has been issued. The head office is at Montreal, and most of those concerned in the company are associated with the Montreal Transportation Co., Halifax Shipyards Ltd., and Canada Steamship Lines Ltd. The bonds will be redeemable at the company's option, in whole or in part, on any interest date, at 102½ and accrued interest, on 90 days' previous notice. The bonds, which are in denominations of $1,000 and $500, may be registered as to principal and bear interest coupons payable half yearly. The schedule of maturities is so arranged that all will yield 6¼%.

The President of the company, R. M. Wolvin, has issued the following statement: "The Bishop Navigation Co. Ltd. was incorporated under Dominion charter, Jan. 20, 1919, and owns and operates the s.s. Ivor Heath, a steel, twin screw freight steamship, 469½ ft. long, 56¼ ft. beam and 34 ft. 10 in. deep, total deadweight capacity 11,400 tons, and with a speed of about 12 to 13 knots per hour. The rebuilding of this ship is nearing completion, and when ready for sea, she will have the highest classification of Lloyd's Register. The bonds are a closed mortgage on all the company's assets, and particularly on the s.s. Ivor Heath. The Canadian Appraisal Co. values this vessel when rebuilt at $2,109,000. Insurance for not less than 150% of the outstanding bonds will be carried. Based on the present ocean freight rates and probable freight rates for the six months following the completion of the rebuilding of the steamship the company's gross earnings should be approximately $750,000 The net earnings for the six months period should be sufficient to provide three times for the redemption of the first maturity, together with interest on the whole bond issue for 12 months."

The Canadian Appraisal Co.'s certificate states that the ship was built in 1901, and is twin screw, with triple expansion engines, 5 boilers, and holds the classification on Lloyd's Register. The ship (formerly the s.s. Lake Manitoba owned by Canadian Pacific Ocean Services Ltd.) was burned and sank in the St. Lawrence River in Sept., 1918, after which she was purchased and taken to Halifax, where extensive alterations and repairs were undertaken by Halifax Shipyards Ltd., under the supervision of Lloyd's surveyor, and it is expected that the work will be completed during August.

The company's officers are: President, R. M. Wolvin, President, Montreal Transportation Co., Managing Director, Halifax Shipyards Ltd., and Director, Dominion Steel Corporation; Vice President, F. H. Markey, K.C., Montreal; Managing Director, H. W. Brown, New York, formerly Managing Director, Canada West Coast Navigation Co., Vancouver, B.C.; other directors, J. W. Norcross, President and Managing Director, Canada Steamship Lines Ltd., and President, Halifax Shipyards Ltd.; F. S. Isard, Director of Finance, Canada Steamship Lines Ltd.; Secretary, T. R. Enderby, Secretary Treasurer, Montreal Transportation Co.

Another bond issue will, it is said, be placed on the market shortly for $300,000, but the Trans-Atlantic Co. of Canada Ltd., Montreal, with which some of the same interests are concerned. The company acquired the s.s. Mariska from the Bassett Steamship Co., Toronto, recently, and has an authorized capital of $1,000,000, of which $700,000 has been issued. The ship has been valued by the Canadian Appraisal Co. at $880,000. The s.s. Mariska is a steel vessel, with double bottom for watertight ballast, steel boiler house, 3 watertight, and 2 non-watertight bulkheads, with hatches spaced 24 ft. centers, and with complete electric lighting equipment. She was built at Cleveland, Ohio, in 1890, and is of the following dimensions: Length b.p., 291 ft.; breadth moulded, 40 ft.; depth moulded, 22 ft.; tonnage, 2,502 gross, 1,875 net. She is equipped with triple expansion engine, with cylinders 24½, 38 and 61 in. diar., by 42 in. stroke, 1,200 i.h.p. at 80 r.p.m., supplied with steam by 2 Scotch boilers, 14 by 12½ ft. at 160 lb. She was bought by the Bassett Steamship Co., Toronto, in 1914, from the Pittsburg Steamship Co.

British Government's Coastwise Shipping Policy Will Relieve North Atlantic Freight Situation.

A London, Eng. copyright cablegram, of July 23, to the Toronto Globe says: Traders whose business is suffering from the prevailing deficiency of shipping will benefit by a new government measure to reduce the congestion in British ports. In future all heavy, bulky cargoes consigned through ports where congestion is extreme to destinations capable of being served more readily through other ports, will be transferred to coastwise steamships as a matter of course. Hitherto coasting freighters have been unable to compete on a commercial basis with the low rates offered by state-controlled railways. Under the new arrangements the difference between rail and steamship rates is to be charged against the railways.

This practically amounts to subsidizing coastwise shipping. Commander Fisher, General Manager, Atlantic Lines Canadian Pacific Ocean Services, Ltd., thinks this measure should be advantageous to both the Canadian trader and the British consumer. At present there is at least 25% more shipping in the North Atlantic than would be required for the same amount of freight if the ports were working perfectly. Such abolition of port delays would increase the voyage capacity of these vessels, and also tend to reduce freight rates, with the result that more goods could be brought over, and at lower prices to the consumer, thus benefitting the Canadian exporter and doubly benefitting the British consumer. Commander Fisher considers, however, the success of the measure depends considerably upon whether the rate offered to coastwise shipmasters is sufficiently high to attract them back from the very profitable French coal trade, in which many are now engaged, for it is this, besides depredations of enemy submarines, which has so reduced the number of vessels plying in the old coasting trade.

Wreck Commissioner's Enquiries and Judgments.

Enquiries have been held and judgments delivered in connection with the following casualties:—

Corcoran-Champion Collision.

Held at Quebec, Que., June 30, before Capt. A. L. Demers, Dominion Wreck Commissioner, assisted by Capts. C. Lapierre and L. R. Demers as nautical assessors, into the collision between the s.s. Corcoran and the s.s. Champion on June 26, near Levis drydock in the River St. Lawrence. The court found that the s.s. Champion was alone to blame for the collision and suspended the certificate of the master, Capt. D. Lemay for six months, and also suspended the certificate of the mate, A. Gagne, for three months, both dating from July 16.

Henry B. Hall—Keyport Collision.

Held at Montreal, July 2, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capts. C. Lapierre and N. McKay, as nautical assessors into the collision between the s.s. Henry B. Hall and s.s. Keyport in the Soulanges Canal, Apr. 30. The court found that in view of the circumstances attending the casualty, the mates of both vessels were in default, the mate of the s.s. Keyport in a lesser degree, and it therefore suspended the certificate of P. Dussault, mate of the s.s. Henry B. Hall, for 2 months from date of the certificate's delivery to the court. The certificate of F. Proteau, mate of the s.s. Keyport, was not dealt with, but he was reprimanded for not having called the master, and for not sending an alarm signal, instead of acquiescing in the Henry B. Hall's signals. Masters of both vessels, Capt. H. Mallette, of the s.s.. Henry B. Hall, and Capt. J. Mullen, of the s.s. Keyport, were reprimanded, not for taking rest, but for failing to give specific directions or instructions to their officers to call them when danger was apprehended

Stranding of the s.s. Caddo.

Held at Montreal, July 21, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capts. C. Lapierre and C. J. Stuart, as nautical assessors, into the stranding of the s.s. Caddo near Basque Island in the River St. Lawrence, June 15. The court found that the casulty was due to the fact that pilot P. Lachance, of the Quebec Pilotage district, did not adopt the precautionary measures which the circumstances demanded, the weather being thick. The pilot's evidence was honest and straightforward and no attempt was made to lead the court astray, and it was, therefore, not considered necessary to call other witnesses. The pilot, in his 34 years of service, has had but one minor accident prior to this, and in this case the vessel was undamaged and no delay was caused. For this reason the court did not deal with his license, but reprimanded him severely, for lack of attention to elementary precautions in keeping speed, and failing to note the intervals of time for shaping each course. It further ordered him to pay the costs of the investigation and cautioned him to exercise prudence in future.

With respect to the master who holds a U.S. license, the court has always held the view that in thick weather, the master is expected to be on the bridge. He also gave straightforward evidence as to his actions, but had the vessel suffered any damage he would have stood in a more serious light. The court cautioned him not to forget the grave responsibility which rests on him as master of a vessel.

The Cost of United States Ships.

Canadian Railway and Marine World for July reproduced a letter from E. N. Hurley, chairman U.S. Shipping Board, to the chairman of the House of Representatives appropriations committee, at which an attempt was made to show that the steamships built by the board cost only $180 a ton, an attempt which we characterized as "certainly ingenious." The Marine News, New York, states a similar view and says:—

"Chairman Hurley, of the U.S. Shipping Board, has become very adept in the juggling of figures. Apparently he has learned a good deal during his incumbency in the Shipping Board as to 'window dressing' for the benefit of placating a very disgruntled Congress. In a communication to the Chairman of the house committee on appropriations, Mr. Hurley resorts to the 9th degree of statistical presentation as to shipbuilding costs under the regime and management of the U.S. Shipping Board and Emergency Fleet Corporation. He figures that some shipbuilders have paid $40 a deadweight ton to the U.S. Treasury in the form of income and excess profits taxes. Other shipbuilders have paid $30 a ton. He figures an average tax return of $25 a deadweight ton. He applies this $25 a d.w. ton to 13,885,106 d.w. tons building and figures that the shipbuilders have returned to the government $347,127,650. He subtracts this amount from $2,861,756,570 the actual cost of the ships, which leaves 2,514,527,920 or $180 a d.w. ton as the actual cost to the government of the vessels built and building.

"This is a most remarkable presentation of shipbuilding costs. We doubt if Congress will absorb this explanation without a grain of sale. Mr. Hurley has apparently formed the belief that any explanation will suffice to convince Congress that additional funds are needed for the completion of the ship construction programme. He actually asks for $673,368,301. No doubt this additional money is needed and no doubt Congress will eventually grant additional funds, but we are of the belief that Mr. Hurley is not using the proper methods to get such funds. Congress rebels when it feels that it is being bamboozled and it is very plain that Mr. Hurley's juggling of shipbuilding costs figures is nothing but an effort to bamboozle Congress, a very plain, inept and clumsy effort to convince a very sharp visioned Congress."

United States Schoolship Newport—The Dominion Government passed an order in council recently consenting to a cruise up the St. Lawrence River and Welland Canal of the U.S. schoolship Newport, provided that it is not intended to retain her on the Great Lakes and that she is to return to the Atlantic Coast before the close of navigation. The schoolship Newport is lent to the New York National State Nautical School by the U.S. Government, is 168 ft. long, of 1,010 tons displacement, and is armed, for the purpose of drilling the cadets, with two 3-inch and one 4-inch rifles.

The supplementary estimates for the year ending Mar. 31, 1920, passed at the Dominion Parliament's recent session, provide $200,000 for the Port Maitland pier.

Revision of Dominion Government's Contract for Steel Plates for Shipbuilding.

Early in 1918 the Dominion Government gave the Dominion Iron and Steel Co., Sydney, N. S., a contract for 250,000 tons of steel plates, to be used in building steamships under the government's shipbuilding programme, the contract being explained by the Minister of Marine in the House of Commons, Apr. 4, 1918, as follows:

"The Dominion Government has guaranteed to the company that it will have a minimum tonnage of 50,000 tons of ship plates a year, extending over five years, making in all a total of 250,000 tons. The price per 100 lb. for the moment is $4.15. The safeguarding of the public interest, so far as the price is concerned, from time to time, has been arranged on the following basis: Ship plates are made from steel ingots which, in turn, are made from pig iron, the pig iron being produced from iron ore. The Dominion Iron and Steel Co. owns and operates within British territory facilities to produce all the raw materials that I have just mentioned as being required for the rolling of ship's plates. We have taken, as a basis to adjust this price every six months, the price per ton of steel ingots. The price at the time the contract was entered into for steel ingots was $25.50 a ton. The price of plates to start with is $4.15 per 100 lb., based on an ingot price of $25.50 a ton. These prices were agreed upon after long weeks of negotiation, and I was accused, in a friendly way perhaps, by President Workman, of the Dominion Iron & Steel Co., of driving too hard a bargain on behalf of the people of Canada. I do not think that is exactly so, because I consider the contract we have entered into is eminently fair to the company as it is also fair to Canada. The mill will take about 15 months to be erected, and Mr. Workman estimates that it will cost about $5,000,000. The government does not put up one cent of money for the erection of this mill. The government was pressed to advance this money, but I declined to make such a recommendation to my colleagues, because I considered that the Dominion Iron & Steel Co. is strong enough to put up the $5,000,000 required for the plant, and I, therefore, recommended to my colleagues that we do not advance the money. Accordingly, the company is going to erect this plant at its own cost.

"The company claims that within 12 to 15 months it will be turning out all the ship plates that Canada may require. The company estimates that the capacity of the mill will be 150,000 tons of plate a year. In addition to ship plate, it is estimated that there are about 50,000 tons of other plate, such as boiler plate, used in Canada yearly. There is no duty on boiler plate, nor on ship plate. This mill will be a new national industry for Canada, and not only will it turn out the ship plates which we shall require here, and which, I think, even the existing yards we have, will run something like 75,000 tons a year, but there is no reason why the Dominion Iron & Steel Co. should not be able to get orders for, if not the whole, at least a part of the 50,000 tons of plate used for other purposes than for ships.

"To follow along the policy of safeguarding the public interest so that we shall not be paying too much for the ship plate, after the mill has run for six months, turning out the plate, the price of the plate will be determined on the fluctuating price for steel ingots, based on a price of $25.50 a ton. We were also able to arrange with the company, also with a great deal of reluctance on its part, that no matter how high the price of steel ingots goes, in no event will the price of steel plate cost the government any higher price than $4.25 per 100 lb. If the price of steel ingot drops over a period of six months, the price of plate will be lowered accordingly. We are not going to take the company's say-so as to what its cost may be. It is provided in the contract that the government shall send expert accountants, whom we shall name, to go over the company's books and costs, and if the price of steel ingots has fallen during the period of six months they will see to it that the government gets a proportionate reduction in the price of steel plates. Those are the essential points in the contract into which we are about to enter. The further particulars will be known when the order in council is laid upon the table.

"There is another clause in the contract into which we are about to enter, viz., that on all the plant and machinery that the Dominion Iron & Steel Co. will require to import into Canada for the ship plate mill it will pay duty, and that duty will afterwards be refunded. The government is making only two concessions: first, we are guaranteeing 250,000 tonnage for five years and secondly, we are remitting the duty on the machinery and material the company will require to bring in for its mill. In order that the ships which the government is ordering shall not cost too much money, I am happy to be able to say that through the splendid support of the British and Canadian War Missions at Washington, and through the generosity of the U. S. Government, we have been able to buy 80,000 tons of steel plate in the U. S. on very favorable terms, at a price as low as the U. S. shipbuilders are paying. This amount will keep our plants operating during the balance of 1918 and during the whole of 1919, so that our supply of steel plate is assured until such a time as Canada is able to roll her own plate."

After the armistice was signed the price of steel plates commenced to drop and the Minister negotiated with the Dominion Iron & Steel Co. for a modification of the contract. On July 11, 1919, he announced in Montreal, that he had arranged with the company to reduce the price from $4.15 to $3.65 per 100 lb. It apparently is not expected that all the plates ordered will be required by the government for shipbuilding, and it is said that efforts are being made to have some of them used for locomotive building, and other purposes, for the Canadian National Rys.

Union Navigation Co. Ltd., has been incorporated under the Dominion Companies Act, with $50,000 authorized capital, and office at Montreal, to own and operate steam and other vessels, wharves, docks and other navigation facilities, and to carry on a general navigation, carrying and forwarding business.

Vancouver Harbor Commission.

It is announced from Vancouver that at the Marine Department's request the members of the Vancouver Harbor Commission: F. Carter Cotton, J. A. Fullerton, and S. McClay, have resigned. It is stated that there will be a complete reorganization of the harbor commission. The act by which the commission was created provides that the commissioners must be appointed by the Governor General in council upon the recommendation of the Minister of Marine, and that they hold office during pleasure. The remuneration is fixed at $1,500 each with $2,000 for the chairman, but this may be changed by order in council and it is reported that the salaries will be raised to be more in accordance with those paid at other ports.

The Dominion Parliament has passed an act providing that the Governor General in council may advance to the Vancouver Harbor Commissioners, from time to time, sums, not exceeding in the whole $5,000,000, to enable them to carry on the construction of works and terminal facilities deemed necessary for the development and equipment of the harbor. Before any work is commenced, for which such advances may be required, plans, specifications and estimates must be submitted for approval, and applications for advances to cover the cost for such work are to be made monthly while the work is in progress, and as each advance is made, the commissioners are to deposit with the government, 25 year, 5% debentures, secured on the harbor revenues, and ranking next after all debentures and bonds, heretofore issued by the commissioners.

Shipbuilders' Wages in British Columbia.

A recent report made by the wage adjuster appointed to act in connection with the shipbuilding trades disputes in British Columbia, states that it is found that the cost of living in Victoria, Vancouver and New Westminster combined, for February, was $21.357 a week, and for May, $22.052 a week, an increase of $0.695 or 70c a week. This works out, for a 44 hr. week at 1.6c an hour. As it is stated the foregoing figures do not include the necessaries of life, a further investigation was made into the prices of clothing and other necessities, and it was considered that the increases would be met by an addition of 1.1c an hour to the wages, which in addition to the 1.6c already mentioned, makes a total of 2¾c an hour increase to all employes, and it was recommended that such increase be made effective June 1.

What is known as the Robertson agreement, providing for quarterly wage adjustments in the province, became effective June 1, 1918 and provides for increases in wages quarterly, to keep pace with the increased cost of living, if any. The first quarter brought an increase in wages of 3c an hour, the second quarter an additional 2¾c an hour, the third quarter an additional 2c an hour, and the fourth quarter an additional 2¾c an hour.

British Government War Risk Insurance.—Sir Auckland Geddes, Minister of National Service and Reconstruction, stated in the British House of Commons July 18, that the government had made a profit of £16,000,000 from premiums on war risk insurance of shipping.

Contracts Let for Marine Public Works.

The Dominion Public Works Department has awarded the following contracts:

Cobourg, Ont.—Dredging. Contractors: Ottawa Contractors, Ltd., Ottawa, at 27c a cubic yard, scow measurement (approximate quantity of material, 57,000 cubic yards).

Port Arthur, Ont.—Repairs to temporary pile protection breakwater. Contractors: Barnett-McQueen Co., Port Arthur, at $8,319 (unit prices).

Fort William, Ont.—Construction of breakwater in Mission Channel entrance. Contractors: Port Arthur Construction Co., Toronto, at 5381,000 (unit prices).

Richmond, Que.—Ice-brbeakers. Contractor: P. Charleson, Ottawa, at $10,407 (unit prices).

Bayfield, Ont.—Construction of retaining wall. Contractor: J. C. Bogie, Goderich, Ont., at $3,568.30 (unit prices).

Magog, Que.—Wharf. Contractor: T. P. Charleson, Ottawa, at $19,924.75 (unit prices).

Devil's Island, N.S.—Repairs to breakwater. Contractors: M. C. Denton and M. A. Condon, of Digby, N.S., at $11,446.15 (unit prices).

Bayfield, Ont.—Construction of retaining wall. Contractor: James C. Bogie of Goderich, Ont., at $3,568.30 (unit prices).

Magog, Que. — Wharf. Contractor: Thos. P. Charleson, of Ottawa, at $19,924.75 (unit prices).

Cobourg, Ont.—Dredging. Contractors: Ottawa Contractors, Ottawa, at 27c a cubic yard, scow measurement (approximate quantity of material, 57,000 cubic yards).

Port Arthur, Ont. Repairs to temporary pile protection breakwater. Contractors: Barnett-McQueen Co., Port Arthur, at $8,319 (unit prices).

Fort William, Ont.—Construction of breakwater in Mission Channel entrance. Contractors: Port Arthur Construction Co., of Toronto, at $381,000 (unit prices).

Richmond, Que.—Ice-breakers. Contractor: T. P. Charleson, Ottawa, at $10,407 (unit prices).

St. Ignace de Loyola (Nord), Que. Reconstruction of wharf and approach. Contractor: Onesime Poliquin, Portneuf, Que., at $3,768.25 (unit prices).

Spry Bal, N.S.—Wharf extension. Contractors: A. W. Girrior and W. F. MacKinnon, Antigonish, N.S., at $3,981 (unit prices).

Gross Isle, Que., Quarantine Station Operating house in connection with radiotelegraph station. Contractor: Delphe Maranda, Quebec, at $2,340.

Port Arthur (Bare Point), Ont.—Breakwater extension. Contractors: Chambers, McQuigge & McCaffrey Co., Toronto, at $684,000 (unit price).

Dredges P.W.D. no 110 and P.W.D. no. 116—Supply of dipper arms. Contractors: M. Beatty & Sons, Welland, Ont., at $11,535.

Port Colborne, Ont. — Repairs to breakwater. Contractor: J. M. Hogan, Port Colborne, at $34,325 (unit prices).

Burlington Channel, Ont.—Repairs to South Pier. Contractors: Ottawa Contractors, Ltd., Ottawa, at $27,940 (unit prices).

Shortage of Tonnage for St. Lawrence Coal Shipments.

Some information was given in Canadian Railway and Marine World for July as to steps being taken to urge on the British Ministry of Shipping the necessity for the early release of vessels, used formerly in the St. Lawrence coal trade, and which were requisitioned by the British Government for war purposes. In the House of Commons, July 1, the Prime Minister stated that in response to a telegram he had sent to the High Commissioner in London, Eng., he had received a reply to the effect that an announcement made in the British House of Commons on behalf of the Shipping Controller regarding the non-return of coal ships chartered by the Dominion Coal Co., was that all vessels except one, which were, prior to requisition, time chartered to the Dominion Coal Co., are owned in the United Kingdom, and these charters are private contracts between the owners and charterers and are matters with which the Shipping Controller is in no way concerned. During last winter it became necessary as part of the general allied food programme, to send several of these vessels, as well as a large number of other requisitioned vessels, to load wheat in Australia for Europe, for which trade the size of the vessels made them particularly suitable. The owners were not consulted in this matter, not even informed of it, until the order was issued to the vessels by the Shipping Controller. The suggestion as to the steps taken being due to any desire on the part of the Shipping Controller to assist owners in avoiding completion of contracts was entirely without foundation. Of 5 vessels in which the Dominion Coal Co. is interested, 3 have been released from requisition, and the remaining 2 have been offered release as soon as the present cargoes have been discharged.

Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marie Canals during June, 1919:

ARTICLES.		Can. Canal.	U.S. Canal.	Total.
	Eastbound.			
Lumber	m. ft. b. m.	9,731	1,243	10,974
Flour	Barrels	911,020	120,510	1,031,630
Wheat	Bushels	3,138,698	3,263,353	6,402,051
Grain other than wheat	Bushels	3,606,387	3,088,511	6,694,901
Copper	Short tons	7,114	910	8,024
Iron Ore	Short tons	7,788,279	216,618	8,004,897
Pig Iron	Short tons		75	75
Stone	Short tons	3,340	1,830	5,170
General Merchandise	Short tons	4,476	3,276	7,752
Passengers	Number	496	3,338	3,834
	Westbound.			
Coal, soft	Short tons	2,211,284	55,700	2,266,984
Coal, hard	Short tons	227,200	.....	227,200
Iron Ore	Short tons	20,732	.	20,732
Mfd. Iron and Steel	Short tons	9,404	2,348	11,752
Salt	Short tons	8,825	1,155	9,980
Oil	Short tons	56,840	.	56,840
Stone	Short tons	13,429	.	13,429
General Merchandise	Short tons	32,033	25,487	57,520
Passengers	Number	1,029	303	1,332
	Summary.			
Vessel Passages	Number	2,144	666	2,810
Registered tonnage	Net	7,040,783	943,932	7,984,715
Freight—				
Eastbound	Short tons	8,417,450	137,529	8,554,979
Westbound	Short tons	2,579,747	84,690	2,664,437
Total Freight	Short tons	10,997,197	222,219	11,219,416

The Dominion Government Takes Over St. John Harbor.

Following on the government's decision that the St. John harbor should be taken over as a public harbor, the Dominion Parliament has passed an act transferring the property and rights from the City of St. John, N.B., to the government, and placing it under the control of the St. John Harbor Commissioners. The St. John charter, giving the city certain rights and powers over the harbor, was granted in 1785. The harbor boundaries are as follows:—The northerly limit is a line drawn due northeast from the middle of the government lighthouse tower on the westerly bank of the St. John River, at Green Head, to the easterly bank of the river; the southerly and westerly limits are, beginning at the intersection with high water mark of the westerly face of the government breakwater at Negro Point, thence due south 4,450 ft., to an intersection with a line drawn due southwest from the middle of the government lighthouse tower on Partridge Island, thence due east 6,000 ft. to an intersection with a line drawn due southwest from where the easterly boundary of the military grounds at Red Head cuts high water mark, and thence due northeast 9,000 ft. to high water mark.

Three commissioners are to be appointed by the Dominion Government, and two shall form a quorum, and a quorum may act regardless of a possible vacancy in the commission, and their remuneration is to be paid out of the harbor revenues, the amounts to be fixed by the government. The commission is to appoint harbor officials, and will have jurisdiction over all the property and privileges transferred from the city to the government, and it may own and operate vessels, plant and machinery which it may deem necessary for the efficient discharge of its duties.

The consideration to be paid for the property taken over is $2,000,000, made up as follows: $1,342,717.55, representing the bonded indebtedness of the city in connection with harbor development, taken over by the commission, which will pay interest on the bonds, and the principal of the bonds as they mature; and the balance, $657,282.45 to be paid to the city in harbor commissioners' debentures, bearing interest at 5% a year and repayable in 25 years.

The elevator, wharves and other property in the harbor, already government property, shall be subject to the commissioners' jurisdiction, and they are to pay to the government, 3½% a year on the cost of construction.

Atlantic and Pacific Ocean Marine.

The s. s. Curacoa, which was damaged and sunk in the Halifax explosion in Dec., 1917, and which was salved from the Dartmouth shore, has completed repairs at New York and is again ready for ocean service.

The s. s. Nascopie, which arrived at St. John's, Nfld., about the middle of July, from Hull, Eng., took on lumber and general cargo, for the first trip of the season to Hudson Bay ports for the Hudson's Bay Co.

The London, Eng. Salvage Association offered for sale by tender recently, through its Halifax, N. S. office, the s. s. Appenine, 3,684 gross tons, as she lay stranded at Witness Point, 24 miles south of St. John's, Nfld.

The Maple Leaf Line will, it is stated, resume its steamship service between Vancouver, B. C. and New York, via the Panama Canal, early in October. This service was interrupted by the war, but will now be increased, some standard steel steamships of 9,680 d.w. tons having been acquired.

The British s. s. Onwen was towed into St. John's, Nfld., July 12, with only one blade left on her propeller and her steering gear out of order, having been damaged in a servere storm, July 8. She is owned in Cardiff, Wales, and sailed from Ardrossan, Scotland, June 27, to load lumber at Campbellton, N. B.

La Cie. Canadienne Trans-Atlantic Ltee., has announced that the steamships California and Hudson will sail from Montreal, August 9, in a passenger service to Havre, France. Up to the present the company, which is represented in Canada by Canada Steamship Lines, Ltd., has confined its operations to the freight business.

Canadian Pacific Ocean Services' s. s. Grampian, while bound from Montreal to Liverpool, Eng., July 9, collided, head on, with an iceberg, off Cape Race. Two members of the crew were killed and two were injured. The bow was considerably damaged above the water line, and she immediately proceeded to St. John's, Nfld., where repairs were made, the passengers being transferred to another vessel. She sailed again from St. St. John, July 21, for Liverpool.

The Head Line s.s. Ballagally Head arrived at Montreal, July 17, on her maiden trip from Belfast, Ireland. At a luncheon given on board, W. R. Eakin, Vice President and Managing Director, McLean Kennedy, Ltd. Canadian agents of the line, stated that more vessels of the same type would soon be in the company's service for the Canadian trade, to replace those lost during the war. He said that the Head Line had 17 vessels in operation at the outbreak of war, and now had only 5. A sister vessel of the Ballagally Head was launched at Belfast, Ireland, early in July, and two slips have been reserved at Belfast for further similar construction.

Royal Pilotage Commission. The estimates for the year ending March 31, 1920, passed by the Dominion Parliament at its recent session, contain the following items: $5,000 for chairman, and $2,000 each for commissioners, of the Royal Pilotage Commission, total $11,000. Also honorarium to J. T. Brown, for special services rendered royal commission on pilotage and vessel traffic regulations, $350.

Maritime Provinces and Newfoundland.

The Canadian Transport & Fishing Co. has deposited plans and description of site for a wharf to be built on the the Bay Chaleur at New Mills, N. B.

The s. s. Princess, purchased by J. A. Farquhar & Co., Halifax, N. S., has been placed in service between Halifax and the west coast of Newfoundland, she is in charge of Capt. R. D. Burns, with J. H. Gunn as chief engineer.

The Dominion Steel Corporation's s.s. Maskinonge collided with an iceberg at the end of June while en route from Sydney, N.S., to Wabana, Nfld. She put back to Sydney with a broken hawse pipe and some damage to her starboard bow.

The s.s. Fern, which was beached at Knights Cove Point, Nfld., towards the end of June, after being caught in ice near Cape Bonavista, was floated and taken to St. John's, Nfld., at the end of the month, for repairs. She was bound from Mobile, Ala., for Rotterdam, with a cargo of pitch pine.

The Eastern Steamship Corporation's s. s. Northland, which completed her repairs recently after grounding at West Island, Buzzards Bay, when bound from New York to Boston, has been put on the St. John, N. B., route, taking the place of the s. s. Governor Dingley, withdrawn for repairs.

The Maritime Wrecking and Salvage Co's tug, Sarnia City and s. s. Maggie Marshall towed the wrecked steamship Troja into Halifax, July 15, where she is to be overhauled and repaired by Halifax Shipyards, Ltd. The s. s. Troja was wrecked on the Old Proprietor Ledge in the Bay of Fundy, Mar. 18, and was refloated at the end of May. The hull is reported to be bady damaged, but the machinery is said to be intact.

The Richmond Steamship Co.'s s.s. Richmond was wrecked during a storm, at the end of June, on Bear Island, near Point Tupper in the Strait of Canso, and is stated to be a total loss. She was built at Sydney, N.S., in 1905, her dimensions being, length, 112.5 ft.; breadth, 18 ft.; depth, 8.3 ft.; tonnage, 162 gross, 105 register, and she is equipped with an engine of 20 n.h.p., driving a screw. She has a cargo capacity of 75 tons, and accommodation for 100 passengers. She had been operated for some years on a Dominion Government subsidized service between Port Mulgrave, St. Peters, Irish Cove, Marble Mountain and other ports on Bras d'Or Lake, making two round trips each week, for a payment full round trips each week, for a payment of $6,500 a year. She was reported to have been refloated during July.

Shipbuilding in China—Considerable shipbuilding is reported to be in progress in Shanghai, where several vessels are under construction for other countries. It is stated that 4 steamships of 10,000 tons each are being built there for the U.S., and it is expected that a further order for 8 similar ships is to be placed there shortly. Four standard steel steamships of 5,000 tons each are also under construction for undisclosed interests, and another 4 ships are being built for Norway.

Donald Shipping Co. Ltd., has been granted supplementary letters patent increasing its capital stock from $30,000 to $36,000.

Province of Quebec Marine.

The Cunard Steamship Co's monthly meeting of officials in North America was held in Montreal, July 9, this it is said being the first of such meetings to be held outside New York. At the conclusion of business they were entertained by the Montreal Harbor Commissioners, with a trip round the harbor in the steam tug, Sir Hugh Allan, and a dinner at the Windsor Hotel.

The s.s. Oceanica, a wooden steamship, owned by the Acme Corporation, of New York, was damaged by fire in Montreal harbor, July 2. About ten years ago, the ship changed hands for $4,000, and a few years later, again changed, the price paid for her being $40,000, while in the latter part of 1918, she was acquired by the present owners for $100,000. It was the intention to overhaul her and place her in the lake and river service.

The wreck of the Marine Department's s.s. Montmagny which was sunk in collision off the Isle of Orleans in 1916 by the s.s. Lingan is reported to have been sold to G. Dussault Co., Ltd., Levis, Que., which company is associated with the National Shipbuilding Co. The work of raising the wreck was commenced at the end of June, 5 cables having been attached, and it was expected that she would be raised about the middle of July. She was built at Sorel, Que., in 1909, her dimensions being, length 212.6 ft., breadth, 34.8 ft., depth, 19.5 ft., tonnage, 1,269 gross, 723 registered, and she is equipped with engine of 148 n.h.p. driving a screw.

Ontario and the Great Lakes.

The s. s. Turbinia, which, as mentioned in our last issue, was offered for sale by public auction in England, June 17, as she lay at Southampton, was not sold, and we are officially advised she has been taken off the market.

The Brockville and Morristown Transportation Co., is reported to have sold the ferry steamboat John Webster, which it has been operating between Brockville and Morristown, to a firm of contractors in Erie, Pa.

The s.s. Sir Thomas Shaughnessy, owned by Jenkins Steamship Co., Cleveland, Ohio, while downbound with ore, ran ashore at Windmill Point in the Detroit River, at the end of June. She was released after having part of her cargo lightered, with comparatively little damage.

The U.S. Lighthouse Service has established a temporary light, fixed red, 15 c.p., 16 ft. above water, on the channel side of the framework of the tower, and 12 ft. above the base of the tower, at Huron harbor, on the south side of Lake Erie. This light is to be maintained until a permanent light is established.

On account of the falling into the river of high banks, the shoal extending from the south side of the Kaministiwia River at the lower end of the Westfort turning basin, Fort William, has increased in length and the black spar buoy used to mark the shoal has been moved 300 ft. eastward, to mark the new extremity of the shoal.

The contract for the extension to the breakwater at Bare Point, Port Arthur, is reported to have been awarded, by the Dominion Public Works Department, to Chambers, McQuigge and McCaffrey.

also, it is said, will also build the revetment wall at the mouth of the Mission River, Fort William, the pile driving for which will be done by the Thunder Bay Contracting Co.

The U. S. Lake Survey reports the levels of the Great Lakes in feet above mean sea level for June as follows: Superior 602.45; Michigan and Huron, 581.50; St. Clair 576.45; Erie 573.77; Ontario 247.95. Compared with the average June levels for the past ten years, Superior was 0.24 ft. above; Michigan and Huron 0.68 ft. above; Erie 0.92 ft. above; and Ontario 1.06 ft. above.

The Windsor and Detroit city councils held a joint meeting, July 10, to consider a plan for the operation of an all night ferry service between the two cities. The automobile traffic is stated to have been so heavy recently, that many people are compelled to stay on one or the other side of the river overnight, through the ferries not being able to handle the traffic in the schedule hours.

Canada Steamship Lines' barge Dundurn, in tow of the tug Home Rule, foundered and sank just outside the outer breakwater at Ashtabula, Ohio, July 15, during a heavy storm, two of the crew being lost. The Dundurn was formerly a steamboat named Pere Marquette II, and was built at Detroit, Mich. in 1882. Her dimensions were, length 196.3 ft., breadth 30.3 ft., depth 12 ft.; 172 tons register.

The U.S. Government has decided to widen the Grosse Pointe channel to permit vessels of deep draft to pass more easily. Tenders have been received by the U.S. Engineering Department for dredging and other work connecting therewith. The specifications include the removal of approximately 1,250,000 cub. yds. When the dredging is completed it is expected a depth of 21 ft. at low water will be obtained, with a bottom width of 800 ft. between the established channel lines.

The s.s. Mariska, owned formerly by the Basset Steamship Co., Toronto, and operated in the Great Lakes trade, but recently acquired by the Trans-Atlantic Steamship Co., Montreal, has been remodelled and equipped for ocean service by Halifax Shipyards, Ltd., Halifax, N.S. The deck construction has been changed and an additional deck has been erected aft. The bridge, which was somewhat forward, has been set back aft of midships and the crew's quarters have also been moved aft.

During 1918, 2,887 vessels passed through the Welland Canal, of which 1,318 were upbound, and 1,569 downbound. These figures do not include regular canal tugs, small craft, nor vessels which entered the canal at Port Colborne and discharged cargoes at Welland and returned to Lake Erie. There were 216 new vessels sent through the canal for Atlantic service, and 17 vessels which had been operated on the lakes previously, passed through the canal in sections to the coast.

Owing to target practice taking place from sunrise to sunset at the government rifle ranges at Long Branch, six miles west of the western entrance to Toronto harbor, mariners are warned that they must keep at least 8,000 ft. out from the shore when passing the ranges, and under no circumstances must they enter the danger area, which is marked by red barrel buoys, with the word "Danger," on the top and "rifle ranges," on the ends. The target practice will continue until Oct. 15.

British Columbia and Pacific Coast

A Vancouver press report states that private advices received from Ottawa indicate that the Dominion Government dry dock will be located at Victoria.

The Coast Island range lights, at the entrance to Prince Rupert Harbor, are being discontinued, and the lights moved to new positions, one on the northeastern point of Kinahan Island, and one on the northwestern point of Genn Island.

The Clayoquot Sound Canning Co. is suing the C.P.R. in the British Columbia Admiralty Court for $6,000, claimed to be due for salvage services rendered to the s.s. Princess Adelaide by the auxiliary schooner Iskum, when the former vessel went ashore at Georgina Point, in Active Pass, Oct. 13, 1918.

The Marine Department announces the reporting of an uncharted rock off the northeast side of Nigei Island, in the new channel in Queen Charlotte Sound. It is seven cable lengths from the northeast shore of the island and 2 miles southeast of Greeting Point. Another uncharted rock is reported 450 ft. northwestward from the northwest extreme of McCreight Island, Buckley Bay, Masset Inlet, Queen Charlotte Islands.

Freight Steamship Requisitioning by British Government.

A London, Eng. copyright cablegram of July 22 to the Toronto Globe says: It is anticipated in well informed shipping circles that the government freight requisition for August will be 35 per cent. This is a reduction of 5 per cent. only, as against 10 per cent. for July. It applies to eastward voyages from North America to the United Kingdom. While the gradual whittling down of government control gives satisfaction, there is some disappointment, because the process is not faster. Any increase in the monthly rate of reduction is not anticipated.

The reason given is the government decision to bring over to the United Kingdom 300,000 standards, say 1,000,000 tons, of Canadian lumber, bought during the war by the British Timber Controller, and still held at his disposal. The whole of this lumber is to be shipped during the next 12 months, if that is found practicable. It is to be distributed in all parts of the country and utilized in the construction of tens of thousands of houses to be erected under the national housing scheme, which, as a factor in industrial pacification, is regarded as a matter of prime urgency. At the same time it is realized that operations of such magnitude are bound to militate against the speedy improvement in the shipping position.

The Union Navigation Co. Ltd., Montreal and New York, which recently gave up business, and was wound up, had the following officers: President, H. Whiton, New York; Vice President, W. I. Gear, Montreal; Secretary, H. J. Donnelly, Montreal; Treasurer, C. H. Schneider, New York; other directors, W. A. Coates, R. W. Reford, and J. R. Gordon. Interests associated with Robt. Reford Co. Ltd., have applied for the incorporation of another company having the same name, and it is now being organized.

United States Grain Shipments via Montreal.

Canadian Railway and Marine World for July contained, on page 409, a statement made by the acting Minister of Trade and Commerce on June 19, to the effect that shipment of U.S. wheat when arriving above Montreal in transit for export, would be permitted by license from the Trade and Commerce Department until further ordered, and that in a few days thereafter regulations would be formulated in respect to such shipments to ensure that shippers must provide tonnage to carry such grain from the Canadian seaboard in order to prevent a congestion in Canadian elevators.

We were advised by the Trade and Commerce Department on July 7 that the contemplated regulations were not formulated and that U.S. grain is permitted to pass through Canada in transit, without license, for the present at least, but that later on, should it appear that the quantity of foreign grain in Canadian elevators is liable to endanger prompt dispatch of the Canadian crop when it comes on the market, steps will have to be taken to limit the movement of such foreign grain through Canada.

The Robert Reford Co., Ltd., agents for the Cunard Line, Montreal, has been reorganized, the Cunard Steamship Co. acquiring an interest in the new company. The directors are: President, Robt. W. Reford; Vice President, W. I. Gear; Sir T. Ashley Sparke, New York; W. A. Coates, Wm. Phillips, and S. Barrow. The Cunard Steamship Co. now includes, in addition to the Cunard Line, the Anchor, Donaldson, Thomson, Brocklebank, Well, Commonwealth and Dominion, and American-Levant Lines. When the Canadian Northern Ry. decided a few years ago to relinquish its ocean steamship business, the Cunard Steamship Co. took over Canadian Northern Steamships Ltd. and its vessels Royal Edward and Royal George, the former of which was lost during the war. Wm. Phillips, one of the new directors of the Robert Reford Co., was formerly European Manager, Canadian Northern Steamships Ltd., London, Eng.; W. A. Coates, another director, has been in the Cunard Co's service for many years, and S. Barrow is the company's Manager at Quebec. R. W. Reford, President of the Robert Reford Co., has been added to the Cunard Steamship Co's board of directors. The new arrangements will bring the Cunard Line into closer touch with Canadian trade, and will result in increased service between Canada, the United Kingdom and the European Continent, as soon as the new steamships now under construction are ready for service.

The Dominion Government's s.s. Lansdowne is being offered for sale by tender as she lies at Dartmouth, N.S. She was built at Maccan in 1884, her dimensions being, length, 188.6 ft.; breadth, 32.1 ft.; depth, 15.8 ft.; tonnage, 680 gross; 463 net. She is equipped with compound surface condensing engine, with cylinders 24 and 43 in. diameter by 36 in. stroke, 80 n.h.p. driving a screw, and is supplied with steam by a return tubular boiler 13 ft. by 9 ft. 10½ in., built in 1904.

Job Shipping Corporation, Ltd., has been granted supplementary letters patent subdividing its existing 300 shares of the par value of $100 each into 3,000 shares of $10 each.

The Canadian Government Merchant Marine Ltd.. Discussed in the House of Commons

On July 5, when the House of Commons was in committee of supply, on the item "Public Works, chargeable to capital, Marine Department, $10,000,000," the following discussion took place.

J. H. Sinclair, M.P., for Antigonish and Guysborough, N.S. "What does the Minister propose to do with that money?"

Hon. C. C. Ballantyne, Minister of Marine:—I am quite sure that all members of the committee are fully aware of the government's programme for shipbuilding. The very modest amount that we have in this item is to complete the government's programme.

J. H. Sinclair—Could the minister give us any idea of what he expects to earn from his ships? I asked a question the other day about the rate earned on the cargo that the Canadian Warrior carried, and the answer I got was that it was not in the public interest to give the information, and that at the end of the year a statement would be made by somebody to the shareholders —which is the government—but that the people did not seem to have anything at all to do with it. The owners of ships in centers of business make no objection to the publication of the rates they receive for their freights. If you read the New York trade papers you will find the rates quoted day by day, I do not see any good reason why the minister should not give such information to a member of parliament when he asks for it. The minister said, in the answer he gave to my former question, that he carried a certain amount of cargo from one port to another. He did not state the rate he received, and when he was asked to state it he declined to do so. In connection with this matter, I want to obtain from the minister, if I can, the rate that is being charged on raw sugar from the north side of Cuba to Montreal. I drew to the attention of the Minister of Railways some time ago the fact that I was informed that the Shipping Board of New York had made a rate for raw sugar from the north side of Cuba to New York at 38½c per 100 lb. and had made a larger rate to Halifax of 58½c —20c more. It was a curious thing to me, that the Shipping Board of New York was fixing a rate on raw sugar to a Canadian city. That was the first point, then it transpired that one of the government's ships had been used for carrying sugar from Cuba to Montreal refiners at 38½c per 100 lb.—the rate fixed by the Shipping Board of New York to New York,—whereas Montreal is twice as far away from the north side of Cuba as is Halifax; but the refiners at Halifax had to pay 58½c per 100 lb. I want information on two points: In the first place, is our government willing to submit to the New York Shipping Board fixing the rate to Halifax from the north side of Cuba? In the second place, is the government using its ships to carry raw sugar for one particular concern at 20c per 100 lb. less than to their competitors in Halifax and St. John? I would like to get that information from either the Minister of Railways or the Minister of Marine.

Mr. Ballantyne—The reason I was unable to give the information asked for in regard to rates on cargos carried by government ships is due to the fact that these ships are being operated by the Canadian Government Merchant Marine under D. B. Hanna and his board of directors; it was with no desire on the part of the government to withhold the information were we in possession of it.

J. H. Sinclair—I suppose, Mr. Hanna is a public servant, and if the minister does not know he could get the information by asking him.

Mr. Ballantyne—I will be very glad indeed to get it.

J. H. Sinclair—What does the Minister of Railways say? He is in charge of this business. I notice he smiles. He ought to be able to give me that information. I notified him a few days ago that I wanted to get it before the closing of the house.

Hon. J. D. Reid—The operation of the ships has been by the marine officials and under the board of directors operating the Canadian National Rys. The rates made are kept by that company. Any information, of course, I would have to get from the board of directors, and I can get it if it is in the public interest that it should be given at any particular time. That is the only question that will have to be taken up and discussed at some future time—the question of giving information of that kind just at the time transactions may be made in connection with our great railway and steamship systems. This is what happens in connection with our railways and also with our steamships. Some person wants to get information that will be of assistance to him individually, and it would not be in the public interest to furnish it to him. I admit that members are entitled to all information that is in the public interest to impart, and I would suggest that at another session both sides get together and decide what information we should give out, for the reason that if it is against the apparent successful operation either of our steamships or our railways, I am sure there is not a member who would want the information. With reference to the rate mentioned, I do not know anything about it, but there has been in force on the Atlantic for years an understanding that the rates from Atlantic ports to foreign ports are the same whether from Canadian or United States ports. The rates from Montreal to Liverpool would be the same as from Portland or from New York, and probably the rate from Cuba to Montreal would be the same as the rate from Cuba to New York. The matter of getting a return cargo has probably something to do with these rates being generally the same to the Atlantic ports.

J. H. Sinclair—Why are the rates higher to Halifax than they are to Montreal?

Hon. J. D. Reid—I will make enquiries and get the information.

Hon. A. K. Maclean, acting Minister of Trade and Commerce. The sugar rate from the British West India Islands, which enjoy preferential treatment under our West Indies treaty, was fixed by the International Sugar Board. My impression is that the International Sugar Board fixed the rate on sugar from British West India Islands to Halifax and St. John at 57c.

J. H. Sinclair—Did they fix the rate to Montreal?

Mr. Maclean—No, because during the war Montreal was getting its sugar via New York, and the New York rate from the British West India Islands was somewhat lower, because of the fact that the rail rate from New York to Montreal had to be taken into consideration. The situation to which my hon. friend refers was unfair to the sugar refineries at Halifax and St. John and as soon as I learned of it I protested. The Montreal sugar refineries wanted the Cuban sugar for the purpose of manufacturing it and selling it in the United Kingdom, and if the refineries at St. John and Halifax could not get the same rate as the Montreal people got, they were under a disadvantage in attempting to sell sugar in the United Kingdom. Later, however, I understand, the railway made the same offer to the refineries at St. John and Halifax as was made to the Montreal refineries. I myself think that a mistake was made in the first instance.

J. H. Sinclair—My point is that the government ships have been used for the benefit of the Montreal refineries and to the disadvantage of the refineries at Halifax and St. John.

Mr. Ballantyne—I heard Mr. Hanna say that he was quite prepared to carry sugar at the same rate to Halifax and St. John as he carried it to New York for the Montreal refineries.

J. H. Sinclair—The rate ought to be less from the north side of Cuba to Halifax and St. John than it is to Montreal, because it is only half the distance; but the rate to Halifax and St. John is 20c more than the rate to Montreal; and that is due to the interference of the government. I am informed on credible authority that the government has contracted to carry 36,000 tons of raw sugar from the north side of Cuba to Montreal at 37½c per 100 lb. If that is true, it will be impossible for the refiners at Halifax and St. John to compete with the refiners in Montreal. The point is that the government should not use government ships to favor the Montreal refiners against the interests of the refiners at Halifax and St. John. If the minister cannot clear that point up, the people of the Maritime Provinces will not be satisfied.

Mr. Ballantyne—I thought I had made it quite clear. The government has nothing whatever to do with the operating of the ships or the fixing of rates. The government took care to see that just such a case as the hon. member has mentioned should not arise, as it possibly would arise if the government operated the ships and fixed the rates. But the operation of the ships and the fixing of the rates is entirely in Mr. Hanna's hands. The government did not carry that sugar; the government did not fix the rate; the government had nothing whatever to do with it. If the facts are as the hon. member states, I am quite sure that the Minister of Railways will be glad to take the matter up with Mr. Hanna. But I know that the Minister of Railways, like all the other members of the government, does not want to interfere with Mr. Hanna; we want to give him a free hand to operate the ships just as we give him a free hand to operate the railways. But I did hear Mr. Hanna make the statement that he was quite prepared to carry raw sugar to Halifax and St. John at the same rate that he carried it to New York for Montreal sugar refiners. Mr. Hanna would naturally be glad to get a return cargo, and sugar is about the only cargo he could get.

F. S. Cahill, M.P. for Pontiac, Ont.—I understand that these ships were to be built for the advantage of the Canadian people, but we are told that the ships have been handed over to Mr. Hanna and that he may do as he sees fit; that he may suit himself, not the Canadian people. It seems to me that we could do without this item of $10,000,000 if it is of no advantage to the people.

A. B. Copp, M.P. for Westmoreland—I am not quite satisfied with the explanation made by the Minister of Marine. He tells us that the management of the government steamships has been handed over to Mr. Hanna; I suppose he means that it has been handed over to the directors of the Canadian National Railways, not to Mr. Hanna personally.

Mr. Reid—The board of directors, of which Mr. Hanna is President.

Mr. Copp—That is what I understand. The Minister of Marine says that the government has no control of the rates; that that is all left to Mr. Hanna; that the government does not want to interfere with him in regard to the steamships, any more than with him in regard to the operation of the railways. We were told by the Minister of Railways last night that when any complaint was made with regard to railway rates those who were interested could appeal to the President of the Canadian National Railways, and if they were not satisfied with this decision they could make a further appeal to the Governor in council, who would take the matter into further consideration and see that a decision was given which was in the interests of the public. If that is the case with regard to the Canadian National Rys., surely it ought to be the case with regard to the steamships built by the Government of Canada and operated by the Canadian National Ry. Co.

Mr. Reid—These government steamships have been handed over to the company of which Mr. Hanna is the President. Under our new Railway Act the Canadian National Rys. come under the Board of Railway Commissioners the same as any other railway, and we have the right of appeal in these cases just as any other railway has. Some of our steamships may be under the Railway Act and thus come under the Board of Railway Commissioners. But the hon. member knows that in any case where an injustice has been done there is the right of appeal to the Governor in council, through the department of which I am the head, and any appeal so made will be taken up and dealt with with a view to doing justice to any member who makes complaints, or to any individual. But until it comes before the government in that way, of course, we leave the responsibility for chartering and operating those vessels as before. The only difference is this: You cannot fix a general rate, as you can with the Board of Railway Commissioners. A vessel may arrive at Montreal, and you may want to charter it to China, Japan or Liverpool, and the rates may differ from time to time. I do not think it is easy to get a standard rate. I rose only to assure the hon. member that at all times there is the right to appeal to the Governor in council, to the management of the vessels, or to the minister himself in connection with either government vessels or railways.

Mr. Copp—If the information which Mr. Sinclair has given to the committee is correct, viz: that there has been this discrimination of 20c in the freight rate as between Montreal and Halifax and St. John, the Governor in council should not wait for some one to make an appeal, but should take the matter in hand at once and see that justice is done.

Mr. Maclean—The rate to Halifax and St. John was not fixed by the government steamships nor by the Board of Railway Commissioners; it was fixed by the International Sugar Commission, which owns and controls all the sugar production of the British West India Islands until next September or October, and in some way or another it controls the freight. Two years ago it fixed the rate from the British West Indies to Halifax.

J. H. Sinclair—What has the government done to rectify this? Has it taken any action at all?

Mr. Maclean—It could not be rectified because it is a rate fixed by an inter-allied commission.

Mr. Copp—I understand the Board of Railway Commissioners, knowing that raw sugar was being taken to the sugar refineries at Halifax and St. John at 58½c per 100 lb., afterwards entered into a contract, using government ships, for which the people of Canada pay, and gave the benefit of that 20c per 100 lb. to Montreal, and that means that for the benefit of some people in Montreal, absolute disaster is threatened to those two enterprises in the Maritime Provinces each having an investment of some $10,000,000.

Mr. Maclean—Unintentionally a discrimination was worked against the Halifax and St. John refineries. They presented their opposition to this to the railway. Then the railway undertook to place Halifax and St. John in the same position as regards Cuban importations of sugar. A mistake was made, I think, in the first instance.

Mr. Copp—What steps is the government taking, in the interests of the people, to correct that mistake?

Mr. Maclean—The government has had the matter up before the management of the Canadian National Rys. and this matter has been placed before them. Parliament cannot correct it by discussing the matter here; it might well be left to the business interests involved and the good sense of the management.

Mr. Copp—In spite of what my hon. friend says, we are all interested. This is not a matter of whether I have money invested in that enterprise or not; I am interested just the same, and I do not think it is becoming to my hon. friend in a veiled way to insinuate that I have no right to discuss the matter here.

Mr. Maclean—I do not say so.

Mr. Copp—That is what the hon. gentleman intimated, viz: that I had better leave the matter to the people who are directly interested. I am interested in this matter as a representative from the Maritime Provinces, and if a mistake has been made, while my hon. friend says that the matter has been referred to Mr. Hanna, that is all very well; that may be the proper way to get this matter adjusted, but when an item like this is before the committee, people who are interested in enterprises in the Maritime Provinces, which enterprises are being driven out of business by circumstances which spell disaster to those enterprises, we should have some assurance from the government that something will be done to see that those people are given a fair and proper settlement.

Mr. Ballantyne—I do not want wrong information to get on Hansard. The Montreal Sugar Refineries applied to the Canadian Government Merchant Marine to move the sugar. They had to move it at the New York rate, and they did so. Had Halifax or St. John made the same application to the Canadian Government Merchant Marine, they would have received the same rate. I am sorry to disagree with my colleague Mr. Maclean, but there has not been any error. When the other two refineries make application, they will get the same rate. There is no discrimination whatever.

Mr. Copp—Then we are to conclude that there is to be nothing done to straighten this matter out and to see that these industries in the Maritime Provinces are not discriminated against.

Mr. Ballantyne—The matter has been arranged.

Mr. Copp—How?

Mr. Ballantyne—I stated a moment ago that Mr. Hanna is quite willing to move sugar at the same rate for St. John and Halifax, as soon as the industries in the Maritime Provinces ask him to do so.

Mr. Copp—Are vessels available to engage in the trade?

Mr. Ballantyne—Yes.

Mr. Maclean—The St. John refinery has already received a cargo.

Canadian Manufacturers Favor Canadian Merchant Marine.

The Canadian Manufacturers' Association passed the following resolution at its annual meeting recently: "Whereas, the farmers and manufacturers of Canada will suffer great loss if adequate tonnage is not available during the coming autumn for the shipment of agricultural and industrial products to Europe, and whereas, the possibility of increasing our export trade is largely dependent upon the volume of available shipping be it therefore resolved, that the Canadian Manufacturers' Association endorse the policy of the Dominion Government to create a Canadian merchant marine, and further, that the government be urged to take the necessary steps to build, purchase or lease sufficient ships to satisfy the demand for tonnage.

The Eastern Shipping Co. Ltd., has been incorporated under the Dominion Companies Act with capital stock of 1,000 shares of no nominal or par value, provided that the amount with which the company shall carry on business shall be $5,000, and with head office in Toronto, to own and operate steam and other vessels for the carriage of mails, passengers and merchandise, and to carry on a general navigation and steamship management business.

Steam Navigation Co. of Canada Ltd. has been granted supplementary letters patent, increasing its authorized capital stock from $2,500,000 to $3,500,000.

Harbor, River and Graving Dock Estimates for 1918-1919 and 1919-1920

In addition to the estimates of which particulars were given in Canadian Railway and Marine World for May, pg. 276, the supplementary estimates for the year ended Mar. 31, 1919, submitted to the House of Commons during the recent session, included the following public works items chargeable to income:—

HARBOR AND RIVERS. NOVA SCOTIA.

Battery point, breakwater repairs and reconstruction, further amount required	$ 690
Margaree harbor, repairs and improvements, further amount required	5,350

The supplementary estimates for the year ended Mar. 31, 1920 contained the following items chargeable to capital:

Esquimalt, B.C., new dry dock	$500,000
Port Arthur and Fort William, harbor and river improvements, further amount required	200,000
Quebec harbor, Champlain dry dock, to complete	207,000
Quebec harbor, River St. Charles improvements	55,800
St. John harbor, improvements, further amount required	250,000
Toronto harbor, improvements, further amount required	200,000
Toronto Island, breakwater protection	200,000
Vancouver harbor, improvements	18,000
Victoria harbor, improvements	21,000

The following items are chargeable to income:—

NOVA SCOTIA.

Bass River wharf	$ 21,000
Boulardarie Island wharf	1,650
Chebogue harbor, repairs and renewals to beach protection work	3,000
Cheverie, repairs to wharf	2,750
Church Point, repairs to wharf and groyne	2,100
Comeau's Hill, breakwater improvements	1,100
Cow Bay (Point Morien), repairs to breakwater	6,000
Friar's Head, harbor improvements	3,800
Glace Bay, harbor improvements conditional on transfer from Dom. Coal Co.	50,000
Halifax quarantine station, repairs to wharf	2,000
Iona, repairs to wharf	1,000
Jersey Cove, repairs to wharf	1,000
Little Brook, repairs to breakwater	3,000
Little River, repairs to breakwater, wharf	900
Lower Kingsburg, breakwater skidway and boat shed	4,100
Malagash, wharf extension	3,000
Margaree, repairs to breakwater	20,000
Meteghan, to rebuild L of breakwater and part of wharf	13,800
Mira River, to repair and extend jetty	2,000
Mosher's Bay, repairs and improvements to breakwater	6,650
New Campbellton, reconstruction of wharf	4,000
North Ingonish, reconstruction of breakwater	7,800
Oyster Ponds, to repair and rebuild harbor works	2,700
Port Greville, repairs to beach protection	900
Port Hawkesbury, to complete repairs to wharf	800
Port Maitland, repairs to breakwater	2,780
Sandford, repairs to breakwater	2,200
Scotch Cove (White Point), extension of breakwater	3,600
Seaforth, raising breakwater and extending shore protection	3,800
Skinner's Cove, repairs to piers	1,300
Seaside, repairs to wharf	900
Shenacadie, wharf	9,750
Sober Island, extension to wharf	6,000
South Ingonish, reconstruction of beach protection works, revote	900
Sydney, wharf	100,000
Three Fathom harbor, repairs to breakwater, further amount required	3,240
White Point, to complete breakwater	2,250
Whycocomagh, repairs to wharf	600
	$302,370

PRINCE EDWARD ISLAND.

North Lake, boat harbor	$ 27,000

NEW BRUNSWICK.

Cocagne, repair to wharf	$ 1,500
Fairhaven, Deer Island, repairs to wharf	850
Great Salmon River, wharf	2,500
Indian Island, wharf	4,600
Quaco (St. Martins), reconstruction of breakwater	22,000
Richibucto Cape, completion of pier and breakwater	2,000
Two Rivers, repairs to wharf	1,100
	$ 34,850

QUEBEC.

Bersimis, repairs to wharf	$ 600.00
Bic, repairs to wharf	1,000.00
Buckingham, wharf	8,000.00
Fabre, wharf extension and freight shed	2,300.00
Fassett, repairs to wharf	1,000.00
Grande Riviere, repairs to pier	6,100.00
Laprairie, protection work, to pay claim of Carlton Construction Co. for work done	2,788.50
Laprairie, to complete protection works	82,000.00
Levis, repairs to deep water wharf	2,000.00
North Timiskaming, wharf	13,000.00
Notre Dome des Sept Douleurs—(Isle Verte), completion of landing wharf	5,000.00
Pointe Shea, Amherst, repairs to pier	10,000.00
Poltimore, wharf	3,000.00
St. Alexis (Grand Baie), freight shed and repairs to wharf	1,440.00
St. Alphonse, repairs to wharf, further amount required	2,000.00
St. Etienne de Malbaie, wharf	12,000.00
St. Francois du Sud, repairs to wharf	27,600.00
St. George de Malbay, repairs to breakwater	850.00
St. Jean Port Joli, repairs to wharf, further amount required	715.00
St. Omer, repairs to wharf	800.00
Sorel, wharf repairs and reconstruction	8,600.00
Ville Marie, repairs and improvements to wharf, to complete, revote $600	1,000.00
	$191,793.50

ONTARIO.

Belleville harbor, improvements to wharf and warehouse, further amount required	$ 500
Bronte, repairs and improvements to pier	5,600
Burlington channel, repairs to pier, further amount required	6,900
Collingwood, breakwater reconstruction	50,000
Depot Harbor, wharf renewal	34,000
Hamilton, harbor improvements	100,000
Kenora, extending wharf	1,400
Kincardine harbor, contribution to municipality towards protection of government piers	1,050
Little Current, rebuilding wharf	54,000
North Bay, repairs to wharf	800
Port Stanley, harbor improvements, further amount required	33,000
Oshawa, repairs to wharf	12,000
Owen Sound, wharf reconstruction	86,000
Parry Sound, repairs to wharf	4,500
Port Dover, harbor improvements	50,000
Portsmouth, repairs to pier	4,000
Rideout Bay, wharf	4,000
Thessalon, breakwater extension	48,000
White River, wharves	6,000
	$501,750

MANITOBA.

Big Island (Hecla), wharf	$ 2,100
Goose River and Rat Creek, removal of boulders	5,000
Red River, closing channel at Netley cut	800
	$ 8,200

BRITISH COLUMBIA.

Bamfield, repairs to wharf	$ 1,920
Belmont, repairs to wharf	1,000
Boswell, floating wharf	6,500
Campbell River, repairs to wharf	15,800
Carroll's Landing, wharf	7,000
Coal Harbor, reconstruction of float	2,500
Courtenay River, repairs to bank protection	2,200
Cowichan Bay, wharf	11,700
Cultus Creek, floating wharf	6,500
Egmont, float	1,400
Fauquier, wharf	7,000
Fraser River, dredging North Arm, further amount required	50,000
Fraser River, improvements at Nicomen Island	36,000
Fraser River, protection work at Steveston, to complete (revote)	20,000
Graham, wharf	11,500
Hardy Bay, landing float, revote $1,250	2,700
Kincolith, new wharf	11,000
Long Bay, Gambier Island, float	800
Naramata, wharf	6,400
Naas River, removal of obstructions	10,000
New Massett, rebuilding wharf, further amount required	3,100
Port Alberni, new float and changing position of present float	[illegible]400
Port Moody, float	750
Princess Creek, floating wharf	6,500
South Gabriola Island, wharf	3,500
Stickine River, removal of obstructions	10,000
Ucluelet, repairs to wharf	3,350
Victoria, in full and final settlement of claim of T. C. Sorby in connection with harbor improvements	3,000
Williams Head, quarantine station, repairs to wharf	2,000
Williams Head, quarantine station, repairs to coal wharf	4,700
	$251,220

DREDGING.

Maritime Provinces, further amount required	100,000
Ontario and Quebec, further amount required	100,000
	$200,000

Canal Estimates for 1918-1919 and 1919-1920.

In addition to the estimates of which particulars were given in Canadian Railway and Marine World for May, pg. 277, the supplementary estimates for the year ended Mar. 31, 1919, submitted to the House of Commons during the recent session, included the following items:—

Soulanges Canal, repairs and improvements to lock 4, Soulanges, to repair break	$ 50,000
Lachine Canal, rebuilding and replacing plant and materials destroyed by fire at Wellington basin, May 21, 1918	33,700
Ontario-St. Lawrence Canals, to replace bridge at C.N.R. crossing over Murray Canal	35,000
St. Peter's Canal, rebuilding of highway bridge, further amount required	3,100
Trent Canal, to rebuild wharf at Lindsay	10,000

The Beaver Steamship Co. Ltd., Montreal, has purchased the s.s. Cherokee from a U.S. owner and has transferred her to the Canadian register under the name of Maplegrove. The Cherokee has a wooden hull and was built at Marine City, Mich., in 1889, and was practically reconstructed in 1913. She is of the single deck type, with diagonal strapping on frames, steel arches with bow sheathed for ice, and is of the following dimensions; length b.p., 208 ft., breadth moulded, 35¾ ft.; depth moulded, 14 ft.; tonnage, 1,177 gross, 636 net. She is equipped with fore and aft compound engine, with cylinders 25 and 50 in. diameter by 40 in. stroke, 575 i.h.p. at 86 r.p.m., supplied with steam by one firebox boiler 11 ft. 4 in. diameter by 16 ft. long. She was registered as owned by J. C. Garey, Saginaw, Mich.

Beeson's Marine Directory of the Northwestern Lakes, for 1919, has been published, this being the 33rd consecutive year of its issue. The list of vessels trading on the lakes covers both Canadian and U.S. vessels and there is complete information as to the general lake traffic, arranged for easy comparison with the statistics of previous years. The book is well illustrated with views of some of the important works on the Great Lakes, and some vessels, including the Ontario Car Ferry Co.'s car ferry Ontario no. 2, and the Northern Navigation Co.'s s.s. Noronic.

Naval Service Department Vessels—The supplementary estimates for the year ending Mar. 31, 1920, passed at the Dominion Parliament's recent session, provide $150,000 for new vessels for fisheries protection service on Lake Erie. It is proposed to build three, each about 80 to 90 ft. long, for patrol work, and to have them ready for operation in 1920.

Electrification of Montreal Harbor Terminal Railway.

The Montreal Harbor Commissioners' report for 1918, issued recently, contained the following:

"The Montreal Harbor Railway Terminals consist of surface lines situated between Victoria Bridge and the end of the piers on the south side of the canal; and the marginal lines from McGill St. down to the Imperial Oil Co.'s wharf at Montreal East; having a total trackage of 55.35 miles. Regularly, during the summer the shunting amounts to from 1,000 to 1,800 cars a day. In case of a breakdown in this service, the economic loss would be severe, as the car unloaders, longshoremen, and the various organized staffs would be immediately thrown out of work, with a resulting general loss of dispatch. Much of the success in Montreal harbor is due to dispatch in loading vessels and unloading cars, and effort is made by direction of the commissioners for a prompt and efficient service. So successful has this service been, that there was not a single complaint, although many might have been expected, during the 200 consecutive working days in the Montreal harbor navigation season. In 1908, the commissioners operated the traffic on the harbor terminals with three steam locomotives. During 1918, nine locomotives were in service, and the limit of car handling was reached at many times during the summer, and prompt steps must be taken by the commissioners to avoid inevitable congestion in their terminals. For export alone, day after day, 30 trains of from 25 to 30 cars arrived for distribution and unloading in Montreal harbor.

"The commissioners, fully alive to the situation, visited the important electrified freight terminals in New York and Philadelphia in 1914. From information obtained, it was found that an electric locomotive could handle, summer or winter, at least 25% more than a steam locomotive, and the operation was much more under control and therefore safer. It was found that electrification was economical in freight yards and terminals, as well as much more satisfactory. The commissioners called in an electrical engineer in 1914, who, in conference with the commissioners' engineering department, made a study of the problem and finally a report was submitted by this engineer to the commissioners, but owing to the financial condition during the war, construction was deferred. The report, 'in view of the operating condition,' recommended the use of 2400 volt, direct current, for operation of electric locomotives, the same high voltage direct current system decided on and now being operated by the Canadian National Rys. in connection with the Montreal tunnel terminal.

"As the Superintendent of the commissioners railway terminals has pointed out, the urgent need for more locomotives for next year's operating work, the commissioners consider the immediate commencement of electrification is of very great importance. The commissioners have consulted with the electrical experts of the railways having their terminals in Montreal, and it is understood that the system now in operation in connection with the Canadian National Rys. and the proposed projects will all be interchangeable with the system proposed for the harbor.

"The extension of the commissioners' marginal railway eastward along the river front of the harbor has already resulted in wonderful industrial activity from Hochelaga to Pointe-aux-Trembles. A few years ago the Montreal Cotton Co.'s mill was the limit of the industrial development along the water front in the eastern part of the city. With the development of the harbor and the extension of the high level railways and the active operation of the railway terminals, this valuable manufacturing district has entered upon a new era of prosperity."

The Commissioners received tenders up to July 14 for railway substation, switchboard and control equipment, overhead catenary line and bonding material, and wood and steel poles.

It is said that at present only the eastern section of the Harbor Terminal will be electrified, viz. from Beaudry east to the terminal at Pointe aux Trembles, and that steam locomotives will continue to be used on the western section for a time. A sub-station will be built at Beaudry St., where two units are to be installed, but at first only one will be put in, viz., a 1,500 h. p. synchronous motor, direct-connected to two 500 k. w. 1,200 volt generators, connected in series, and, of course, switchboard and control equipment. The overhead catenary will be of standard type. A transmission line, with wood and steel poles, will be erected to supply power to the substation. Provision will be made in the substation for a power supply for the cold storage warehouse to be erected at the east end of the harbor.

The commissioners are negotiating with Canadian National Rys. for renting two of the Mount Royal tunnel electric locomotives.

Demountable Wooden Ships to Be Built in British Columbia.

Some particulars of this project were given in Canadian Railway and Marine World for July, pg. 400. The Trade and Commerce Department's Weekly Bulletin has published the following in the same connection:—Sir James Ball, British Timber Controller, has given an order for 2,000,000 ft. of cut lumber to be shipped from British Columbia to the United Kingdom in the form of a demountable ship propelled by its own steam. The scheme is to build the cut lumber into a ship and after arrival at destination to remove therefrom the machinery, which can be sent back for use over again. If the scheme works out as expected by its promoters, it is likely to revolutionize the whole system of offshore lumber trade and will greatly increase the lumber possibilities for B.C. timber in foreign countries by reducing considerably transportation cost and by automatically solving the tonnage problem.

The method of construction is very simple. Blocks will first be laid for the keel, and fore-and-aft and cross timbers will then be placed in position. When sufficient material has been thus put together to ensure buoyancy enough to keep the bottom high out of the water, the vessel will be launched with donkey engines on board. These are to be used to lift the lumber out of the water and to place in the ship. The lumber will be clamped down securely with bolts and nuts for every 8 ft. of depth. On arrival at destination, the fastenings can be readily taken off so as to leave the lumber and timber composing the ship immediately ready for distribution. The ship will be fitted with schooner rig and auxiliary engines, which will be taken out on arrival at destination and either sold, or shipped back for further use. The promoters believe they will be able to put B.C. lumber into the European markets at prices that will beat Norwegian and Swedish competition.

The ship was designed by John Arbuthnot and J. H. Price, both of Victoria, B.C. This type of lumber ship will probably be known as an Arbuthnot.

Trade and Supply Notes.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers distinctly to understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

Brown's Copper & Brass Rolling Mills Ltd., New Toronto, Ont.—Robert K. Newton, heretofore Assistant Manager of Sales, has been appointed General Sales Manager.

Davis-Bournonville Co., Jersey City, N. J., has resumed the monthly publication of "Autogenous Welding," which was suspended during the war. The July number is devoted largely to the use of oxy-aceytlene welding and cutting in the war.

Whiting Foundry Equipment Co., Harvey, Ill., has issued catalogue 145, "Whiting Railroad Equipment," describing and illustrating various railway specialties.

Wonham, Bates & Goode Inc., engineers, manufacturers', representatives and exporters, New York, N.Y., have opened a Canadian office at 145 St. James St., Montreal, in charge of A. G. Nutter, who prior to the war was with Mussens Limited, Montreal, and who, after having served at the front in Belgium and France, finally as Major of the 25th Battalion, was attached to the British Mission at Washington. Wonham, Bates and Goode, Inc., have sold to Canadian Rolling Mills a 15-ton, 8-ton wheel, Orton & Steinbrenner locomotive crane, with 40 in. electric magnet.

Transportation Conventions in 1919

September.—Master Car and Locomotive Painters' Association of the United States and Canada, Chicago, Ill.

Sept. 16-19.—Traveling Engineers' Association Chicago, Ill.

Sept. 16-18.—Roadmasters' and Maintenance of Way Association, Chicago, Ill.

Oct. 6-10.—American Electric Railway Association, Atlantic City, N.J.

Oct. 21-23.—American Railway Bridge and Building Association, Cleveland, Ohio.

Oct. 21-23.—Maintenance of Way and Master Painters' Association, St. Louis, Me.

Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries unless otherwise stated:

Belleville Railway Men's Educational Club. Meets each Tuesday, 7.30 p.m. F. A. Pingston, Belleville, Ont.

Canadian Car Service Bureau—W. J. Collins, Manager, 401 St. Nicholas Building, Montreal.

Canadian Electric Railway Association—Acton Burrows, 70 Bond Street, Toronto.

Canadian Freight Association (Eastern lines)—G. C. Ransom, Canadian Express Building, Montreal.

Canadian Freight Association (Western lines)—W. E. Campbell, 305 Boyd Block, Winnipeg.

Canadian Railway and Marine World

September, 1919

The Canadian Overseas Railway Construction Corps' Organization, and Service in Belgium and France.

In Feb., 1915, a request was made by the Militia Department at Ottawa to Lord Shaughnessy, then President of the C.P.R., to prepare details of establishment and equipment for a railway construction and repair unit, having a total approximate strength of 500 men, all ranks, for service in France. An outline of such an organization was prepared and submitted to the department and, with the exception of heavy standard gauge equipment, was approved by an order in council, on Mar. 11, 1915.

The C. P. R. management was then asked to appoint the officers and recruit the personnel for this organization. This work was undertaken, and as the information available, as to the requisite classes of men and equipment for such an organization, was at that time decidedly limited, authority was obtained to send an expert to France to report on conditions, and in the meantime recruiting was proceeded with. H. F. MacLean of the Cook Construction Co., undertook the mission to France, proceeding overseas in Mar., 1915, and returning in the latter part of May, with very complete and valuable information.

Headquarters were established at St. John, N.B., the C.P.R. providing barracks for the men in colonist cars there, no other accommodation being available. Recruiting was carried on through the agencies of the C.P.R. general superintendents from St. John to Vancouver, and eventually some 540 picked men were selected from a total of approximately 3,000 applicants.

The establishment eventually decided upon was as shown in the table attached and proved highly satisfactory for the work for which it was intended, being followed in great part by the large body of some 15,000 Canadian Railway Troops, which began to arrive in France during the latter part of 1916 and early part of 1917.

Recruiting was started Mar. 12, 1915, and was practically completed by May 1. Military training was carried on at St. John, unfortunately without Militia Department assistance, none being then available, until June 14, on which date, after inspections by the Minister of Militia and General Lessard, embarkation for England in the s.s. Herschel took place. After a very calm passage, the unit landed at Plymouth on June 25, and proceeded to Longmoor Camp, in the Aldershot district, which was then the headquarters of the British Railway Troops. Training was continued until Aug. 25, 1915, on which date, after an inspection by the King, the unit embarked for France via Southampton and Calais.

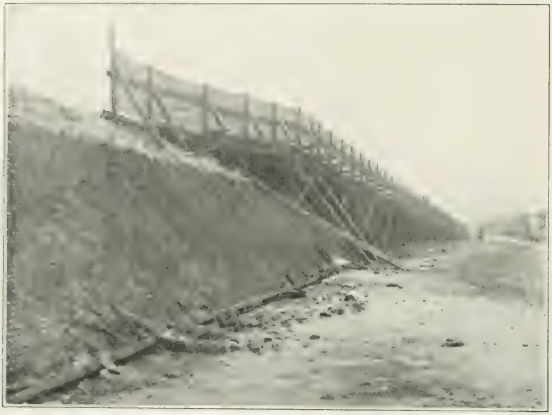
In Sept., 1915, authorization was given for the recruiting of a reserve base, consisting of two officers and 140 other ranks. This work was undertaken by F. L. Wanklyn, General Executive Assistant, C.P.R., honorary Lieutenant-Colonel of the corps, who, from its organization until demobilization, had charge of all Canadian matters pertaining to the unit, rendering most valuable assistance in the supply of men and equipment. Capt., now Major, Wellwood, returned from France to take charge of this base and took it to England, after which he rejoined the unit in France. While in England and until its strength was exhausted, the reserve base was employed on railway work at various points, including some considerable revisions and additions to yards at Newcastle, being thus usefully engaged throughout. After the strength of this base was entirely exhausted, further re-inforcements for the C.O.R.C.C. were supplied from the general reserve of Canadian Railway Troops, which was established in 1917.

On arrival at Calais, the C.O.R.C.C. proceeded to Alveringhem, Belgium, some six miles west of Dixmude, and took up billets in that vicinity. It was then attached to the 2nd and 5th Divisions of the Belgian Army, through the medium of the British Mission with the Belgian Army, for ordinary field engineering work, and engineer parties were also furnished for work with the naval siege gun batteries then situated on the coast. The work in this vicinity consisted of the construction of reinforced concrete machine gun emplacements, observation towers, artillery emplacements, shell proof shelters, standard gauge railway mounted gun emplacements, 2 ft. gauge railways and trench train lines. A mechanical plant was also supplied and operated at Forthem for the transhipping of materials from barges to the light railway system.

In connection with this work the following points are of interest. Two concrete observation towers, some 30 ft. in height, were constructed in the shelter of old buildings, one in the Town of Nieuport, and the other some distance farther south, within 600 yards of the front line trenches, which, while somewhat battered by shelling, served usefully as artillery observation posts for more than two years. The artillery emplacements constructed were of such a nature that they withstood successfully direct hits from 11 in. armor piercing shells, in one case a shell, striking directly in the embrasure, cut 1 ft. from the barrel of

Canadian Overseas Railway Construction Corps' Ballast Train, handling chalk ballast between Velu and Havrincourt, Nov. 22, 1917.

a 6-inch gun, without serious damage to the emplacement. A light railway system of 2 ft. gauge, 9 lb. rail was constructed for the carrying of supplies, ammunition and R.E. stores from Forthem, some 5 miles behind the lines, to Dixmude, paralleling the trenches in either direction from the latter point. This light railway, the first of its kind used immediately behind the front line, on either the British or Belgian fronts, was a somewhat primitive affair, being operated in part by horse and in part by man power, but was at least an improvement over horse and hand transport, the only other possible system under the conditions.



Side view of Timber Ramp, from towpath, to dry bottom of Canal du Nord, to permit it being used as a highway for artillery and team transport. Built by Canadian Overseas Railway Construction Corps, Nov., 1917. The embankment was approximately 40 ft. high.

An extensive, power operated, 2 ft. gauge system, having 30 lb. rail, was strongly advocated by the C.O.R.C.C. at that time, but was not approved, such systems not being adopted until 1917, when all means of transport other than railways had failed. It was at this time that the extensive construction equipment of the C.O.R.C.C. first came into use in part, scrapers being used for preparing artillery positions in the sand dunes, concrete mixers for reinforced concrete work, and steam hoists for a transhipping plant from barges to the railway system, thus saving much labor.

In the latter part of Oct., 1915, the corps was recalled to England, under orders to proceed to Salonica for work on the Salonica-Uskub Railway. Just at that time, however, the break in the Serbian lines took place, the greater part of the railways in question were lost and the C.O.R.C.C. was returned to France via Southampton and Havre, reaching the latter point on Nov. 5. From Havre, one company proceeded to Audruicq, the central railway supply depot of the British armies, and undertook the extension of yards there. At that time this central railway depot consisted of some 40 miles of standard gauge tracks; at the signing of the armistice it had been extended to approximately 120 miles. The other company proceeded to billets at Wippenhoeck, just southwest of Ypres, where a few weeks later it was joined by the company from Audruicq, on the completion of its work at that point.

The C.O.R.C.C. was then attached to the second British Army and started on standard gauge work in that army's area. Advanced railways for the regular handling of supplies, ammunitions, R. E. stores, etc., were then practically unknown, being considered dangerous and unreliable. The average rail heads were from 15 to 25 miles from the front line.

The first work attempted by the corps in that area was the construction of a line from Wippenhoeck, on the main Hazebrouck-Voperingue line, to Dickebusch, a point south of Ypres, and about 1½ miles from the front line. The idea of the line at that time was that it would be used principally for railway mounted gun spurs, and possibly some small amount of stone traffic for repairs to roads. As the work advanced, and the corps became familiar with conditions, strong representations were made by it to the effect that the line should be made use of for advanced supply and ammunition rail heads and gradually this idea was adopted and authority given for the construction of advanced rail heads on this line. It was on this area that the first really advanced standard gauge rail heads were used behind the British front.

Railway Yard at Bapaume, France, looking east; Nov. 29, 1917.

By special request from the officer commanding the naval siege gun batteries on the coast, a small detachment was attached to that force, where it did much valuable work, remaining until practically the cessation of hostilities. Among the works of interest done by this detachment was the installation of the first 13 in. naval siege gun used behind the British front.

The corps remained in the vicinity of the Ypres salient until Aug., 1916, undertaking in addition to the works mentioned above, the construction of the Bergues-Vlamertingue line, later continued through to a connection with the old main line north of Ypres, various rail heads and branch lines in the Ypres salient and the construction of a meter gauge yard on the Belgian Railway at Ghyvelde.

Early in the spring of 1916, the Canadian Corps conceived the idea of establishing a power operated 2 ft. gauge railway in the Ypres salient, and a detachment was furnished by the C.O.R.C.C. to lay track and generally assist in this work. This railway was built, to a great extent, from salvaged materials, and in its beginning was somewhat primitive, for instance the first power consisted of two 10-ton locomotives abandoned in the German advance and salvaged by the C.O.R.C.C. from Dickebusch Lake, but it probably served as an example of what might be done with railway transportation and was the forerunner of the network of light railways that was finally installed.

In Mar., 1916, shipments of steel box cars began to arrive at Audriucq from Canada, and other points, and as neither men nor plant were available for their erection, the C.O.R.C.C. was called upon for assistance in the work. The erection of these cars was undertaken and the C.O.R.C.C. bridging plant, air compressors, etc., were set up and converted for the work. Some 1,300 cars were thus erected, by which time proper plant and other labor became available, and the work was turned over to the British army mechanical staff. During the period of this car construction, the detachment in charge of the work had the somewhat unpleasant experience of being present at the blowing up of some 15,000 tons of ammunition in the Audruicq dump, about a quarter of a mile from the car yard, a dump which was then one of the largest British dumps and which was set off by German bombs, the explosions throwing shells in some cases nearly a mile and continuing for three days.

Team Outfit, grading for railway, near Canal du Nord, Nov., 1917.

As railway work progressed in this area the need of steam shovels, track pile drivers and the usual standard gauge equipment became at once apparent, there being no modern railway construction equipment available in France. Ballast for railway construction was one of the most vexing problems, there being no good ballast available, the material used being principally the refuse from coal mines, which was both difficult to handle and unsuitable for track work, the supply being also very uncertain. After extensive representations made on this subject, permission was finally obtained for the acceptance of two 70 ton steam shovels and two standard gauge track pile drivers, and these were supplied by the Canadian Government through the C.P.R., and arrived in June, 1916. These shovels, which were worked incessantly from the summer of 1916, until the signing of the armistice, in many instances 24 hours a day, to a great extent saved the situation as far as ballast was concerned for the British railways, supplying the greater part of the material used for this work. This material consisted of sand and chalk. The track pile drivers were also incessantly employed, particularly in the German retreat, driving the great majority of new pile bridges from the Somme to the coast.

During the period referred to above, viz: from Nov., 1915 until Aug., 1916, the work of the corps may be briefly summarized as consisting of, 1st, the introduction of some, if insufficient, modern railway construction equipment in France; 2nd, the construction of the first advanced railways for both 2 ft. and standard gauge, showing to some extent the possibilities of such a means of transportation. The actual work consisted of the construction of some 60 miles of railway line, the erection of 1,300 steel box cars, the supply of ballast and construction of bridges for various lines, miscellaneous field engineering work, such as artillery positions, etc.

In Aug., 1916, the corps undertook the construction of a large railway yard at Zeneghem, some 12 miles from Audruicq, for an ammunition dump, etc., and shortly afterwards the construction of the ammunition yards at Dannes-Camier as well as various minor railway works, amounting in all to about 70 miles of railway. In this work they were for the first time assisted by considerable quantities of labor and the works were completed in Dec., 1916, at which time the corps moved to the Somme to take up advanced railway work in the Fifth Army area.

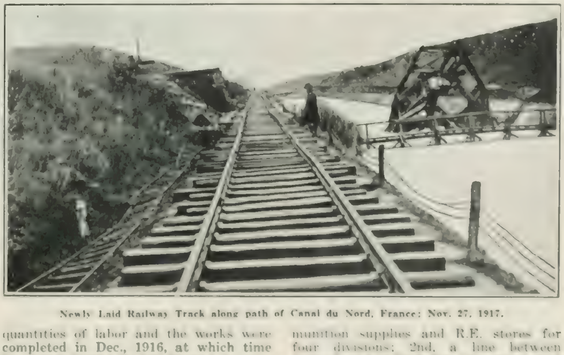
Colonel C. W. P. Ramsey, C.M.G.
Officer Commanding Canadian Overseas Railway Construction Corps.

During the late autumn attacks of 1916 by the British army in the Somme area, owing to the lack of proper railway facilities, practically all the roads had broken down under the heavy motor and team traffic, and in consequence the transportation of ammunition in sufficient quantities for further attacks was an impossibility. In view of this condition of affairs, and taking into consideration the contemplated 1917 spring attack, a very extensive railway programme was decided upon, and this work, in addition to the maintenance of such railways as already existed in that area and which in the majority of cases were in very bad shape, was taken over by the C.O.R.C.C. The contemplated extensions amounted to about 60 miles.

Considerable labor was supplied and work was pushed rapidly on these extensions until Feb., 1917, at which time the German retreat from Beaumont, Hamel and Serre started. In view of this retreat, which rapidly developed, work in the back areas was to a great extent abandoned, and all available forces were pushed on to the extension of the Candas-Acheux line, to a connection with the Nord Ry. main line from Albert to Arras at Achiet-le-Grand, the reconstruction of the Albert-Arras Ry. and also the reconstruction of the lines through Bapaume and easterly to Ytres and the Nord Canal, as well as the line from Boisleux-aux-Monts to Croisielles.

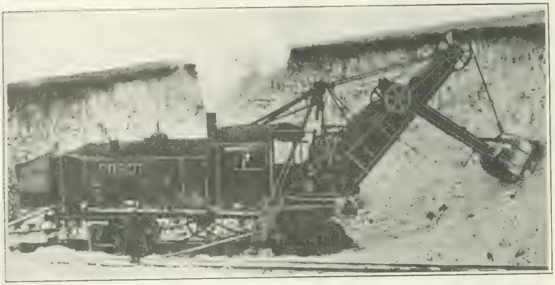
The reconstruction work was of the utmost urgency, and several units of the Canadian Railway Troops, then beginning to arrive in France in considerable numbers, as well as British and French troops, were for a short time employed upon it. All the bridge work, however, during the retreat in this area, was done by the C.O.R.C.C. forces, which also supplied the necessary ballast, and they eventually took over the completion, maintenance and further extensions of these lines, continuing with same until Nov., 1917.

Among the features of interest during this period, from Nov., 1916 to Nov., 1917, were the following: The maintenance and operation, without serious interruptions, of, 1st, a rail head at Aveluy, 4 miles from the front line, for ammunition supplies and R.E. stores for four divisions; 2nd, a line between Acheux and Albert for gun spurs and



Newly Laid Railway Track along path of Canal du Nord, France: Nov. 27, 1917.

hauling ammunition to batteries, running at some points within two miles of the front line, and fully exposed to direct observation; 3rd, an ammunition rail head at [illegible] Farm, 1½ miles from the front line, and 4th, an ammunition rail head at [illegible] camp, in front of [illegible] at 1,200 yards from the front line, probably the most advanced standard gauge rail head ever used in France.



Atlantic Type Steam Shovel, supplied by Dominion Government, through the C.P.R., to the Canadian Overseas Railway Construction Corps, at work in chalk pit near Puchevillers; Nov., 1917.

During the reconstruction period, it was found that, as the Germans retreated, they had in the majority of cases removed all rails, and the greater part of the ties, from their standard gauge lines. Where they had been pressed, rails had not been removed, but in such cases, they had been destroyed by explosives at practically every joint. All buildings and water supplies were destroyed. A feature which caused some annoyance was that of delayed mines, placed by the Germans in all large embankments. These mines where not discovered and removed, exploded at varying periods from 10 days to 4 weeks after the retreat. The arrangement of them was somewhat ingenious, the detonator being held by a wire in an acid bath, the acid gradually eating the wire away until a shock from a train passing on the embankment put the finishing touch, thus causing the explosion to take place at a most inopportune time. Work, even with track pile drivers, was in some cases carried on at points under direct observation, but without material loss. In this period about 50 miles of new line were constructed and about 80 miles reconstructed. Special detachments were also furnished during this period for work on advanced rail heads in the Ypres area, during the August and September battles.

In Nov., 1917, came the push for Cambrai, and all efforts were expended on the relaying of the line to Havrincourt, which point was reached some five days after the advance took place. This work necessitated some four miles of new construction, including the bridging of the Nord Canal, and about three miles of railway repairs. A roadway ramp was also built in two days, for the forwarding of artillery, from the embankment to the dry bottom of the Nord Canal, which had [illegible] as a [illegible] [illegible] after being [illegible]. The ramp from the embankment to the bottom of the canal was [illegible] [illegible]. This work was not strictly railway construction, but was done on an urgent call from the C.O.C., Fifth Corps for assistance. In the short period that the ground east of the Nord Canal was held, this railway line and roadway proved of the greatest value for the forwarding of supplies, men and ammunition, as well as for the evacuation of wounded, being practically the sole means of transportation.

From Dec., 1917, until Mar., 1918, the corps was employed in the construction of additional railways and rail heads for a defence line, in view of the anticipated hostile spring attacks. Some 40 miles of railway were put under construction and practically completed by the time the German attack took place, viz: Mar. 21, 1918. Shortly after this attack, it became apparent that the British were losing ground, railway construction was abandoned and until the end of Mar., the C.O.R.C.C. was broken up into maintenance and demolition parties. All railway mounted guns in its area were salvaged, as was practically all rolling stock, with the exception of a small quantity, so badly damaged by shell fire that it could not be moved. In addition to this, 100 miles of railway track were effectively demolished, much of this work being done when the Germans were actually in occupation of the ground.

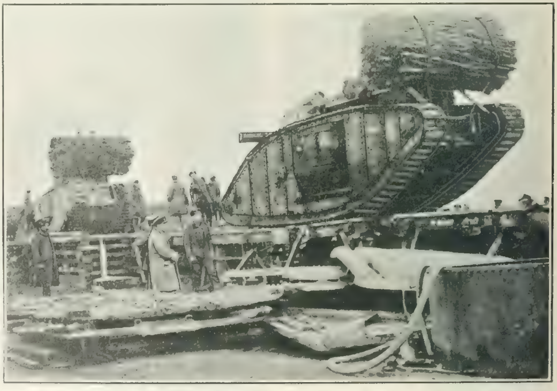
From Apr., 1918, until Aug., the beginning of the British final advance, railway work of the same type was carried on along the lines outlined previously behind the new front, some 50 miles in all being constructed. In the final advance, the corps undertook the reconstruction of the line through Valenciennes, and eventually finished its work by completing the railway line into Mons.

In Jan., 1919, the greater part of the unit was returned to England and at the moment of writing the majority of its members have reached Canada.

Some 500 miles of railway were constructed and reconstructed by this unit, which was probably 15% of the total standard gauge railway work done behind the British front. The skilled railway troops on the British front at the signing of the armistice probably totalled 30,000 men. In addition, many officers were furnished for executive positions and for other units, approximately 70 officers being commissioned from the ranks. The honors conferred on members of the corps were approximately as follows: C.M.G., 1; D.S.O., 9; M.C., 10; D.C.M., 6; M.M., 20; Belgian Croix de Guerre, 6.

Among the officers transferred or seconded, and who filled executive positions, are the following:

Lieut.-Col. (now Colonel) C. W. P. Ramsey, C.M.G., seconded as Railway Construction Engineer, 5th Army, Oct. 23, 1916, seconded to War Office, June 14, 1919. He was, prior to entering the army, Engineer of Construction, C. P. R., Montreal.



Method of Loading Tanks on Railway Cars. In Nov., 1917, during one night, 460 of these tanks were unloaded, between Etricourt and Velu, for the push on Cambrai.

Major (now Lieutenant-Colonel) J. G. Reid, D.S.O., transferred to command of unit, Oct. 23, 1916. He was formerly Assistant Engineer, C.P.R., Winnipeg.

Major (now Brigadier-General) C. L. Hervey, D.S.O., transferred to command of 4th Battalion, Canadian Railway Troops, Feb., 1917, seconded to War Office, May, 1918. He is an engineer and contractor, living at Lancaster, Ont., with office in Montreal.

Major (now Lieutenant-Colonel) F. Lefebvre, D.S.O., seconded as Railway Engineer, 5th area, Apr., 1918. He was Representative Engineer for Pearsons & Co. at Montreal.

Lieut. (now Lieutenant-Colonel) E. Turbett, O.B.E., D.S.O., seconded and placed in charge of mechanical shops northern area, Oct., 1916. He was Mechanical Superintendent, Quebec Ry. Light & Power Co., Quebec, Que.

Lieut. (now Lieutenant-Colonel) K. A. Ramsay, D.S.O., seconded as Assistant Director of light railways. He was Superintendent of Construction for Foley, Welch & Stewart, contractors.

Lieut. (now Major) C. Flint, D.S.O., Belgian Croix de Guerre, seconded to Marine Artillery, Mar., 1918. He was Resident Engineer, C.P.R., Edmonton, Alta.

Canadian Overseas Railway Construction Corps, War Establishment, Battalion Headquarters:

	Lieut.-Col.	Major	Captain	W.O., class 1	W.O., class 2	Sappers
Officer commanding	1					
Chief engineer		1				
Adjutant			1			
Quartermaster		1				
Paymaster			1			
Medical officer			1			
Regt.-sergt. mapor				1		
Regt. quartermaster-sergt.				1		
Orderly room sergeant				1		
Paymaster sergeant				1		
Buglers						2
Total	1	2	3	3	1	2

Grand total, all ranks, 12.

Company Organization.

	Major	Captain	Lieutenant	Warrant officer, class 2	Sergeant	Corporals	Lance Corporals	Sappers
O.C. company	1							
Supt. construction		1						
Supt. track			1					
Supt. timber bridges			1					
Supt. steel bridges			1					
Supt. steam shovel and train crew			1					
Company sergt.-major				1				
Company Q.M.S.				1				
Track foreman					1			
Timber bridge foreman					1			
Steel bridge foreman					1			
Steam shovel and train crew foreman					1			
Asst. track foremen						2	2	
Trackmen								24
Team foremen						2	2	
Teamsters								24
Asst. timber bridge foremen						2	2	
Timber bridgemen								24
Instrumentmen						1		
Draftsmen							1	
Junior engineers								5
Clerks								5
Pile driver foremen						1	1	
Pile driver men								12
Asst. steel bridge foremen						2	2	
Steel bridgemen								24
Mechanical foremen						1	1	
Mechanics								12
Masonry foremen						1	1	
Masons and bricklayers								12
Train conductors						2		
Cranesmen								8
Trainmen								10
Locomotive men							2	
Enginemen								14
Steam shovel runners						2		
Asst. grade foremen							2	
Laborers								20
Cooks								9
Batmen								7
Total	1	1	4	2	4	16	16	210

Grand total, all ranks, 254.

Summary.

Headquarters	12
Two companies, each 254 of all ranks	508
Total	520

Birthdays of Transportation Men in September.

Many happy returns of the day to:—

W. B. Bamford, District Freight Agent, C.P.R., Toronto, born at Belleville, Ont., Sept. 10, 1863.

G. T. Bell, Passenger Traffic Manager, G.T.R., Montreal, born there, Sept. 7, 1861.

W. H. Biggar, K.C., Vice President and General Counsel, G.T.R., and G.T.P. R., Montreal, born at The Carrying Place, near Trenton, Ont., Sept. 19, 1852.

E. J. Blais, Foreman Tinsmith, Canadian National Rys., Transcona, Man., born Sept. 26, 1876.

V. T. Boughton, Assistant Superintendent, Chapleau Division, Algoma District, C.P.R., Chapleau, Ont., born at Troy, N.Y., Sept. 9, 1888.

E. R. Bremmer, ex-Division Freight Agent, Ottawa Division, G.T.R., Ottawa, born at Toronto, Sept. 9, 1875.

W. B. Bulling, ex-Assistant Freight Traffic Manager, Eastern Lines, C.P.R., now of Knowlton, Que., born at Montreal, Sept. 16, 1858.

W. E. Burke, Assistant Manager and Director, Canada Steamship Lines, Ltd., Toronto, born at Belleville, Ont., Sept. 23, 1881.

A. D. Cartwright, Secretary, Board of Railway Commissioners, Ottawa, born at Kingston, Ont., Sept. 30, 1864.

A. S. Dawson, Chief Engineer, Department of Natural Resources, C.P.R., Calgary, Alta., born at Pictou, N.S., Sept. 6, 1871.

H. B. Dufief, Assistant to Solicitor, Grand Trunk Pacific Ry., Winnipeg, born at Washington, D.C., Sept. 16, 1883.

W. E. Duperow, General Passenger Agent, Grand Trunk Pacific Ry., Winnipeg, born at Stratford, Ont., Sept. 4, 1872.

R. S. Elworthy, General Agent, Passenger Department, Canadian Pacific Ocean Services Ltd., Chicago, Ill., born at London, Eng., Sept. 10, 1877.

H. G. Foreman, Assistant Treasurer, Canadian Northern Ry. System, Toronto, born there, Sept. 2, 1882.

C. B. Foster, Assistant Passenger Traffic Manager, Eastern Lines, C.P.R., Montreal, born at Kingston, N.B., Sept. 30, 1871.

G. J. Fox, Superintendent, Calgary Division, Alberta District, C.P.R., Calgary, Alta., born at Montreal, Sept. 24, 1883.

W. H. Gordon, Trainmaster, C.P.R., Field, B.C., born at Montreal, Sept. 21, 1875.

R. S. Gosset, Auditor of Disbursements, Canadian Northern Ry., Toronto, born there, Sept. 28, 1879.

E. Goulet, Agent, C.P.R., New Westminster, B.C., born at Quebec, Que., Sept., 1865.

W. B. Howard, District Passenger Agent, C.P.R., Toronto, born at Chatham, N.B., Sept. 15, 1877.

W. R. Howard, dispatcher, C.P.R., Brownville Jct., Me., born at St. Andrews, N.B., Sept. 14, 1871.

J. E. Hutcheson, General Manager, Tramways Co., Montreal, born at Brockville, Ont., Sept. 15, 1858.

G. C. Jones, Assistant to President, G.T.R., Toronto, born at Clyde, N.Y., Sept. 24, 1869.

C. B. King, Manager, London St. Ry., London, Ont., born at Galena, Ind., Sept. 12, 1871.

S. King, London, Ont., director, National Steel Car Co., Hamilton, Ont., born at Thetford, Norfolk, Eng., Sept. 12, 1853.

C. C. Labrie, Purchasing Agent, Canadian National Rys., Vancouver, B.C., born at Quebec, Que., Sept. 8, 1882.

R. E. Larmour, General Freight Agent, Eastern Lines, C.P.R., Montreal, born at Brantford, Ont., Sept. 26, 1868.

C. D. MacKintosh, Superintendent, Lethbridge Division, Alberta District, C.P.R., Lethbridge, Alta., born at Auckland, New Zealand, Sept. 24, 1882.

W. A Mather, General Superintendent, Saskatchewan District, C.P.R., Moose Jaw, born at Oshawa, Ont., Sept., 1885.

M. B. Murphy, Manager, Winnipeg Joint Terminals,Winnipeg, born at Napa, Cal., Sept. 11, 1866.

J. Paul, District Freight Agent, Canadian National Rys., Winnipeg, born in Euphrasia Tp., Ont., Sept. 13, 1858.

W. J. Pickrell, Master Mechanic, New Brunswick District, C.P.R., St. John, born at London, Ont., Sept. 15, 1880.

H. T. Rawlings, Lake Forwarding Agent and Fuel Inspector, Canadian National Rys., Cleveland, Ohio, born at London Eng., Sept. 27, 1883.

W. D. Robb, Vice President, Transportation and Maintenance, G.T.R., Montreal, born at Longueuil, Que., Sept. 21, 1857.

H. T. Ruhl, Engineer, Maintenance of Way and Structures, Delaware & Hudson Rd., Albany, N.Y., born at Mifflinburg, Pa., Sept. 29, 1882.

A. Scott, Resident Engineer, Prince Edward Island Ry., Charlottetown, P.E.I., born at Kirkcaldy, Scotland, Sept. 6, 1884.

R. A. Sewell, Assistant Superintendent, Montreal Terminals Division, Quebec District, C.P.R., Montreal, born at Brampton, Ont., Sept. 2, 1880.

J. M. Silliman, Engineer, Maintenance of Way, Susquehanna Division, Delaware & Hudson Rd., Oneonta, N.Y., born at Easton, Pa., Sept. 8, 1885.

H. A. Young, formerly Ontario Storage & Cartage Co., Ltd., Toronto, now of Buffalo, N.Y., born at Brooklyn, N.Y., Sept. 1, 1864.

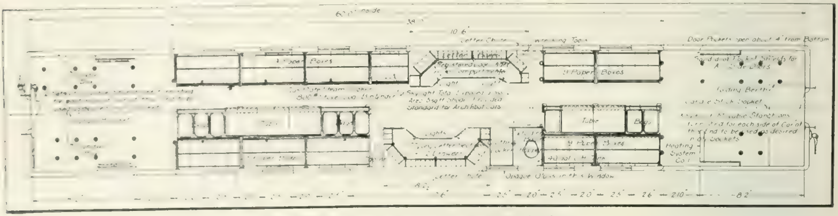
Imperial Service Medals Given Canadian Government Railways Employes.

A London cablegram says the Imperial Service Medal has been granted to the following: Albert J. Atkinson, time-keeper, Moncton; Placide Babineau, carpenter, Moncton; Alexander Bain, station agent, Riversdale; B. T. Boddington, locomotive fireman, Moncton; William Cantwell, tool room keeper, Charlottetown; John Corbett, section foreman, Moncton; J. S. Cameron, section foreman, Penniac; Harry Cummings, tester, Stellarton; Aime Dumas, conductor, Riviere du Loup; John A. Fraser, machinist, Moncton; M. Grant, section foreman, Riviere du Loup; Joseph Guay, brakeman, Levis; Alfred Lavel, conductor, Riviere du Loup; Jules G. Parent, locomotive man, Riviere du Loup; Aubrey C. Reid, carpenter, Moncton; F. W. Rioux, locomotive man, Riviere du Loup; Benjamin Steeves, section foreman, Campbellton; Matthew C. Webster, station agent, Pictou; Job Yeo, locomotive man, Charlottetown; Charles Mercier, locomotive man, Riviere du Loup; Robert W. Orchard, conductor, Mont Joli; Joseph Scott, locomotive man, Riviere du Loup.

Specifications for Steel Full Mail Cars for Canadian Railway Mail Service

As stated in Canadian Railway and Marine World at the time, the Board of Railway Commissioners passed general order 259 on Jan. 13, 1919, approving specifications for mail cars submitted by the Post Office Department's railway mail service branch, on May 22, 1918, as amended and corrected. These specifications cover the construction of all steel postal cars, wooden mail apartment cars, fixtures and interior equipment, including construction, sanitation and operation. A complete set of plans for the cars have been prepared by J. Ogilvie, Mechanical Expert, Board of Railway Commissioners. The following summary has been abstracted from the specifications for the all steel postal cars:

Any of the following types of construction may be used: 1. Heavy center sill construction, the center sill acting as the main carrying member. 2. Side carrying construction; the sides of the car acting as the main carrying members, having their support at the bolsters. 3. Underframe construction; in which the load is carried by all the longitudinal members of the lower frame, and having a steel superstructure framing. 4. Combination construction; in which the side frames carry part of the load in order to utilize uniform center sill construction, and embodying if desired, steel castings, as parts of the underframe.



Steel Full Mail Car for Canadian Railway Mail Service.

All fabricated steel must be open hearth, and must meet the requirements of the standard specifications of the American Society for Testing Materials.

The maximum end shock, due to buffing, shall be assumed as a static load of 400,000 lb., modified in the case of electric lines, where the train does not exceed 600,000 lb., to a static load of 200,000 lb., and for self propelled cars, with trailers, weighing not over 200,000 lb. to a static load of 100,000 lb. This end shock shall be assumed to be resisted by all the continuous longitudinal underframe members below the floor level.

Rivet centers shall be not less than 3 rivet diameters, nor more than 24 times the thinnest outside member thickness Below the floor, the framing connections may be rolled, pressed or cast steel, and above the floor, of malleable iron. Connections for I beams, chambers and tees, may also be made by coping the rolled members. All rivet holes must be reamed in place.

Center sills may be built up, or composed of rolled or pressed shapes, with or without cover plates, and cast steel end construction may be used. This applies also to the bolsters and cross bearers, floor beams and end sills.

In the side frame, the effective depth, when considered as a girder, may be taken as either the distance between the centers of gravity of the side plate and side sill, or belt rail and side sill. At side door openings, the bending movement caused by the vertical shear at the door posts shall be considered as resisted by the section above and below the door openings. A sufficient proportion of the door reinforcing members shall be extended beyond the door posts, so that their reaction may be taken care or by the side frame without exceeding allowable stresses.

The sum of the section moduli taken at any horizontal section between the floor line and the top line of the windows, of all posts and braces on each side of car located between end posts, shall not be less than 0.30 multiplied by the distance in feet between centers of end panels. The outside sheathing shall not be less than ⅛ in. iron or steel plate.

The roof may be either the clerestory or turtleback type. In the clerestory type, the deck plates shall be in the form of a continuous plate girder, or equivalent construction, extending from the upper deck eaves to the deck sill, and either built of rolled or pressed shapes, or pressed in one piece from steel plates. The carlines may be either pressed or rolled sections, extending in one length across the car, or supported from cantilever projections of the side posts. In the turtleback type, the carlines may be of similar arrangement. The roof sheets, if of iron or steel, must be at least 0.05 in. thick, and if of wood sheathing, not less than 13-16 in., covered with canvas, and laid in thick white lead and oil, or equal.

The sum of the section moduli of all the vertical end members at each end, shall not be less than 65, the main members to comprise at least 75% of this. For electrically operated trains, weighing not over 600,000 lb., the section moduli shall be at least 40, and for self-propelled cars and trailers, totalling less than 200,000 lb., the section moduli will be at least 20 for each end, the percentage of principal members remaining the same.

The horizontal reactions of all vertical end members at the top shall be calculated from an assumed external horizontal force, applied 18 in. above the floor line, to all vertical members in proportion to their respective section moduli, such force being of sufficient amount to cause bending of all the vertical members acting together and the top connections of the vertical end members will be designed for these reactions. The bottom connections of the vertical end members shall be sufficient to develop the full horizontal shearing value of all members. Except where the vertical end members shall bear directly against, or be attached directly to, the longitudinal members at either the top or the bottom, the assumed reactions will be considered as loads applied to whatever construction is used at the end sill or end plate, and both these last named members shall have section moduli, respectively, sufficient to prevent their failure horizontally before that of the vertical end members.

Using rolled steel having an ultimate tensile strength of from 50,000 to 65,000 lb., all parts of the car shall be so proportioned that the following unit stresses shall not be exceeded; Bolsters, 12,500 lb.; sills and framing 16,000 lb. The same stresses may be used for cast steel except in tension, when they must be reduced 20%. For members in compression, the formula, 16,000-70L-R is used, in which L is length in inches, and R, the least radius of gyration in inches. Rivets may be stressed to 10,000 and 12,000 lb. in shear in non-buffing and buffing, respectively, and to 20,000 and 24,000 lb., in bearing, non-buffing and buffing, respectively.

The floors shall be of iron or steel, flat or corrugated, the wearing surface of matched wooden flooring or composition, but with the latter, it must be surfaced in the wearing area, with wood, cork, or other suitable wearing material. The interior finish of the cars will be of flat or corrugated steel plate, composition board, or wood, properly secured to the car framing.

The cars shall be insulated throughout, with material of such a nature that it can be securely fastened so as to withstand the vibration incident to railway service, and the insulation must be such that it will not support combustion, nor absorb moisture beyond its own weight, and when wet, not become corrosive. It must be such that it will not transmit per square foot of surface, per Farhenheit degree, in 24 hours more than 8 b.t.u. for side walls, end walls and roof, and 7 b.t.u. for the floor.

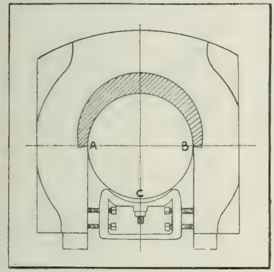
Details covering the illumination of the cars are also included in the specifications.

Railway Mechanical Methods and Devices.

Boring Locomotive Driving Box Journals on the T., H. & B. Ry.

In boring locomtive driving box journal brasses, the mechanic sometimes finds it difficult to get the brass bored to the exact size, especially when the journal is worn below the standard. The difficulty is due to the fact that the diameter of the brass is generally less than a full half circle, at the point A-B shown in the accompanying plan.

If it was over a half the circle there would be no difficulty in calipering it, and getting it exactly right, but it would not go over the journal. Therefore it is usually left a little less than the half circle and thereby it becomes difficult to caliper properly. To overcome this some mechanics measure the journal, take half of the size, and set the boring bar tool that distance from the center of the bar. This, however, necessitates considerable measuring, where two or three cuts have to be taken out of the brass, and is not altogether reliable.



Others cut tin or sheet iron templates the size of the journal and bore brass to suit. The accompanying plan, got up at the Toronto, Hamilton & Buffalo Ry. shops in Hamilton, makes it very easy to caliper the exact size accurately. It consists of a ½ x 1 in. wrought iron frame, made smaller than the cellar pit of the smaller box. Two half inch set screws on each side make it adjustable to the larger size boxes. A half inch cap screw, C, with a check nut inside the frame, completes the device.

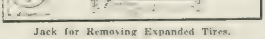
When in use the frame is set inside the cellar pit and flush with the top side of the box, where it is held by the 4 set screws. The operator sets the head of the cap screw, so that the boring tool will just touch it, then by placing the point of the inside caliper on the mark left by the tool he can tell accurately the size he is boring the brass. We are indebted to M. J. Hayes, General Foreman, T., H. & B. shops, Hamilton, for the foregoing.

The Value of a Tool Room.

The province of the tool room is to make such tools as may be needed, to maintain them in such condition that when they are wanted, they are ready for service, and to have them on hand, so there will be no delay to the men who are to use them. I call to mind a hurry up job that was not done on time; on investigating the matter, the excuse was made: "We could not find our tools." On looking into the matter in detail, it was found that the excuse was correct. The practice had been for a man to pick up the particular tool that he needed, use it, and leave it where he got through with it. If somebody else wanted it, and remembered where it was last used, he might find it; and if he did not find it, then he kept on hunting until he finally located it. The result was an enormous waste of time chasing up tools. There was no tool room in that particular department, and there never had been. The men were consulted and were asked: "If you are given a tool room, a place to put your tools, will you put them there?" A tool room was built in the end of a shed for storing tools—it was not a manufacturing department and there were no machine tools in it whatever. It was simply a place to put the special articles that were needed at various times in a car repair yard. The majority of the men did as requested. When they took a tool out of the tool room, and used it, they put it back. A few, however, did not have time to put the tools back. The majority of the men, who were living up to the rule, made it so unpleasant for those who were careless, that they fell in line, and in a short time, every tool belonging in the tool room was put in its proper place when the men were through using it.—J. A. Carney, Superintendent of Shops, Chicago, Burlington and Quincy Rd.

Jack for Removing Expanded Tires.

The old-time prevalent idea that any old tool that had served its usefulness in the back shop would be received with a warm welcome in the locomotive house is now becoming more generally known as erroneous. The locomotive man, not having the back shop equipment close at hand, is thrown more or less on his own resources, and it is, therefore, false economy to have the locomotive house equipped with a scant or poor supply of tools. With good tools, reasonably cared for, higher efficiency is possible.


Jack for Removing Expanded Tires.

The accompanying illustration shows a tire removing device, a simple light air jack. After the tire is heated and expanded, the end of the jack is placed against the opposite tire or wheel center. The plunger, in pushing off the tire, is stopped from going out too far by a 3 x ¾ in. round collar, set fast on the shaft, which strikes the wheel center as the tire leaves it, using a lesser stroke, and economizing on the air.—F. D. West, Tool Foreman, Illinois Central Rd.

The Hamilton and Barton Incline Ry. is reported to have increased the price of red tickets on its line in Hamilton, Ont., from 50 for $1 to 50 for $1.25. The orange tickets remain at 10 for 25c.

Leaky Roof Testing Equipment, Winnipeg Shops, C.P.R.

After a freight car has passed through the C.P.R. Winnipeg freight car repair shops, it is subjected to a test for leaky roofs, with the apparatus shown in the accompanying illustration, which is said to subject the car to as severe conditions as the most violent rainstorm.

Near the ground level, there is a 6 in. header, parallel to the track, supplied with water from a 2 in. pipe, the control valve for which is located in the car shop. From this header, there are six ¾ in. galvanized iron upright pipes, rising to about 10 ft. above the top of the car, with the ends bent over into line with the track centers. These pipes are supported by a wooden frame structure. The sprinkler ends are the ordinary automatic fire sprinklers, with the fire seal removed.

Apparatus to Test Roofs for Leaks.

The sprinkler apparatus is placed over the outgoing track, and a string of repaired cars is drawn under the sprinkler at the rate of about 3 m.p.h., which is sufficient to show up any leaky spots. In addition to the control valve, there is also a drip cock inside the car shop for draining off the water in cold weather to prevent the apparatus from freezing.

Reid Newfoundland Co. Suit—A petition has been presented to a Quebec court by Miss H. D. Reid, asking for the appointment of a sequestrator in connection with the management of 54,768 shares of the Reid Newfoundland Co., now deposited with the Royal Trust Co., Montreal. The proceedings are directed against Sir William D. Reid, H. D. Reid, R. G. Reid Jr., Lord Shaughnessy, the Royal Trust Co., and the Reid Newfoundland Co. The petition alleges that by the will of her father, who was also the father of Sir William D. Reid and H. D. Reid, and the grandfather of R. G. Reid, his widow inherited property which was to revert to the children at her death. On the death of Lady Reid, Sr., it is claimed, Sir William D. Reid and H. D. Reid and others, as executors, continued the management of the Reid Newfoundland Co. and kept and operated the estate for their own account and benefit.

Steam Railway Statistics for Year Ended June 30, 1918.

This is the third of a series of tables containing statistics for the year ended June 30, 1918. The others were published in Canadian Railway and Marine World for July, pgs. 365 and 366, and for August, pg. 420.

Name of Railway	Passengers carried	Passengers carried one mile	Revenue per passenger per mile, cents	Mileage of revenue passenger trains	Mileage of revenue mixed trains	Mileage revenue freight	Tons of freight carried	Tons carried one mile.	Revenue per ton per mile, cents.	Mileage of non revenue trains.
Alberta and Great Waterways....	9,835	624,985	3.856	6,015	20,792	18,633	60,263	4,953,011	1.001	601
Alberta Central & Hudson Bay	38,564	2,625,082	3.629	60,330	14,840	306,515	836,280	101,339,272	0.818	14,578
Alberta Eastern	60,477	1,414,976	3.435	50,623	....	101,109	2,609,163	32,657,663	2.263	170
Atlantic, Quebec & Western........	44,636	1,348,970	2.902	28,789	36,239	40,723	220,110	8,727,641	1.599	1,367
Brandon, Saskatchewan & H.B...	22,022	781,807	2.701	42,926	....	21,528	26,043	1,126,725	1.490	....
British Yukon	6,913	368,720	10.386	461	28,655	4,837	28,700	2,463,575	6.792	2,611
Canada Southern	1,518,705	150,629,334	2.512	1,976,572	146,941	1,829,515	10,409,361	1,566,969,563	0.683	76,293
Canada and Gulf Terminal	25,667	560,603	3.408	....	20,304	....	46,988	1,400,419	3.546	....
Canadian Government Railways:—										
Intercolonial	4,632,016	284,633,916	1.727	3,190,339	467,589	4,728,109	8,177,862	2,090,377,028	0.616	280,053
International of N.B................	34,565	1,375,696	2.726	35,526	67,762	64,019	157,642	10,880,580	1.139	11,091
St. John and Quebec................	50,534	1,227,846	2.491	430	65,559	12,483	78,943	3,334,975	1.932	5,201
Prince Edward Island................	376,891	9,383,641	1.854	94,517	216,079	37,033	193,470	8,409,498	3.639	16,857
National Transcontinental	913,566	57,772,534	1.831	826,579	431,031	2,290,743	4,078,734	1,476,798,332	0.517	138,580
Canadian Northern System..........	10,294,830	327,608,708	2.243	6,279,467	1,887,796	9,711,230	14,048,252	4,188,935,470	0.757	1,036,158
Canadian Pacific	15,179,047	1,519,558,178	2.134	17,652,919	1,956,288	23,791,329	30,522,035	13,875,720,871	0.728	958,378
Cape Breton	13,221	282,325	2.940	....	19,406	....	7,811	196,548	2.871	....
Caraquet & Gulf Shore..................	14,596	598,636	3.038	....	....	....	46,799	1,923,474	4.360	....
Central Canada	6,030	292,307	3.206	....	10,284	1,456	13,374	648,613	1.792	1,047
Central Vermont	281,822	3,702,904	2.715	119,132	34,829	70,539	575,816	15,470,141	1.338	8,445
Crows Nest Southern.....................	11,373	337,407	3.522	33,023	....	48,325	197,730	8,065,046	0.948	6,362
Cumberland Ry. & Coal Co.........	44,845	530,197	2.667	....	27,994	10,622	344,879	2,632,576	3.933	....
Dominion Atlantic	430,225	17,568,926	2.272	251,060	90,088	178,744	435,265	30,937,539	2.309	17,383
Eastern British Columbia...............	3,204	32,922	5.478	456	7,608	....	153,309	1,697,650	2.268	481
Edmonton, Dunvegan & B.C.........	46,757	5,816,711	3.464	85,020	22,518	118,488	189,918	28,172,596	1.461	7,662
Elgin & Havelock	8,232	90,552	1.442	....	14,748	....	11,389	125,279	11.371	....
Esquimalt & Nanaimo.....................	308,656	7,795,133	2.910	151,272	4,140	111,831	546,459	18,884,313	2.817	14,606
Essex Terminal	....	....	....	....	28,000	....	368,732	1,843,660	5.022	....
Fredericton & Grand Lake C. & R. Co	14,317	379,244	2.784	....	32,486	....	218,948	7,794,103	1.788	....
Grand Trunk	11,041,854	568,371,287	1.924	7,026,797	650,071	9,911,704	23,385,853	4,531,932,818	0.777	604,639
Grand Trunk Pacific......................	430,762	53,702,766	2.227	986,247	93,690	2,002,253	2,138,472	815,253,290	0.708	349,250
Grand Trunk Pacific Branch Lines	287,837	14,969,331	2.471	326,254	221,491	413,789	1,221,326	114,971,677	1.149	137,460
Hereford	28,452	444,533	4.594	30,403	32,137	1,161	111,726	3,259,518	1.356	2,188
Kent Northern	6,500	....	....	....	....	....	14,400	....	....	....
Kettle Valley	58,523	6,529,504	2.901	197,039	25,512	131,444	320,680	21,373,586	1.549	74,540
Lotbinere & Megantic	11,370	156,968	2.811	....	18,780	....	62,867	895,894	3.966	....
Maine Central (Princeton Branch)	104,116	530,992	2.492	3,950	5,900	4,040	219,327	1,118,797	0.637	145
Manitoba Great Northern............	6,564	148,662	2.811	9,984	24,024	4,680	41,286	1,846,846	0.929	41
Maritime Coal Ry. & Power Co..	19,465	179,198	3.298	....	31,615	....	278,853	2,866,268	3.442	....
Massawippi Valley	169,901	2,346,103	2.753	63,368	22,505	38,375	565,037	16,612,478	0.886	2,027
Midland of Manitoba.....................	59,941	3,627,683	2.483	98,765	....	42,545	173,783	12,404,579	1.025	....
Montreal & Atlantic	332,004	8,117,480	2.438	136,535	154,661	238,812	1,781,437	98,909,665	1.173	6,483
Moncton & Buctouche	22,899	503,778	2.400	....	15,024	....	18,957	379,140	5.176	2,642
Morrissey, Fernie & Michel.........	105,050	640,805	1.694	....	35,511	....	466,244	2,844,088	2.758	....
Napierville Jct.	80,069	2,825,270	3.036	50,068	13,358	32,270	845,512	24,241,474	0.806	5,801
Nelson & Fort Sheppard...............	25,384	580,357	3.315	36,732	....	18,451	35,525	1,088,625	2.651	2,277
New Brunswick Coal & Ry. Co...	26,074	624,120	2.598	....	37,725	....	44,177	674,382	5.679	....
New Westminster Southern..........	907	14,191	2.729	....	3,269	440	28,377	137,270	3.202	....
Ottawa & New York......................	134,160	3,313,407	2.609	75,222	....	54,984	502,409	26,062,989	0.614	8,131
Pere Marquette	208,517	3,952,893	2.512	186,568	....	788,656	2,892,736	535,492,444	0.577	4,556
Quebec Central	450,755	19,419,465	2.300	270,164	249,219	235,931	1,160,735	94,587,884	1.490	217,067
Quebec, Montreal & Southern......	243,371	5,618,844	2.669	90,071	74,632	110,122	773,455	36,639,853	1.276	25,104
Quebec Oriental	40,720	2,274,323	2.899	29,926	30,696	103,983	206,492	17,135,410	1.312	16,410
Quebec Ry., Light & Power Co....	41,123	277,991	1.525	2,345	....	25,232	236,031	3,392,882	3.363	231
Red Mountain	6,466	58,022	2.725	....	8,928	....	25,064	217,855	3.574	249
Roberval-Saguenay	36,630	606,151	2.823	23,922	9,393	36,640	178,692	5,728,126	1.808	2,760
Rutland & Noyan............................	30,005	101,717	2.844	1,247	....	2,358	326,406	1,106,516	0.694	....
Salisbury & Albert	10,924	246,042	2.673	....	28,900	....	47,598	1,192,141	3.034	....
St. Lawrence & Adirondack..........	636,992	12,929,274	1.697	144,371	....	183,528	2,494,847	100,356,770	1.078	9,501
St. Martins	5,916	112,166	2.626	60	14,580	....	11,359	161,688	6.515	....
Sydney & Louisburg.......................	160,395	2,014,350	2.588	24,808	20,096	155,078	3,433,044	52,191,604	1.590	....
Temiscouata	66,648	1,804,042	2.880	50,808	68,003	6,169	230,345	8,922,073	2.521	14,204
Timiskaming & Northern Ontario	484,696	26,981,491	2.470	396,794	51,937	577,150	1,157,869	217,260,868	0.810	25,356
Thousand Islands	40,097	240,582	3.370	....	82,678	....	41,046	246,276	11.834	....
Toronto, Hamilton & Buffalo......	509,315	16,395,275	2.584	212,114	....	217,703	3,584,724	135,128,399	1.370	9,012
Vancouver, Victoria & Eastern...	150,885	4,048,356	2.795	112,221	101,785	74,354	975,733	30,535,327	1.250	37,589
Victoria & Sidney...........................	53,129	679,282	2.531	27,180	1,264	7,168	19,682	180,694	6.080	....
Victoria Terminal Ry. & Ferry Co.	51,134	50,632	2.483	1,684	79	446	11,973	11,853	6.120	....
Wabash	159,167	27,167,525	1.361	349,348	....	1,222,737	2,861,479	619,141,319	0.494	3,332
York & Carleton	6,995	41,970	....	....	7,776	....	13,791	82,746	....	....
	50,737,294	3,190,025,682	....	41,850,189	7,787,636	60,143,014	127,543,687	31,029,072,279	....	4,158,919
Totals for 1916-17......................	53,749,680	3,150,127,428	....	44,038,575	8,746,811	62,863,724	121,916,272	31,186,707,851	....	3,627,901

In addition to the revenue train mileage, given in figure columns 4, 5 and 6, there was a total special revenue train mileage of 76,721, distributed over 24 railways.

Carbonization in Valve Chambers and Cylinders of Superheated Steam Locomotives; Its Cause, Effect on Lubrication and Maintenance, and Proper Measures to Overcome it.

By F. P. Roesch, Supervisor, Fuel Conservation Section, U.S. Railroad Administration, Northwestern Region.

The so-called carbonization or deposits of foreign matter in valve chambers, passages, etc., is usually called carbonized oil. This term is a misnomer, as shown by an analysis made by Dr. P. H. Conradson, Chief Chemist, Galena-Signal Oil Co., the composition of four samples being as follows:

FIRST SAMPLE.

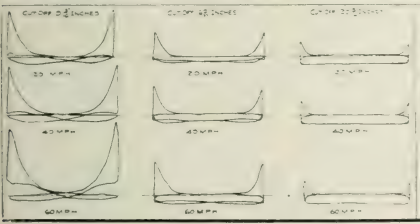
13.35% thick oil.
2.60% oily, gummy matter.
57.15% carbonaceous combustible matter (coal and coke matter).
26.90% red ash, principally iron oxides, silicious matter.

After removing the oil and oily matter, the deposit was non-magnetic, indicating practical freedom from metallic iron.

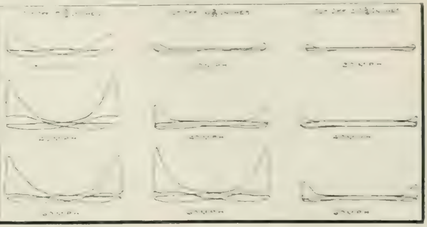
SECOND SAMPLE.

24.25% thick oil.
0.80% oily, gummy matter.
48.78% iron metal wearings.
8.18% iron oxides and silicious matter.
17.87% carbonaceous combustible matter.

After extracting the oil and oily matter, the deposit was very strongly magnetic, containing a large amount of metallic iron.



Cards from Locomotive having no by-pass or relief valve.



Cards from Locomotive having a by-pass and relief valve.

THIRD SAMPLE.

6.45% oil and oily matter.
35.70% coky, carbonaceous combustible matter.
57.28% metallic iron, iron oxides and silicious matter.

Mineral matter strongly magnetic from metallic iron wearings.

FOURTH SAMPLE.

4.2% oil and oily matter.
41.0% metal wearings, iron oxides, silicious matter.
54.0% coky, carbonaceous matter.

Mineral matter strongly magnetic.

From the above it will be seen that oil or oil products form but a small percentage of the whole, and the analysis also points directly to the cause, namely, smoke box gases drawn into the cylinders through the nozzle and there mixed with the oil adhering to the various ports, passages and surfaces not swept by either the valves or pistons in their movements, and this combination, through the high temperatures obtaining at the moment the throttle is closed, together with practically the entire absence of steam, bakes on the surfaces above referred to almost in the form of an enamel. Again quoting Dr. Conradson: "The above clearly illustrates the advisability of preventing smoke stack gases, with their inherent dirt, dust, grit, etc., to be drawn into the cylinders while the locomotives are drifting. As seen from the analyses, a comparatively small amount of oil binds together a large amount of mineral matter, forming a sticky deposit which bakes on the metal much harder with superheated steam, especially high superheat, than would be the case with ordinary wet or saturated steam."

Effect on Lubrication and Maintenance—Oil is introduced into valve chambers and cylinders in order to separate the rubbing surfaces with a film of lubricant. The oils now furnished will admirably perform this function, regardless of temperature, under proper conditions, but this film of oil is infinitesimal in thickness, therefore when the throttle is closed and the locomotive so manipulated as to allow the entrance of smoke box gases, with their constituent properties of coal, coke, soot and cinders, these small particles will work their way between the pistons and cylinder walls, separating them to a degree far beyond the thickness of the oil film, so that effective lubrication, even though the quantity of oil introduced be materially increased, is practically destroyed, as the film of oil cannot fill the grooves or ridges in rings and cylinders. Or again, this foreign matter may combine with the oil, forming an abrasive compound, causing wear of bushing, bull rings and packing rings, and thus accounting for the metallic iron, etc., found by Dr. Conradson. In fact, our investigation indicates that increasing the supply of oil beyond that required for effective lubrication simply aggravates instead of reducing the trouble.

R. Quayle, General Superintendent Motive Power, Chicago and North Western Rd., who is always given to reducing complex problems to the simplest channels for conclusions, told me some time ago how he, years previous, had demonstrated to some locomotive men what constituted sufficient lubrication. He said he put a few drops of oil on a face plate on his desk and smeared the oil over the entire surface of the plate, after which he scraped a straight-edge over the entire surface to remove all the surplus oil. He said he had nearly as much oil on the straight-edge and on the four edges of the face plate as he originally put on the face plate and the locomotive men had to admit that the face plate had enough oil left on it to lubricate the sliding surface of another face plate.

This beautifully homely illustration gave me the idea that giving the cylinder of a locomotive too much oil at one revolution and not any at the next revolution is like a window washer putting plenty of water on the pane of glass and then clearing the pane of the excess water by passing a rubber squeegee over it, leaving but a very thin film of water that quickly evaporates and leaves the pane clean and dry.

The piston in the locomotive's cylinder acts like the squeegee in the window washer's hands. It cleans the walls of the cylinder of all the excess oil, and drives out through the ports, exhaust passages, and the nozzle, what oil does not cling to the piston head and cylinder heads, to be carbonized at the first entrance of oxygen from the air; whereas the cylinder walls that need the lubrication for the next revolution do not have any unless the oil is injected into the steam the very next revolution.

As the lubrication is affected, so is the maintenance. Wear on valve rings and chambers, cylinder packing rings and cylinders is proportionately increased. Not only wear through abrasion, but, through lack of lubrication, cylinder packing rings become overheated, resulting in their collapse, or in other cases, breakage. Again, these so-called carbon deposits affect maintenance in other ways, as, for instance, cases have been observed where these deposits built up on piston and cylinder heads so as to take up practically all the clearance, in some cases knocking out cylinder heads, damaging cylinders, studs, etc., in others partially or wholly shearing rod bolts, etc.

Were the increased maintenance costs, the only direct loss, it might not be so serious, but, in addition to this, the deposits build up in the packing ring grooves, causing the ring to stick, producing valve and cylinder blows which materially impair the efficiency of the locomotive and result in proportionate increase in fuel and water consumption. Furthermore, cases have been observed where the exhaust passages were so constricted, due to the heavy deposits of this material, as to retard the exhaust sufficient to highly increase the back pressure.

A Possible Solution.—In checking over the various measures adopted by different railways to overcome the troubles mentioned above we find a marked lack of unanimity. This is not surprising, however, when the conditions under which each operates is taken under consideration, and it is only by comparing and analyzing the results obtained by the different methods that some plan can be formulated applicable to and meeting practically all conditions.

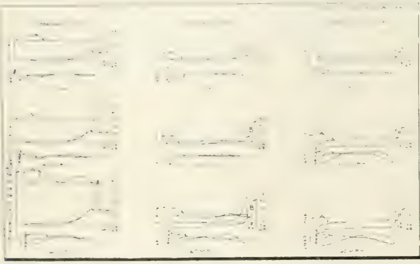
We find some roads block shut, or entirely remove, the steam chest relief valves, retaining the by-pass. Others block shut the by-pass and maintain the relief valve. Others again dispense with both by-pass and relief valves, while other roads maintain both. Some use a drifting throttle, some a so-called drifting valve, and others again use nothing. Some use special metal, some common grey iron, some use plain snap rings, some grooved and perforated snap rings, some segmental rings, etc. Some use a special oil, some the same as with saturated steam. Some advocate a reduction in the fatty constitutents in the oil, others an increase. Some advocate the use of the hydrostatic lubricator, others favor forced feed.

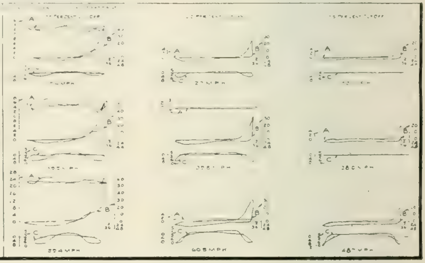
The Steam Chest Relief Valve is a heritage handed down from the saturated steam locomotive. It had its place at that time and as a safety feature with certain modifications can no doubt be fittingly used on modern power. Blocking it shut, or removing it entirely, will certainly prevent the admission of air to the valve chamber through this source, when the throttle is closed on a moving locomotive; but in this case the question arises, which is preferable in the cylinder, clean air from the outside, or smoke box gases? As a matter of fact, enquiry seems to indicate that these valves were removed from superheated steam locomotives, not so much to prevent carbonization, but to overcome cylinder failures which were attributed to the stresses set up by the cooling effect of air so introduced. Some years ago these valves were removed from [illegible] [illegible]motives using saturated steam, presumably to reduce maintenance costs, and in those cases the same deposits were in evidence on cylinder and piston heads.

By-Pass Valves.—The function of this valve is to reduce the vacuum and compression created in the cylinder of the [illegible] locomotive employing piston [illegible] [illegible]motive is drifting, especially at high speeds. In this particular discussion we are not so much concerned with the compression, as the vacuum, as the only material effect due to compression, in so far as the so-called carbonization is concerned, is to increase the temperature of the air being compressed, which, while it undoubtedly adds to the adherence of the deposit, would not, however, be otherwise serious were it not for the presence of the smoke box gases in the cylinder, which are due solely to the vacuum created. A certain amount of compression is considered advisable in order to aid in cushioning the reciprocating parts. The elimination of the by-pass valve, either by blocking or removal, can have but one effect, namely, increasing the degree of vacuum, which vacuum must and will be filled from some source, either through the open relief valve, if in use, or in its absence through the nozzle, or through the admission of steam from the boiler. It has been shown conclusively that the major portion of the deposits found in cylinders, etc., is due directly to smoke box gases, and therefore the logical solution of the problem appears to be either to prevent their admission or to neutralize their evil effects.

The Drifting Throttle.—On roads where no drifting occurs to speak of, i.e., comparatively level roads, the use of the drifting throttle, so called, will undoubtedly prevent the admission of smoke box gases to the cylinders, regardless of the presence or absence of either or both steam chest relief and cylinder by-pass valves, provided the locomotive man does not forget. Here, however, is the danger—human fallibility. If the locomotive man fails to leave his throttle slightly cracked when coming to a stop, or when tipping the summit of a grade, the damage is done, even though the throttle be left closed for but a few revolutions. Each succeeding oversight adds its mite to the deposit, thus accounting for the deposits where the drifting throttle is presumably always used. As stated above, on comparatively level roads the drifting throttle can be used to advantage, if men will at all times comply with instructions, but where necessary to make long drifts, other means must be provided, as the drifting throttle is not always practicable, the gradient, tonnage, brakes, etc., governing.

The above explains why some roads find it to their advantage to block by-pass valves, while others maintain them presumably operative. In the absence of both by-pass and relief valves, much higher compression and greater vacuum will obtain than by their use, and in this case the vacuum can only be relieved through the nozzle. In order to make this clear, attention is directed to the the drifting cards shown herewith. Note the difference in the vacuum and compression at various speeds and cut-off. These cards also indicate another factor in the proposition, viz: if it were desired to entirely overcome cylinder vacuum under such conditions it would be necessary to proportion the by-pass valves to conform to cylinder volumes. As this is mechanically impractical, however, the problem must be considered with a view to finding relief under existing conditions.


Cards from Locomotive without a drift valve, with the relief valve blocked shut.


Cards from Locomotive without a drift valve, with the relief valve opened.

Drifting Valves.—Under this head can be classed all devices used to admit steam to the steam chest and cylinders, through pipes, etc., i.e., not through the main throttle as with a drifting throttle, and it is through failure to properly co-ordinate or take into consideration the relative movements of valve and piston that so many devices have been discarded as unsatisfactory. So many failures have been recorded that today the advocate of the drifting valve is received with a smile of compassion. A study of the causes of these failures would indicate the following:

1. The average locomotive man drifts his locomotive with the lever well hooked up, i.e., in a short cut-off. Following the movements of the valve and piston and beginning the cycle with the initial port opening as the piston is beginning its stroke, we have the piston moving back (assuming it starts from the front center), while the valve moves forward (inside admission) to complete the port opening. Continuing the cycle the valve now begins to travel back, closing the port when the piston has travelled a distance proportionate to the cut-off.

2. We will now assume that we are admitting steam to the valve chamber through a pipe of certain dimensions, and in order to avoid repetition we will assume the pipe to be 2 in. inside diameter. The flow of steam through a 2-in. pipe at 200 lb. absolute pressure is 9 lb. per second (Napier's formula

$$\frac{A.P.)}{70}$$

Its volume 40 lb. absolute pressure is 90.54 cu. ft.

Taking a locomotive with cylinders 25 x 30 in., drivers, 63 in. in diam., we find the piston displacement equal to 8.5 cu. ft. per cylinder. Now, assuming this locomotive to be drifting at the rate of 30 m.p.h., it would take 90.44 cu. ft. of steam per second to keep the cylinders filled at this speed; therefore, it would appear that a 2-in. pipe would more than meet our requirements under the above conditions, viz: keep both cylinders filled with steam above atmospheric pressure.

The above would be correct did the steam ports open directly to the boiler, so there would be no drop in pressure between the boiler and the cylinders, or if the intervals between port opening were so far apart as to allow the steam to bank up to boiler pressure. But as this is not the case and as the steam must follow natural laws (Boyle's) in so far as decrease in pressure as the increase in volume into which it expands, and as the cylinders are continually drawing on this supply, it follows, as shown by tests conducted on a certain railway that a 2 in. pipe extending from the cab to the steam chests will not maintain a pressure to exceed 20 lb. gauge or 35-lb. absolute in the valve chambers on a locomotive of the above dimensions drifting at 30 m.p.h.

As the initial pressure in the cylinders cannot rise above steam chest pressure, the pressure at cut-off will not exceed 35 lb. gauge; therefore, if the lever is carried at 30% stroke, the steam must again, expand to three times its original volume before the piston begins its return stroke, and therefore its final pressure would not exceed 11.6 lb., providing no steam at all escaped at the moment the port opened to exhaust. As the pressure under such circumstances was slightly above atmospheric at the point of exhaust port opening, however, the excess pressure passed out through the nozzle until the point of equalization was reached; on the further movement of the piston, the steam continues to expand with a corresponding drop in pressure to a point well below atmosphere. As no more steam is being admitted, equalization can only take place through the admission of air, and as the only opening to atmospheric pressure is by way of the nozzle, equalization will take place through this source, the inrushing air carrying with it the front end gases with all their fouling constituents. A glance at the indicator cards showing a sustained steam chest pressure of 25 lb. will clearly verify this statement.

Here, then, apparently is where and when the trouble starts. As the cylinder pressure is less than atmosphere, air will flow in through the nozzle and the open exhaust port, until the pressures equalizes the combined steam, air and smoke box gases being then expelled by the piston on its return stroke. However, as the valve, valve chamber and ports are at their highest temperature, and exposed to the first inrush of the incoming gases, it follows that all carbonaceous matter in these gases, coming into contact with any of the above surfaces, will adhere, or, in other words, be baked on. This theory appears to satisfactorily account for the greater deposits obtaining in the exhaust cavity of the valve as well as the exhaust ports and passages. If the reader will superimpose the drifting cards taken with and without by-pass and relief valves it may help to clarify the proposition.

The above hypothesis, if based on correct premises, would hold good in so far as the drifting throttle is concerned, except that through use of the drifting throttle a higher initial pressure may be obtained, resulting in a correspondingly higher terminal pressure. The only trouble is, as previously stated, in the fallibility of the human agent, and also the fact that the total opening of a circular valve (throttle) is very indefinite where gauged by the position of the throttle lever.

Starting from correct premises we should arrive at correct conclusions. Therefore, if the correctness of the above theories is established, the remedy appears obvious, namely, prevent by automatic means as far as possible the intake of smoke box gases or neutralize their evil affects by diluting with steam. To accomplish this it would appear that we should turn to such devices as we already have at hand, viz.: the steam chest relief and the by-pass valves. While the former is not exactly necessary, yet its use under proper conditions presents no great difficulty and as a safety feature it has a distinct place. The use of the by-pass, however, is practically essential in that it will go far toward preventing the formation of a vacuum in the cylinders if properly maintained, and under right treatment its maintenance cost is negligible.

The last and most important requirement is the neutralization of such gases as might be drawn in through the nozzle through improper handling of the locomotive. This can only be accomplished by admission of a jet of steam to both the receiving and exhaust end of the valve so that when the conditions obtain as mentioned previously, the steam jet so admitted will mingle with the front end gases before they have an opportunity to deposit their constituent matter, and so neutralize their effects, it being universally conceded that carbonization of oil, or even the deposits of the so-called carbon, will not take place in the presence of steam, as, again quoting Dr. Conradson: "I will show you by another interesting demonstration that you might admit a certain amount of air with the steam without carbonizing oil"; or, conversely, a certain amount of steam with the air and produce like effect.

The foregoing was contributed as an individual paper at the recent railway mechanical convention at Atlantic City, N.J.

Results of the Public Ownership of Railways.

By Andrew T. Drummond, LL.D.

The recently issued report of railway statistics of Canada for the year ended June 30, 1918, throws further light on the problem of government and municipal ownership of railways—a problem in regard to which the people, especially of Ontario, have allowed themselves to be misled by sections of the press and by a coterie of individuals engaged in exploiting the idea of public ownership, and who studiously suppress all facts which would militate against the idea. As the results of the operation of each railway line are given in the report in voluminous detail, and are compiled from sworn statements furnished by the different railway companies, we have reliable sources from which to draw conclusions. These conclusions only add emphasis to a long series, extending over years, illustrating the inability of both governments and municipalities in Canada to create those conditions in construction and operation which would place their railways on a business basis and lead to the avoidance of deficits. Briefly, these 1918 statistics establish certain facts.

1. Government ownership, just as it has year after year in the past, resulted in large deficits on every railway operated, whether under provincial or Dominion auspices. The Dominion Government systems show an adverse balance for the year of nearly $6,000,000 in their operating cost, without considering interest on the bonds issued to pay for the capital cost of the roads. On the other hand, the Ontario Government's railway fell short by towards $500,000 of paying its full bond interest, whilst the New Brunswick Government's road failed to meet any interest whatever on its cost. And it has to be remembered that all government roads are entirely exempt from government imposts and municipal taxes which privately owned companies are compelled to pay.

2. Just as in previous years, every municipally owned railway, if it had charged against it its proper share of taxes, as would be done with the private roads, and had it paid the interest on its cost, not to speak of sinking funds and funds for renewals and betterments, would have shown a large deficit. Even the much-heralded London and Port Stanley Ry., operated under the auspices of the Hydro Electric Power Commission of Ontario, which is a mere arm of the Ontario Government, would have had its nominal surplus of $22,493 turned into a considerable deficit had fair taxes been charged and interest paid on its original cost, which appears to be represented in the statistics by $1,746,854 in a municipal subscription and loan from the City of London.

3. The same government statistics indicate that, whilst the Hydro Electric Power Commission of Ontario is supposed to furnish the municipalities and railways with power at cost, for light, railway and manufacturing purposes, the charges made by it, while they may represent cost to the commission, appear, in actual operating experience, to be higher than those charged to consumers by privately owned power companies. Thus, in the case of the Lake Erie and Northern, and Galt, Preston and Hespeler and the London and Port Stanley Rys., which derive their power from the commission, the cost of this power is represented by 7.2c, 6.72c and 4.44c, respectively, for each mile run by the cars of these companies as against the much lower cost of power per car mile of, for instance, the following interurban electric railways, which derive their power from other sources:

Lake Erie and Northern	[illegible]
Galt, Preston and Hespeler	[illegible]
London and Port Stanley	[illegible]

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	2.9c
[illegible]	[illegible]

The Windsor, Essex and Lake Shore [illegible] is operated electrically with [illegible] power, and in 1917 was re[illegible] power cost by 4.6c a car [illegible] in 1918 a power cost of [illegible]

We may well ask ourselves, Why do these results happen? The work of a government, as well as that of a municipality, is a business, and why cannot both be run on business principles? The Hydro Electric Power Commission of Ontario has always, in matters of expenditure, been given a free hand by the Ontario Government, of which it is an executive arm. The principle it has adopted of supplying power to the municipalities and railways at cost is fair, provided that cost is reasonable compared with the charges of other organizations. No details of its expenditure have been furnished, at least to the public, and no judgment can thus be formed as to the wisdom or economy exercised. The special report of the auditor presented to the legislature deals only in generalities, and expresses no opinion as to the propriety or large amount of any individual expenditure, whilst the public appears to be content with the mechanical outcome of the undertaking, without troubling itself as to the largeness of the outlay in construction, or as to whether the rates charged are, in consequence, higher than they could have been. The huge estimates of cost—towards $100,000 a mile—furnished by the commission to Toronto and other municipalities three and a half years ago, when seeking the passage by the people of the Toronto-to-London railway bylaws—estimates enormously in excess of what a private corporation, in deference to its shareholders, bondholders and the public, could have entered on—suggest that the expenditure already incurred by the commission in the purchase of power and in construction, as well as for maintenance, operating and renewals, have been so large that the present charges to the municipalities and railways have necessarily had to be correspondingly large, even if they exceeded what dividend-paying private companies are able to afford.

The recent reduction made by the commission in its rates for power to a considerable number of municipalities was, suggestively, not so much an act of grace as from a desire to help the municipalities to avoid their deficits, which were becoming noticeable, and to prevent the otherwise raising by the municipalities of their rates to consumers and driving them into the hands of private companies which could often afford to give cheaper rates.

The private company, when engaging in construction, has to limit its expenditure to the capital it can raise under the share and bond issues authorized by its charter. The Hydro Electric Power Commission has no such check on its expenditure, and if its works should cost a few million dollars more than anticipated it can always fall back on its relationship to the Ontario Government and that government's guarantee of its securities. This is the invariable trouble in all government construction, and the experience is the same in the annual operating of government undertakings. The ambition of the managing officials of private enterprises to make them a success is wanting, and there is no fear of a receiver if hey are not. Instead there is the fallacious opinion, held by so many politicians, that government works should be run, not on business principles, or with a view to bare profit, but for the convenience of the people, and that the ever consequent deficits should be met out of the general revenues of the country, forgetful of the facts that deficits anywhere are, on general principles, very objectionable, and that in meeting them out of general revenue the people pay them all the same. Our Canadian statistics are not alone in the disclosures they make. The disastrous results of the operating of railways under the auspices of the governments of both the United States and Great Britain have opened the eyes of especially the people of the former country to the fallacy of public ownership.

The results are largely similar in the case of municipal railway undertakings. The municipal councils have no capacity for railway management, nor can they attract the best railway experts, and in planning, in construction and in subsequently operating a system of railways they do not follow the strict business principles which would actuate a private company, but seek rather to satisfy the whims of the people whose votes have elected the individual members of the councils to office.—Monetary Times.

Reasons for Allowing the Temiscouata Railway to Advance its Passenger Fares to Four Cents a Mile.

Commissioner S. J. McLean, of the Board of Railway Commissioners, gave the following judgment, July 25: "Application is made by the Temiscouata Ry. for permission to increase its standard 1st class passenger fares from 3.45c to 4c a mile. Prior to the increase in the 15% case, the standard fare was 3.3c. When the increase in the 15% was made, the increase was limited to 3.45c, being 15% on a 3c standard base. This allowed an increase of 3% over the standard fare hitherto charged. Had the full 15% on the 3.3c rate been allowed, it would have given a rate of 3.82c.

"Complaint was also made of the railway having taken out its 2nd class fares on its main line. This was effective June 16, 1919. No application for suspension was received.

"The railway was instructed to serve a copy of its application on the various municipalities affected. The following municipalities were served: Fraserville, Cabano, St. Louis du Ha Ha, Notre Dame du Lac, St. Modeste, Ste. Rose du Degele, [illegible], St. Hilaire, St. Honore, Clair and Ledges. Prior to the hearing, [illegible] had been received as follows: [illegible] stated it had no objection. [illegible] of Cabano, Notre Dame du Lac, Clair and Ledges objected [illegible] fare. The municipal[illegible] Ste. Rose du Degele filed an objection [illegible] 2nd class fares. A telegraphic protest [illegible] the 2nd class [illegible] the eve of the hearing [illegible] municipality of Notre [illegible]

"At the hearing, various protests regarding the service rendered were made. As explained prior to the hearing, as well as in the course of the hearing, this is a matter distinct from the one of rates and had been the subject of a special report by an inspector of the board. At the same time, an opportunity was given those present to file these protests. While notice in regard to these complaints had not been served on the railway, the matters were discussed and explained at the hearing.

"Complaint was made as to the express service between Edmundston and St. Hilaire, it being stated that a parcel was taken beyond to Clair. It was explained that this was a matter falling within the operations of the Dominion Express Co. which operates over the Temiscouata Ry. Complaint was made of an extra charge for tickets purchased on the train. It was stated by the railway that if the agent was not at the station there was no additional charge.

"Complaint was made as to the limitations in connection with passenger travel on freight train cabooses. It was explained that the release which has to be signed is a standard form approved by the board's orders, and a satisfactory explanation was given as to the limitation in case of women desiring to travel, it being at the same time stated that in cases of sickness rendering it urgent to travel on a caboose the matter could be arranged.

"Various complaints of freight delays were made. An intimation was given by Mr. Stewart, for the railway, that if such matters were taken up with him they would be at once gone into. He pointed out that the instances of this nature, cited at the hearing, as well as complaints as to the nature of the service performed by the agents at various points, had been brought to his attention at the hearing for the first time.

"The complaint as to the station at Ste. Rose du Degele being closed too early, which was referred to by the mayor of that municipality was explained by Mr. Stewart to be due to the closing at 5 o'clock contingent upon the adoption of the 8 hour day.

"The question of the lack of connection at Riviere du Loup with the Canadian National Rys. for travel from St. John, N.B., via the C.P.R. and Temiscouata was raised by Mr. Michaud, M.P. In reply, it was stated that to hold the train so as to make the through connection would necessitate the following additional items of expense: Overtime, $1,500 a year; overtime for locomotive men, amounting to $15 a day, $4,700 a year. As against this additional expense of $6,200, it was testified that in April, which might be taken as a characteristic month, the C.P.R. issued to the Temiscouata Ry. 20 tickets, from which the railway received $2.80 in each case. On a yearly basis, this would mean a revenue of $672, against an increased cost of $6,200.

"The physical operating conditions of the Temiscouata Ry. were considered by the Board in Eastern Townships Lumber Company vs. Temiscouata Ry. Co., 16 Canadian Railway cases. In the present application, the following detail was given by the railway:

"Grades and curvature—The portion of the line in the Province of Quebec lies through a rolling and difficult country; commencing at Riviere du Loup, the line ascends for 24 miles to the summit between the waters of the St. John and St. Lawrence Rivers; in this 24 miles an ascent of 1003.7 ft. is made, being an average grade of 42 ft. per mile; leaving the summit at mileage 24 a descent of 775.7 ft. is made in the next 19 miles, which is an average of over 40 ft. to the mile. Out of 113 miles, there are accordingly 43 miles of heavy grades, 2% being encountered in many places, and on this section there are few tangents, a succession of curves from 4 to 7½ degrees being the ruling alignment. Under these conditions, the line may be compared to the mountain divisions of the lines west of Calgary, the grades of the Temiscouata Ry., in fact being actually heavier than one of the mountain divisions.'

"In some of the submissions made, the opinion was expressed that the nature of the business done and the profit obtained were such as to obviate any necessity of increase. If these allegations are correct, the application would of necessity fail. They must be tested by the actual returns. To take a prewar year as a starting point, it appears that between 1913 and 1919, while gross revenue increased 41%, expenses increased 77%. In terms of absolute figures, the increase in gross in the period in question was $108,801, while the increase in expenses was $142,728. This is mirrored in the net revenue. While in 1919 the gross operating revenue was 41% greater than in 1913, the net operating revenue was barely 50% of what it was in the earlier year. The following summary will illustrate the steady upward movement of expense:

Year ended June 30	Revenue	Expenses	Net revenue	% of expenses to revenue
1913	$251,662.39	$184,422.15	$67,240.24	73.28%
1914	272,079.17	206,688.64	65,390.53	75.96%
1915	221,109.98	181,872.18	39,237.80	82.25%
1916	222,872.15	180,450.49	42,421.66	80.96%
1917	226,817.76	202,240.72	24,577.04	89.17%
1918	300,961.11	252,117.38	48,843.73	83.77%
1919	360,463.92	327,150.38	33,313.54	90.75%

"There is not at present available for the year ended June 30, 1919, the same full details as are available for 1918 in the railways' sworn returns to the Railways Department. It must be remembered that in 1918 the sharp increase in wages, later referred to, had not been manifested.

"The figures for 1918 show the following capital liabilities worked out on a mileage basis: Stock, $8,620 a mile; consolidated mortgage bonds and prior lien bonds, $31,281 a mile; total, $39,901 a mile. No dividends have ever been earned or paid on share capital; so for purposes of measuring the earnings power of the line and charges against such earning power, the item of $8,620 per mile may be omitted. To understand the situation as it exists today, there must be considered all the debt outstanding whether the railway has met charges thereon or not. There are outstanding $2,856,333.88 of 5% consolidated mortgage income bonds and $243,333.33 of 5% prior lien bonds. The legislation of 1914, 4 Ed. VII, chap. 129, which makes provision for the prior lien bonds and the consolidated mortgage bonds may be referred to. The situation in respect of these securities is as follows: Dividends on consolidated mortgage income bonds have been paid as follows: For years ended June 30, 1909, 1910, 1911, and 1912, 1%; for years ended June 30, 1913 and 1914, 1¼%; for years ended June 30, 1915, 1%; since 1915 nothing has been paid on these bonds. Interest on 5% prior lien bonds, amounting to $12,166.66 a year has been paid since these bonds were issued in 1906 and $9,733.33 has been appropriated annually from net revenue for the redemption of these bonds.

"In the absence of a return as to the taxes for 1919, the figure for 1918 may be taken, viz: $4,530.94. Omitting the amount set aside for redemption of the prior lien bonds, the following summary situation regarding the charges against net operating revenue for the year ended June 30, 1919, is available:

Consolidated mortgage bonds, $2,856,333.88 @ 5%	$132,816.69
Prior lien bonds, $243,333.33 @ 5%	12,166.66
Taxes	4,530.94
	$149,514.29
Net operating revenue	33,313.54
Deficit	$116,200.75

"In 1918, the net operating revenue per mile was $421. This is exclusive of deductions for interest on funded debt (only a small portion paid), hire of equipment and other deductions. For 1919, the figure is $295.

"The decision of the board already referred to points out that the bulk of the freight tonnage carried is low grade. For 1918, produce of forests, etc., represented 72.5%; agriculture, 3.2%; stone, sand, etc., 13.7%. The latter was a special movement in connection with building construction. For 1919, the freight revenue per mile of line was $2,423, while the passenger revenue was $479. For 1917, the latest year for which full returns for all the railways of Canada are available, the freight earnings per mile of line of all Canadian railways was $5,575, while the passenger earnings were $1,069. Comparisons were made at the hearing by Mr. Paradis, who appeared for the municipality of St. Mathias de Cabano, between the Temiscouata and the Intercolonial (Canadian Government Rys.), contending that the former was in a better position from the standpoint of cost than the latter. The volume of business must be looked to. For 1917, the freight and passenger earnings per mile of line on the Intercolonial were respectively $7,460 and $3,312.

"As illustrative of the increases in cost, reference may be made to certain items. In 1915, coal on the locomotives cost $4.60 a ton, against $7.85 in 1919. This means increase in cost on the quantity used of $32,500 alone. The figures for coal consumption in passenger business are not given. If the average coal consumption in Canada for 1917 on straight passenger locomotive runs is taken, and also one-half of the mixed locomotive mileage consumption (the allocation is arbitrary), this would mean an increase in cost for coal in passenger business of $14,552. The average number of ties used is 18,000 a year. The price has increased from 25c in 1915 to 65c in 1919, a total increase of $7,200. The increase in wage costs for the year ended June 30, 1919, as compared with the previous year, was approximately $80,000.

"The company makes no provision for depreciation. When it has anything over, after paying interest on prior lien bonds and sinking fund, appropriations are made from the balance for ballasting and other work. Since 1912, the company has thus provided and expended $60,000 on the line. The expenditure on rails is light. The rails in place are Cammel steel. As they are getting old, they will have to be replaced in five or six years. No fund is set aside for their replacement. The company has $43,000 of capital money unspent at present; that is practically its working capital. On ballasting, the company has since 1912 spent some $74,000. Of this, $30,000 was from revenue and $44,000 from capital. The Manager expects an appropriation of $12,000 for ballasting on the eastern end of the line this year.

"Attention was directed to conditions on the branch from Edmundston to Connors. For a considerable portion of this line there is railway parelleling competing for light traffic. In May, 1919, there were 1,234 passengers carried on this branch, with an average haul of 12.7 miles and an average fare of 44c—a total passenger earning of $542.73. The earnings for June were $512.24. The freight revenue on this branch has recently been increased by a movement of pulpwood from Baker Brook, which movement it is expected will be over by August. The passenger service is mixed. The company computes average earnings as $2,500 a month from the branch, while its train service cost, as figured for May, 1919, at $2.85 per train mile, would amount to $4,942.08 per month.

"The reason for the cancellation of the 2nd class fares is explained by the company as follows: 'At present this company's express train consists of one baggage and mail car, one 2nd and one 1st class car. As a rule, there are very few passengers in the 2nd class car, while very often the 1st class is crowded; this 1st class car contains a smoking compartment. Passenger business is showing some increase and more 1st class space is needed on the train. We, therefore, intend to take the smoking compartment out of our 1st class car and fix up our 2nd class car as a smoking car and by doing this our present equipment will be sufficient to look after our passenger business for some time to come. Our passenger motive power is very light and over 25 years old, and the addition of another 1st class car to our train would seriously affect its running time as we ascend over 1,000 ft. in the first 24 miles after leaving Riviere du Loup. I claim that according to the Railway Act that we are within our within our rights in cancelling our 2nd class rates. Our freight and passenger rates are not any higher than the rates in effect on other Canadian railways and we give as good a service as any other railway of our size in Canada and much better than the majority of the small railways give. Our passenger equipment is kept in good repair and is thoroughly cleaned daily. Owing to the large increases in wages and material, we are obliged to practice the strictest economy in order to even meet operating expenses, and we are not able at present to spend the money necessary to provide another 1st class, especially when we are having a 2nd class car practically empty, which can be utilized for smokers and thereby provide 1st class space for non-smokers.'

"Detailed information as to the real need for a 2nd class fare was not furnished by the applicants at the hearing. Dr. Dube, who represented the Parish of Notre Dame du Lac, raised the question as to whether there was not a charter obligation on the part of the Temiscouata Ry. to have 2nd class fares. This was answered in the negative. There does not appear to be any statutory obligation in the special act. No provision is contained in the Railway Act as to [illegible] for [illegible] class fares. Even if the board has discretion to direct the installation of 2nd class fares—a point it is not necessary to pass upon here—the figures produced in regard to cost conditions and revenues do not warrant the exercise of this discretion by way of directing their re-installation on the Temiscouata Ry.

"The average haul per passenger is approximately 28 miles. For the period [illegible] it averaged 27.99 miles. As already pointed out, it cost over 90c on the dollar to operate during the year ended June 30, 1919. In April, 1919, it cost [illegible] to earn $1. For the 4 months ended April 30, 1919, it cost 96.5c to earn $1, as compared with 85c for the same period in 1918. The train mile costs which were $2.65 in Nov., 1918, were $2.[illegible] in May, 1919. In April, 1919, the passenger service train revenue per train mile was $1.15, while the operating expenses per train mile were $2.92.

"Exact data permitting the differentiation of passenger train mile costs from freight train mile costs are not available. If cost is arbitrarily allocated in the proportion that passenger train mileage bears to freight train mileage, this would give a passenger train mile cost of $2.70. If an arbitrary reduction of one-third is made from this, because of the smaller coal consumption of passenger locomotives, and the lower cost of upkeep of passenger cars as compared with freight cars, it would still leave a figure of $1.80. The passenger car miles for the year ended June 30, 1919, were $204,358. Allocating the revenues earned in passenger train service on a passenger car mile basis, the result is as follows:

		Passenger car-mile earnings
Passenger earnings	$54,165.99	26.54c
Mails	5,991.68	2.80
Express	3,552.39	1.70
	$63,710.06	31.04c

"The C.P.R., with a large and diversified volume of traffic, has an opportunity to effect economies in detail operating costs which are not available to a road so situated as is the Temiscouata. In the evidence submitted by the C.P.R. in the matter of railway mailpay, it was computed that the passenger mile cost for the 6 months ended Feb. 1, 1919, was 33.10c. Without a detailed analysis, which has not been made, of the comparative conditions of the two railways it cannot be said that the evidence as submitted by the C.P.R. is necessarily conclusive in the case of the Temiscouata.

"On consideration of all material factors concerned, a case for increasing the 1st class standard fare to 4c a mile has been made out. This increased rate may become effective on compliance with the provisions of the Railway Act as to standard passenger fare publication.

"As indicated, various matters affecting service were referred to at the hearing. The board has taken cognizance of these, and if they are not satisfactorily adjusted, further investigation, if need be, will be made by the board's operating department."

Orders by Board of Railway Commissioners for Canada.

[illegible] with June, 1904, Canadian Railway and Marine World has published in each issue [illegible] of orders passed by the Board of Railway Commissioners, so that subscribers who have [illegible] the paper have a continuous record of the Board['s] proceedings. No other paper has done [illegible].

General order 268. July 25. Ordering subject to terms of judgment of July 17, that tariffs issued under authority to and in conformity therewith be published and filed at least five days [illegible] date on which they are to become [illegible] that express freight collection [illegible] plan outlined be given effect to.

General order 269. Aug. 7.—Amending regulations regarding rules and specifications so that [illegible] pay of inspectors of crossings be increased [illegible] day from $3 as provided by general order [illegible].

General order 270. Aug. 7. Ordering that [illegible] shall be carried in lower sockets under [illegible] when passenger cars and cabooses [illegible] equipped with marker sockets in the [illegible] position.

[illegible] July 23.—Authorizing C.P.R. to build spur for Summit Sand and Gravel Co., Man[illegible].

[illegible] July 23.—Authorizing C.P.R. to remove [illegible] at Thorncliffe, Ont.

[illegible] July 24.—Authorizing C.P.R. [illegible] agents from Gunton, Komarno and Methven stations, Man.

[illegible] July [illegible].—Authorizing Grand Trunk [illegible] across highways on its Mel[illegible] in Yorkton and Assiniboia [illegible] Sask.

[illegible] July [illegible].—Approving specifications of [illegible] in G.T.R. bridge over Niagara River at Niagara Falls, Ont.

[illegible] July 24.—Authorizing Canadian National [illegible] highway between Sec. 14 and [illegible] meridian.

[illegible] July 21.—Suspending, until further [illegible] 17,014, re crossing by Canadian Northern [illegible] and 61, [illegible], Que.

[illegible] July [illegible].—Approving clearances [illegible] to be erected over Grand Trunk Pacific Ry. for Dinant Coal Co. and Spicer [illegible] Saskatoon, Sask.

[illegible] July 25.—Authorizing Canadian National Rys. to cross certain highways on [illegible]t-Humboldt Branch, Sask.

[illegible] July 24.—Approving Michigan Central [illegible] of Laidlaw drain in Malahide Tp., Ont.

[illegible] July 23.—Authorizing C.P.R. to build [illegible] Milling & Transfer Co., St. [illegible]

[illegible] July 17.—Ordering C.P.R. to [illegible] Frederick and Princess Sts., [illegible] watchmen.

[illegible] Authorizing Hydro Electric [illegible] of Ontario and Niagara, St. [illegible] Ry. to operate trains over crossing at Lots 77 and 90, Stamford Tp., [illegible]

[illegible] Dismissing Quebec, Montreal and Southern Ry.'s application to re[illegible] stations at St. Roch, Bac[illegible] Ste. Angele and [illegible] it to remove them from stations at Mount Johnson, St. Barnabe [illegible], St. Louis and St. Damasse, Que.

28,594. July 26.—Approving Midland Ry. of Manitoba (G.N.R.) standard freight tariff. C.R.C. 80.

28,595. July 25.—Authorizing City of Toronto to carry 16 in. water main under bridge on Dundas St., over Don River, C.P.R., G.T.R. and C.N.R.

28,596. July 25—Authorizing CP.R. to replace A-2 standard station building at Axford, Sask., with a portable building and box car body.

28,597. July 26.—Authorizing Canadian National Rys. to rebuild bridge over South Nation River, at mileage 78.26 from Montreal.

28,598. July 22.—Ordering C.P.R. to provide suitable accommodation for fruit shipments from Hamilton, Ont., to points in Maritime Prov-

28,599, 28,600. July 25.—Authorizing Canadian National Rys. to rebuild bridges over Chenail Ecart Creek, Hawkesbury, Ont., and over side road between Lots 15 and 16, Cons. 3 and 4, Whitchurch Tp., Ont.

28,601. July 28.—Ordering Kettle Valley Ry. to erect fences on south side of its track from mileage 56.3 to Osprey Lake, mileage 38.

28,602. July 28.—Authorizing Brantford Municipal Ry. Commission et al to cross with second tracks the Brantford St. Ry., in Brantford, Ont.

28,603. July 28.—Authorizing G.T.R. to rebuild bridge 61, across small creek on line of Bethune St., Peterborough, Ont.

28,604. July 28.—Authorizing Canadian National Rys. to rebuild its tracks across road allowance between Secs. 8 and 17, Tp. 17; Range, 8; west 1th meridian.

28,605. July 26.—Authorizing Canadian National Rys. to rebuild bridge over Mill Creek, Longueil Tp., at mileage 59.25 from Montreal.

28,606. July 26.—Authorizing Saskatchewan Highways Department to carry highway over Canadian National Rys. in s.w. ¼ Sec. 18, Tp. 15; Range 12, west 2nd meridian.

28,607. July 28.—Authorizing C.P.R. to build spur for Imperial Oil Ltd., Brandon, Man.

28,608. July 28.—Authorizing City of St. Boniface, Man., to alter switch and track for N. M. Patterson & Co.

28,609. July 29.—Relieving Canadian National Rys. from providing further protection at crossing, 3 miles west of Port Hope, Ont.

28,610. July 30.—Approving C.P.R. clearances at ice house at Trenton, Ont.

28,611. July 29.—Ordering Canadian National Rys. to build third class station and extension to passing track at Elie, Man.

28,612. July 26.—Approving C.P.R. clearance at ice house at Smiths Falls, Ont.

28,613. July 30.—Ordering Great Northern Ry. to build crib, from bridge 539 on west side of stream, north, approximately 400 ft. between Princeton and Brookmere, B.C.

28,614. July 30. Authorizing C.P.R. to build spur for Western Supply & Equipment Co., Lethbridge, Alta.

28,615. July 31.—Relieving Maine Central Rd. from providing further protection at crossing in Hereford Tp., Que.

28,616. July 31.—Authorizing C.P.R. to build crossing over its track at Caithness, B.C.

28,617. June 7. Ordering Canadian National Rys. to build freight house near main thoroughfare, Melfort, Sask., and to provide team track; stock pens to be removed from leg and placed farther east, Y to lead off St. Brieux Subdivision and to be removed altogether from elevator trackage; Imperial Oil Co.'s warehouse to be removed from elevator track and placed on same spur as Carrot River Valley Flour Mills' elevator.

28,618. Aug. 1.—Fixing basis for Joint Class Freight Tariffs to apply on Interline traffic between the G.T.R., C.P.R., and C.N.R., together with points of interchange.

28,619. July 31. Approving supplement 13 to Express Classification 3.

28,620. July 31.—Authorizing Temiscouata Ry. to file tariffs increasing first class passenger fare to 4c a mile.

28,621. Aug. 1.—Dismissing complaint of Kilgour Mfg. Co., Hamilton, Ont., against a belated demurrage bill on 101 cars of lumber.

28,622. Aug. 1.—Dismissing application of Dominion Millers' Association and others for revision of rule 9 or general order 201, Aug. 1, 1917, and restoration of demurrage tolls in effect prior to Aug. 20, 1917.

28,623. Aug. 1.—Ordering C.P.R. Telegraph and Great North Western Telegraph Co. to place lines and wires underground in part of Montreal, between Craig, Commissioners, St. Lawrence and McGill Sts., inclusive, and on Victoria Square.

28,624. Aug. 5.—Relieving C.P.R. from providing further protection at crossing of Cremazie Road, near Jacques Cartier station, Que.

28,625. Aug. 1.—Approving Special Tariff of Terminal and Switching Charges of Express Traffic Association of Canada, C.R.C., 3-T-13.

28,626. Aug. 6.—Extending to Oct. 6, time within which C.P.R. shall install electric bell at crossing of Anderson St., Grenfell, Sask.

28,627. Aug. 11.—Approving Express classification for Canada, no. 4.

28,628. Aug. 9.—Dismissing application of municipality of Waldeck, no. 166, Sask., for order directing C.P.R. to build overhead bridge across its tracks between Secs. 32 and 33; Tp. 16; Range 11; west 3rd meridian.

28,629. Aug. 6.—Extending to Aug. 31 time within which G.T.R. shall instal better trackage facilities for repair work in its Chatham yards as required by order 27,940, Dec. 16,1918.

28,630. Aug. 1.—Dismissing C.P.R. application for authority to continue in effect allowance made to Canadian Sugar Refining Co., of 1¼c a 100 lb. on account of cartage at Cote St., Paul, Montreal.

28,631. Aug. 1.—Ordering that cost of protection at crossing of G.T.R. Union Stock Yards branch and Toronto Suburban Ry. at Keele St., Toronto be paid three-fourths by G.T.R. and balance by City of Toronto.

28,632. Aug. 6.—Authorizing British Columbia Public Works Department to make highway crossing over Grand Trunk Pacific Ry. at mileage 1136.25.

28,633. Aug. 8.—Approving location and details of proposed G.T.R. station at Yonge Mills near Brockville, Ont.

28,634. Aug. 11.—Authorizing Canadian National Rys. to extend siding across Cameron St., Cumberland, Ont.

28,635. Aug. 1.—Dismissing complaint of Meradvance charge of 2c per 100 lb. on grain from chants Grain Co., Ltd., Fort William, Ont., against Fort William by reason of C.P.R. embargoes which prevented shipping prior to Mar. 15, when advanced rates took effect.

28,636. Aug. 8.—Ordering C.P.R. to stop no. 3 westbound, and no. 4 eastbound passenger trains daily at Herbert, Sask.

28,637. Aug. 9.—Amending order 28,602, July 28, re crossing of Brantford Municipal Ry. by Brantford & Hamilton Electric Ry.

Lining and Loading Cars of Potatoes for Protection from Cold.

An investigation, to determine the best method of lining and loading cars of potatoes, so as to protect them from the cold, has been conducted by the United States Department of Agriculture, and the recommendations made are embodied in the Department's Market Document no. 17, which covers the subject very fully, with numerous detail diagrams of the interior rearrangement of cars. The proper arrangement of ordinary box cars is the principal subject dealt with.

It is stated that approximately 75% of all cars prepared to protect potato shipments from cold during the winter, are either lined or loaded incorrectly. Protection from cold depends largely upon a constant current of warm air from the heater directly to the ceiling, spreading between the ceiling and top potatoes, thence through openings at the opposite end of the load down to the space beneath the false floor to the heater again. The basic principle of the form of protection outlined, lies in the fact that warm air is lighter than cold, and that unless there is a complete circulation channel around the load, the warm air will form a strata at the top of the car, and remain there, overheating at that point, and leaving the lower part of the car underheated.

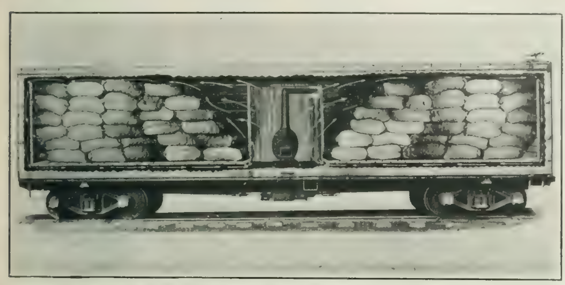


Fig. 1. Warm air circulation in correctly lined and loaded car of potatoes.

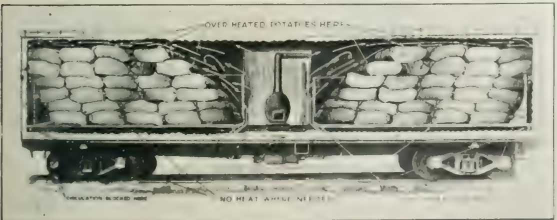


Fig. 2. Warm air circulation in an incorrectly lined and loaded car of potatoes. The warm air from the stove cannot reach space beneath the false floor, where it is needed.

For box cars, the estimated amount of material required for lining an 8 x 8½ x 36 ft. car, with 5 ft. doors, is as follows:

13 pieces, 2 x 4 in. x 14 ft. long.
8 pieces, 2 x 6 in. x 16 ft. long.
1,300 sq. ft. of 1 in. lumber, 16 ft. long.
2,250 sq. ft. of building paper.

In lining the car, the first thing is to cover all broken places with paper or board, and then line the whole inside of the car with paper, lapping the edges at least 4 in., and lathing all wall and ceiling seams, particular care being exercised to make the roof as heat proof as possible.

Three rows, each of three 2 x 4 x 6 in. blocks, are spiked to the end walls, on which are spiked vertically, three 2 x 4 in. x 7 ft. pieces, which form the end studding for the false end wall boards, providing a 6 in. end air space. The side walls are treated the same way, with 10 blocks on each side between the door and end wall, but the upper blocks have the 4 x 6 in. surface to the car wall, while the lower ones have the 2 x 6 in. surface to the wall. To these are spiked the studding, which has a slight batter, owing to the lower blocks protruding further.

On the floor, in each end, are laid longitudinally, four 2 x 6 in. x 15½ ft. stringers, which provide for a 6 in. space between the car and false floors. The inner ends of these stringers are blocked.

End wall boards are next nailed to the end studding, and cross floor boards the full length of the stringers. This is followed by longitudinal stripping on the studding for the side walls. The walls and floor are then papered, using continuous strips from the top of the false wall on one side, down and across the floor, and up the other side, securing the upper part of the wall papering by lathing the seams.

Longitudinal floor board, and wall board part way up the side, are next laid. These form a false wall and flooring through the full end interior of the car to the door edge. These inner ends are next boarded up, with a vertical studding, braced to the opposite studding by longitudinal pieces top and bottom, to form secure bulkheads for the potato load.

The false wall for one end of the car, prior to the application of the bulkhead, is shown in fig. 2, in which the way the various layers and parts are built up, may be noted. The stove is placed in the center between the bulkheads.

Produce, and other insulated cars, are recommended to be treated in much the same way. The floor, and walls to a height of 2 ft., should be papered, and an end wall, and single board flooring, applied in the manner already described, except that as the false side wall is omitted, the cross boards of the false flooring are cut short, so that heat circulation may be provided between the load of potatoes and the walls. Refrigerator cars can be treated in much the same way.

By this process of false flooring and false walls, and with the load of potatoes not built up within 8 in. from the ceiling, a continuous circulation of warm air from the stove will ascend, and move towards both ends under the roof, down the ends, and back to the center under the false flooring.

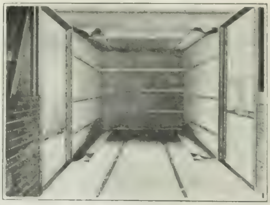


Fig. 3. Properly papered box car for potatoes. The ceiling, floor and walls of box cars should be papered before installing the false floor and walls.

Crown Colonies' Railways—Lieut.-Col. L. C. Amery, Under Secretary for the Colonies, is reported to have said in the British House of Commons recently, in the discussion of the colonial estimates, that railways in the crown colonies must be multiplied. In the overseas dominions there are 13 miles of railways per 1,000 square miles; in the crown colonies only 4.8 miles. Hence there is a prima facie case for a very great programme of railway construction. He is of the opinion that every sovereign spent in developing the colonies would brig manifold return in a very short time.

Passenger traffic on the Quebec and Saguenay Ry., between Quebec and Murray Bay, using the Quebec Ry., Light and Power Co.'s line to St. Jochim, is reported to have developed considerably since daily train service was put on in June. The trains are being operated for the Dominion Government by the contractors.

The Prince of Wales' Canadian Tour by Rail and Water.

The principal portion of the Canadian tour which the Prince of Wales is now making is over the Canadian Pacific Ry. and its British Columbia Coast and Lake and River Steamship Lines, but parts of it will be over the following railways: Algoma Central & Hudson Bay, Canadian National, Esquimalt & Nanaimo, Grand Trunk Grand Trunk Pacific, Kettle Valley, Timiskaming & Northern Ontario.

The Prince's first railway experience in Canada was at Quebec on Aug. 22, when, after motoring from the city to the north end of the Quebec Bridge, he was taken over it and back again on a special Canadian National Rys. train, to which were attached fitted up flat cars for observation purposes. Among those present were: Lieut.-Col. C. N. Monsarrat, Chairman of the Bridge Commission; Ralph Modjeska, one of the members of the commission; Phelps Johnson, President, G. H. Duggan, Chief Engineer, and G. F. Porter, of the St. Lawrence Bridge Co., representing the builders.

The special train, which will be used throughout the railway portion of the Prince's tour, has been provided by the C.P.R. In addition to the locomotive, which will be provided by the different lines over which the party travels, the all steel train consists of two baggage cars, tourist car Chinook, sleeping car Carnarvon, dining car Canada, sleeping car Chester, compartment car Empire, private car Cromarty, owned by J. K. L. Ross, one of the C.P.R. directors, and Lord Shaughnessy's car Killarney.

Several of the cars, notably the Chinook, the compartment, tourist and baggage cars, have been completed for the occasion, but are specially interesting as they are the first of new series that have been adopted for the entire C.P.R. system, and are equipped with everything that is modern in railway car building. After this journey they will be drafted into the regular service. The Prince of Wales will live in the train for about [illegible] months, making the Killarney his headquarters throughout the trip. The car is accordingly equipped with modern devices and conveniences, thus enabling the Prince and his suite to enjoy as nearly as possible the comforts of a stationary dwelling. Nothing has been omitted, from the thermostat set at the heater to regulate the temperature of the stateroom, which is a standard appliance in C.P.R. equipment, to the telephone that brings the Prince in touch with all parts of the train.

In order to distinguish it from all other cars on the line, the Killarney bears the Prince's feathers and motto. The car is entered from the rear by an observation platform large enough to accommodate several arm chairs. The first compartment is also devoted to observation, a compact little room fitted with a lounge, easy chairs, a table and electric fans. On rainy days or in cold weather the scenery may be viewed more pleasantly through the large windows on either side, than from the platform outside. A speed recorder adds interest to the journey and an air pressure gauge indicates the application of the brakes by the locomotive man.

Next to the observation compartment is a section devoted to the Prince's secretary, after which is the bedroom to be occupied by the Prince. A rich simplicity characterizes this compartment, which is finished in white mahogany inlaid with a fine line of ebony outlining the panels. Built into the walls across the end is the bedstead, finished with little ornamentation in the white mahogany of the room. Over the bed may be pulled a roller curtain to protect the occupant from the dust and draughts of the ventilators in the ceiling. The door is a full length mirror and an oval glass is set above the dressing table. The fittings of the dressing table and toilet are brass in harmony with the woodwork and a large receptacle is screwed into the wall to hold a thermos bottle. Next to the Prince's bedroom is a second stateroom with two berths similar to the grst assigned to the secretary. Then in a niche in the wall is a shower bath of white tiles and porcelain.

The central portion of the car is devoted to the dining room which is tastefully decorated in royal blue. Beneath the little extension table is a heavy blue pile carpet with six chairs upholstered in tapestry to match. The curtains and even the drawers of the sideboard carry out the color scheme, for the silver table service reposes between divisions of blue tapestry velvet. Between the sideboard and the window is a secretaire with pens and paper. Above it is a miniature bookcase. With steel walls finished in imitation mahogany, a kitchenette, pantry, icebox, service counter, charcoal heater and chef's bedroom, have been fitted into limited space beyond the dining room.

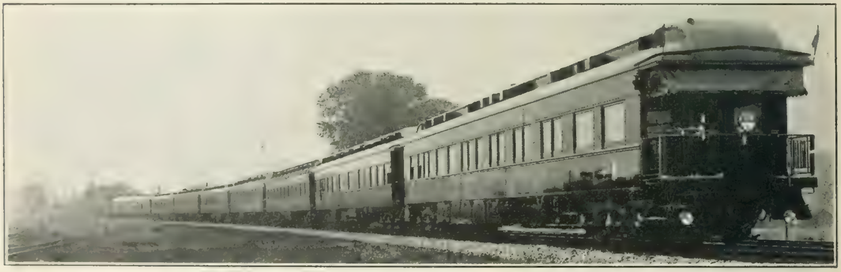
The compartment car Empire is reminiscent of an English coach, for the seats are partitioned off and joined only by the narrow corridor that runs down the length of the car. At each end is a commodious drawing doom, with a sofa, in addition to the upper and lower berths. The color scheme of this car is grey and green, the grey of the marbleized wall finish contrasting happily with the green of the heavy friezette plush upholstery. In each room is to be found an individual heating control.

The members of the Prince's immediate suite occupy the Killarney and dine with him in the dining room laid for six. Six more are accommodated in the Cromarty. The dining car is a pleasant place where tables for four and for two are placed at the windows down each side of the car. The rich brown tones of the Cuban mahogany walls and ceilings combined with the green hangings and accentuated with inlaid lines of satinwood harmonize beautifully. This car will accommodate 30 persons at a sitting.

The sleeping cars present only one feature of exceptional interest to the traveling public well acquainted with the details of the C.P.R. sleeping cars. Tucked away in a corner is a dispensary as shipshape as the doctor's office on a ship. A special chair has been arranged for the patient if such there be, and the showpiece of the little office is a patent light fixture with which the physician can examine the throat.

In one of the baggage cars the darkcloset and workroom of the official photographer have been arranged. There are shower baths and sleeping compartments in the baggage cars too, and cold storage cupboards were the chef keeps his supplies. An auxiliary generator is also installed here, to provide electric light throughout the train if it is stationary for any length of time.

The locomotive in addition to the regular signal flags has two staffs each bearing the royal standard, with the Prince's insignia. From the royal standards in front of the locomotive, to the electric searchlight at the rear end of the car Killarney, the train is 780 ft. long, and its total weight without passengers is figured at about 1,000,000 lb. The locomotive and 9 cars, with interior decor-



Canadian Pacific Railway Train conveying the Prince of Wales through Canada.

In addition to the locomotive, the train consists of two steel baggage cars, tourist car Chinook, two sleeping cars, Carnarvon and Chester; dining car Canada, compartment car Empire, private car Cromarty, owned by J. K. L. Ross, one of the C.P.R. directors; and Lord Shaughnessy's official car, Killarney, at the rear.

ations and furnishings, are said to have cost over $750,000.

E. W. Beatty, President, C.P.R., is represented throughout the trip by A. B. Calder, Assistant General Passenger Agent, Montreal. The Canadian National Railways is to be represented, during the portion of the trip over its lines, by A. J. Hills, Assistant to the President, and the Grand Trunk Ry. is to be similarly represented by H. R. Charlton, General Advertising Agent. R. G. Chamberlin, Chief of Investigation Department, C.P.R., Montreal, has been appointed by the Dominion Government as Commissioner of Police of Canada, and as such is in charge of police arrangements during the Prince's entire Canadian tour.

Dining Room, Private Car Killarney.

The schedule provided for the C.P.R. royal train to leave Quebec, Aug. 24 at 2 p.m., arrive at St. Martins Jct. at 6.30 p.m., leave there at 8 p.m., and reach the Government House private siding at North Toronto, Aug. 25 at 9 a.m. But the Prince decided to motor from Quebec to Three Rivers, with some of his staff, arrived there at 6.25 p.m. and boarded the train which was waiting there for him, reaching Toronto, Aug. 25, at 10.10 a.m. After spending three days in Toronto the Prince left again from the private siding, North Toronto, Aug. 27 at 11.30 p.m., arriving at Ottawa Central Station on the morning of Aug. 28.

The itinerary for the balance of the trip is as follows, subject to alteration:—

Canadian Pacific Ry.—Sept. 1. Leave Ottawa Central Station 11.30 p.m. Sept. 2, arrive North Bay, 9.55 a.m.

Timiskaming & Northern Ontario Ry. Sept. 2 . Leave North Bay 10.30 a.m., arrive Cobalt 2.30 p.m., leave 5.30 p.m.; ardrive Timmins, 10 p.m. Sept. 3. Leave Timmins 1.45 p.m., arrive North Bay 10.20 p.m.

Canadian Pacific Ry.—Sept. 3. Leave North Bay 11.30 p.m. Sept. 4. Arrive Sault Ste. Marie, 10 a.m.

Algoma Central & Hudson Bay Ry.—Sept. 4. Leave Sault Ste. Marie 1.30 p.m., arrive Oba, 10 p.m.

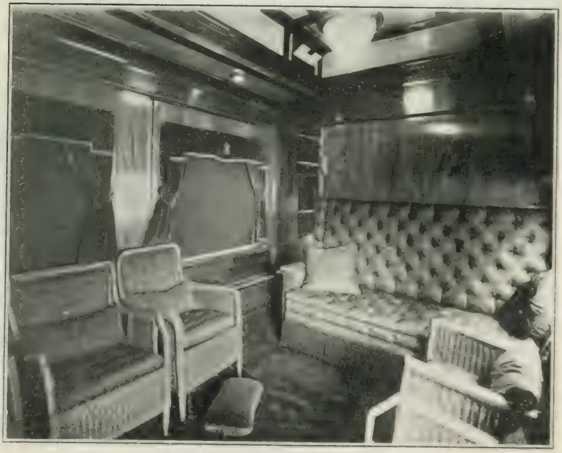
Canadian National Rys.—Sept. 4. Leave Oba, 10.30 p.m. Sept. 5. Arrive Orient Bay, 7 a.m. There the Prince and party will leave the train to spend three days fishing the Nipigon River, and under canvas. The arrangements for this are being made by the Canadian National Rys., co-operating with McKirdy & Sons, outfitters, etc. The train will be sent on from Orient Bay to Nipigon, and will leave there with the Prince and party Sept. 8 at 11.50 a.m., reaching Port Arthur 3.15 p.m.

Canadian Pacific Ry.—Sept. 8. Leave Port Arthur 4 p.m., arrive Fort William 4.15 p.m., eastern time, leave 7 p.m., central time. Sept. 9. Arrive Winnipeg 11 a.m. Sept. 10. Leave Winnipeg 7 p.m. Sept. 11. Arrive Saskatoon, 11 noon, leave 6 p.m. Sept. 12. Arrive Edmonton 10 a.m. Sept. 13. Leave Edmonton, 12.30 a.m. Sept. 13. Arrive Calgary, 8.30 a.m. Sept. 15. Leave Calgary 3.45 p.m., arrive High River 5 p.m. Sept. 16. Leave High River 7.50 p.m., arrive Calgary 9 p.m. Sept. 17. Leave Calgary 6.15 a.m. or earlier. Arrive Banff 10 a.m., leave 6 p.m., arrive Lake Louise, 7.20 p.m. The party will spend the night at Chateau Lake Louise, 3½ miles from the station. Sept. 18. Leave Lake Louise 12 noon, arrive Field 1.50 p.m. The Prince will go independently to Field, and will visit Yoho Valley, Takakaw Falls and Emerald Lake. Sept. 20. Leave Field 8 a.m., arrive Revelstoke 1.50 p.m., leave 5.30 p.m., arrive Sicamous 8 p.m. Sept. 21. Leave Sicamous 2 p.m., arrive Kamloops 5.10 p.m., leave 6.10 p.m. Sept. 22. Arrive Vancouver, 10 a.m. Sept. 23. Leave Vancouver by C.P.R. s.s. Princess Alice, 1.30 p.m., arrive Victoria 6.15 p.m.

Esquimalt & Nanaimo Ry. — Leave Victoria and arrive Qualicum at times to be arranged. Short stops will be made at Duncans, Ladysmith and Nanaimo. The Prince will leave for an island trip, independent of the train, returning to Victoria, Sept. 28.

Canadian Pacific Ry.—Sept. 28. Leave Victoria by C.P.R. s.s. Princess Alice 12 midnight. Sept. 29. Arrive Vancouver, 7.30 a.m. The Prince will proceed to New Westminster by motor and open the exhibition. The train will be sent to New Westminster to meet him.

C.P.R. and Kettle Valley Ry.—Sept. 29. Leave New Westminster 1.30 p.m. Sept. 30. Arrive Penticton 1 a.m. The route from Hope to Penticton is via the Kettle Valley Ry., through the Hope Mountains. From Penticton a steamboat and motor trip will be made, visiting Kelowna and Vernon. The C.P.R. s.s. Sicamous will be used on Okanagan Lake. Sept. 30. Leave Penticton [illegible] p.m. Oct. 1. Arrive Nelson, 10 a.m. The train will be sent by car ferry and rail from Nelson to Kootenay Landing and



Sitting and Observation Room, Private Car Killarney.

the party will leave Nelson by C.P.R. [illegible] kin for Kootenay Landing, calling at Balfour en route and arriving at Kootenay Landing at 8.30 a.m.

Canadian Pacific Ry.—Oct. 1. Leave Kootenay Landing 9 p.m. Oct. 2. Arrive [illegible] 10 a.m., leave 10.30 a.m.; arrive Lethbridge 1 p.m., leave 5 p.m. Oct. [illegible] Arrive Medicine Hat 9 a.m., leave 10.30 [illegible] Arrive Maple Creek 1.30 p.m., leave 2 p.m.; arrive Swift Current 5 p.m., leave 5.30 p.m. Oct 4. Arrive Moose Jaw, 10 a.m., leave 12.30 noon; arrive Regina 2.30 p.m. Train to be placed on Grand Trunk Pacific Ry. siding near Government House.

Bedroom, Private Car Killarney.

Grand Trunk Pacific Ry—Oct. 6. Leave Regina 3 p.m., arrive Edenwald 4.30 p.m., where there will be a three days' duck shooting expedition. Oct. 9. Leave Edenwald at time to be arranged, arrive Qu'Appelle 11.50 p.m.

Canadian Pacific Ry.—Oct. 10. Leave Qu'Appelle 1 a.m., arrive Brandon 10 a.m., leave 12 noon; arrive Portage La Prairie 2 p.m., leave 2.30 p.m.; arrive Winnipeg 4.30 p.m. Oct. 11. Leave Winnipeg 2 am., arrive Fort William, 2.30 p.m., central time, leave 3.50 p.m., eastern time. Oct. 12. Arrive Biscotasing 10 a.m. A stop of 4 days will be made at Biscotasing to visit Northern Ontario woods, lakes and rivers. Oct. 17. Leave Biscotasing 9 p.m. Oct. 18. Arrive West Toronto 8.25 a.m., arrive Hamilton 10 a.m.

Grand Trunk Ry.—Oct. 18. Leave Hamilton 9.30 p.m., arrive Niagara Falls, 10.30 p.m. Oct. 20. Leave Niagara Falls 12 noon, arrive Brantford 2.30 p.m., leave 6 p.m. Oct. 21. Arrive Guelph 10 a.m., leave 3 p.m., arrive Stratford 5 p.m., leave 6 p.m. Oct. 22. Arrive Woodstock 11 a.m., leave 12 noon; arrive Chatham 2 p.m., leave 3 p.m.; ar- [illegible] p.m., arrive Windsor 6.30 p.m. rive London 4.30 p.m. Oct. 23. Leave

Canadian Pacific Ry.—Oct. 24. Leave Windsor 12 noon, arrive London, 3.20 p.m.; arrive North Toronto, 8.20 p.m.

Grand Trunk Ry.—Oct. 25. Leave Toronto at time to be arranged, arrive Kingston at 10 a.m. Oct. 27. Leave Kingston, arrive and leave Brockville, and arrive Vaudreuil, at times to be arranged.

Canadian Pacific Ry.—Oct. 27. Leave Vaudreuil at time to be arranged, arrive at Windsor St. Station, Montreal, 12.30 p.m. Oct. 31. Leave Windsor St. Station, Montreal, 1.30 p.m., arrive and leave St. Annes, and arrive Ottawa, at times to be arranged.

Private Car used by the Prince of Wales, afterwards King Edward VII, during his Canadian Tour in 1860.

A Winnipeg press report states that it is expected that the destruction of the trans-shipping elevator at Port Colborne, Ont., will have a serious effect on freight rates, and will add to the cost of transporting the western grain crop to the east.

Canadian Pacific Railway Earnings, Expenses, Etc.

Gross earnings, working expenses, net earnings, and increases or decreases, from Jan. 1, 1919, compared with those of 1918:

	Gross	Expenses	Net	Increases or decreases
Jan.	$13,028,328	$11,474,816	$1,553,512	$ 385,519
Feb.	11,064,167	10,083,051	981,116	390,218
Mar.	12,374,182	10,835,138	1,539,044	*1,453,737
Apr.	13,108,905	11,020,281	2,088,624	*1,366,765
May	13,569,411	10,535,650	3,033,761	*651,015
June	13,577,274	10,586,852	2,990,421	178,274
	$76,722,267	$64,535,789	$12,186,478	*$2,520,506
Incr.	$ 4,709,981	$ 7,320,187	....	....
Decd.	....	....	$ 2,520,506	....

*Decreases.

Approximate earnings for July, $13,238,000 and for 2 weeks ended Aug. 14, $6,740,000, against $11,920,000 and $5,641,000, respectively, for same periods, 1918.

Grand Trunk Railway Earnings, Expenses, Etc.

The figures as reported are in pounds sterling, and are converted into currency at $4.87.

Gross earnings, working expenses, net earnings and increases or decreases compared with those for 1918, from Jan. 1, 1919:

	Gross	Expenses	Net	Increases or decreases
Jan.	$ 4,405,403	$ 5,121,778	x$ 716,377	*$ 81,816
Feb.	4,090,800	4,401,019	x 310,219	660,372
Mar.	5,517,223	4,676,174	841,049	763,616
Apr.	5,360,896	4,601,585	756,311	93,017
May	5,275,671	4,606,533	669,138	*36,525
June	4,951,329	4,647,928	303,401	*707,611
	$29,601,321	$28,058,018	$1,543,303	$691,053
Incr.	5,612,675	4,921,622	691,053	....
Decr.	....	....	1,398,664	....

xDeficits. *Decreases.

Approximate earnings July, $6,024,212, and for 2 weeks ended Aug. 11, $2,853,735, against $5,336,248, and $2,494,407, respectively, for same periods, 1918.

Canadian National Railways Earnings.

The gross earnings of the system from Jan. 1, compared with those for the same period of 1918, are as follows:

	1919	1918
January	$ 6,744,018	$ 4,696,567
February	6,000,342	4,421,504
March	6,827,491	5,710,660
April	6,909,632	7,165,890
May	7,518,244	6,580,745
June	6009,585	6,868,864
	$40,009,585	$35,444,230

Approximate earnings for July, $7,657,402, and for 2 weeks ended Aug. 14, $3,702,367, against $5,733,299 and $3,219,358, respectively for same periods, 1918.

Canadian National Railways Construction, Betterments, Etc.

Ties for Eastern Lines. Tenders were received to Aug. 25, for 1,400,000 ties to be made and delivered by Oct. 1, 1920, as follows: on National Transcontinental Ry., district 5, south of St. Lawrence River; and 1,000,000 on the Halifax Division Intercolonial Ry. Tenders were also received to Aug. 25 for 1,375,000 ties, to be made and delivered by Oct. 1, 1920, as follows: 1,000,000 on lines between Port Arthur and Pembroke, Ont.; 50,000 on lines in Central Ontario; 25,000 on lines between Ottawa and Quebec; 200,000 on lines between O'Brien and Quebec; and 100,000 on Lake St. John District lines.

Stores Building, Sydney. Tenders are under consideration for the erection of a store building at Sydney, N. S.

Halifax Ocean Terminals. Tenders were received to Aug. 23 for the construction of transit sheds 21 and 22, at Halifax, N. S., and to Aug. 27, for the construction of docks, marginal and other paved and macadamized roads and streets at Halifax Ocean Terminals.

Truro-Belmont Second Track—Work is reported to have been started by the Bate, McMahon Co., on their contract for building a second track between Truro and Belmont, N.S., 7.57 miles. A press report stated recently that the grading would be started at Onslow and be gone on with in either direction. The work includes the erection of a new bridge over the Salmon River, some smaller bridges and a subway near the Graham and Mackenzie mill.

Fredericton Station—A press report states that negotiations are in progress for the purchase of a site on Regent St., Fredericton, N.B., on which to erect a union station, and that plans for the building will be prepared at an early date.

Moncton Express Building—Tenders were received to Aug. 25 for the erection of a frame building, 110 ft. long at Moncton, N.B., for express business.

Moncton Freight Shed, Etc. We are officially advised that the freight sheds to be built at Moncton, N. B., will be a one story building 400 x 40 ft., brick walls, steel beams, flat roof, and provided with continuous doors along the track side. A two-story and basement brick office building 41 x 41 ft. will be built adjoining. The contract for these buildings has been let to Engineers and Contractors, Ltd., St. John, N. B. The buildings are to be gone on with at once, and it is expected they will be completed by Nov. 1.

Edmundston Car Shop. Tenders are under consideration for the erection of a car shop at Edmundston, N. B.

St. Malo Shops—The fire protection plant at the Transcontinental Ry. shops at St. Malo, Quebec, is reported to have been completed and to have been approved by Quebec fire department officers.

The machinery for the shops continues to arrive, and it was reported recently that it was expected to have everything in place for the full operation of the plant by the end of the year.

Grenville Subdivision Tenders are under consideration for the construction of concrete culvert, abutments and piers between L'Orignal and Ottawa, on the Grenville subdivision, covering about 50 miles of line.

Ties for Western Lines. Tenders were received to Aug. 25 for the supply of 3,525,000 ties to be made and delivered Oct. 1, 1920, as follows: 600,000 on the line between Port Arthur and Rainy River, Ont.; 50,000 on Duluth, Winnipeg and Pacific Ry. in Minnesota; 25,000 on Canadian National Ry. lines in Minnesota; 50,000 on C. N. R. lines in Manitoba; 1,500,000 on C.N.R. lines between Winnipeg, Man., and O'Brien, Que.; 300,000 on C. N. Ry. lines in Alberta, and 1,000,000 on C.N.R. lines in British Columbia.

Port Arthur Elevator Construction—Work is reported to have been started on the addition to the Canadian Northern Ry. elevator at Port Arthur, Ont., by the contractors, the Barnett McQueen Co. The work is expected to be completed for the handling of the 1920 crop.

Fort William, Ont.—A press report states that the company proposes to widen its right of way between Empire Ave., and Frederick St., Fort William, Ont.

Western Lines Betterments—Tenders were received to Aug. 25 for the supply of all material and labor for the following works: Freight office and extension to freight shed at Saskatoon, Sask.; turntable foundations at Dauphin, Man., and Kamsack, Sask.; track scale foundations at North Battleford, Big Valley and Swan River, Sask.

A. E. Warren, General Manager Western Lines, on returning to Winnipeg, Aug. 18, from a trip over the lines to Vancouver, is reported to have stated that improvements estimated to cost $1,000,000 are being made, or are being arranged for on the line from Calgary to Drumheller, Alta. The line in the vincinity of Drumheller is being double tracked, additional yard accommodation is being provided, and many of the bridges are being replaced by concrete structures, while at one point a tunnel is being built which will result in the elimination of three bridges.

Gravelbourg-Swift Current Extension—A press report states that Gibbs Bros., who have the contract for grading 27 miles have been authorized to extend their grading operations from Neidpath, the end of the present contract, on to Swift Current, Sask., as a relief measure.

Thunder Hill Branch. We are officially advised that the contract for grading and building culverts on this branch, mileage 101.5 to 115.5, has been let to D. R. McDonald, Netherhill, Sask.

Prince Albert to Paddock Wood—A press report states that construction will be started immediately on a branch line from Prince Albert to Paddock Wood, Sask.

Vancouver Island Lines—Tenders are under consideration for the supply of 2,000 telegraph poles, 90 per cent. to be 25 ft. and 10 per cent. to be 30 ft. long, for the company's lines from Victoria, towards Alberni. Delivery to be made within one month after receipt of order.

Tourist travel on the Pacific coast steamships operated by the C. P. R., and by the Grand Trunk Pacific Ry., is reported to be the heaviest since 1914.

Railway Finance, Meetings, Etc.

Algoma Central and Hudson Bay Ry.—Algoma Eastern Ry.—The shareholders of these two railway companies are called to meet at Sault Ste. Marie, Ont., on Sept. 17, the first mentioned at 10 a.m., and the second at 11 a.m., to receive directors' reports and statements of accounts for the year ended June 30; for the purpose of ratifying the acts of the directors since the last meeting of shareholders, and for the transaction of other business. R. Home Smith, Toronto, is President and Alex. Taylor is Secretary of both companies.

Canadian Northern Ry. A press report states that the $10,000,000 two and a half year to five year 6 per cent. collateral trust Canadian Northern Ry. notes, placed on the market recently by Wm. A. Read & Co., New York, are secured by the deposit of $14,286,000 of C. N. Ry. 4 per cent. bonds, due 1914, guaranteed as to principal and interest by the Dominion Government.

Canadian Northern Ry.—There has been deposited with the Secretary of State at Ottawa a duplicate original of trust agreement, dated June 1, made between the Canadian Northern Ry. and the National Trust Co., securing certain 5½% secured notes of the Canadian Northern Ry.

Canadian Pacific Ry. The directors on Aug. 11 declared the following dividends, payable Oct. 1, to shareholders of record at 3 p.m., Sept. 2, for the quarter ended June 30: Common stock, 2½ per cent., being at the rate of 7 per cent. a year from revenue and 3 per cent. from special income account. A dividend of 2 per cent. for the half year ended June 30, on the preference stock, payable on the same date was also declared.

Edmonton, Dunvegan and British Columbia Ry.—The Board of Railway Commissioners, is being asked to recommend the Dominion Government to sanction an agreement entered into between the Edmonton, Dunvegan and British Columbia Ry. and the Alberta and Great Waterways Ry., on May 3, 1918.

Timiskaming & Northern Ontario Ry.:

	May, 1919	May, 1918
Passenger earnings	$ 77,249.49	$ 54,992.67
Freight earnings	148,569.02	182,645.02
Total earnings	225,818.51	237,637.69

Railway Employes Statistics.

The Railways Department report gives the following figures for the years ended June 30, 1917 and 1918, respectively:

	1917-1918.	1916-1917.
Number	143,493	146,175
Salaries and wages	$152,274,953	$129,626,187
Ratio to gross earnings	46.11%	58.34%
Ratio to operating expenses	55.59%	58.34%

The Canadian Ticket Agents' Association will hold its annual meeting on Sept. 23 at 2 p.m. at Prince George Hotel, Toronto. Following is the subsequent programme: Sept. 23, theatre party at Shea's Theatre in the evening. Sept. 24, leave Toronto 10 a.m. by G.T.R. for Muskoka Wharf, where a Muskoka Navigation Co.'s steamboat will be waiting, spent afternoon on Lakes Muskoka and Rosseau, arriving at Monteith House about 6 p.m., where the night will be spent. Sept. 25, sailing, etc., on Lakes Rosseau and Joseph, staying at some hotel for the night. Sept. 26, return by steamboat to Muskoka Wharf, thence by G.T.R. train, arriving at Toronto at 4.45 p.m.

Mainly About Railway People Throughout Canada.

F. F. Busteed, [illegible] E., of Vancouver, formerly [illegible] of Grade Revision, C.P.R., [illegible], has been spending the summer at [illegible] Lodge, Seton Lake, Lillooet, B.C.

Andrew Carnegie, who died at Lenox, Mass., Aug. 11, was in his early days in Pennsylvania Rd. service for about 12 years. He later entered the steel rail trade and was mainly instrumental in its development. He was born at Dunfermline, Scotland, Nov. 25, 1835 and came to North America at the age of 13.

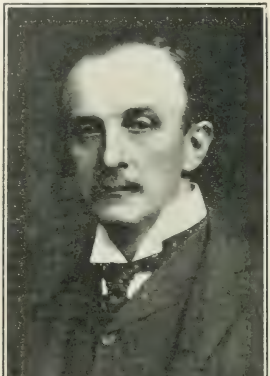
Hon. Frank Broadstreet Carvell, K.C., who has been appointed Chief Commissioner, Board of Railway Commissioners for Canada, was born at Bloomfield, Carleton County, N.B., Aug. 14, 1862, and educated at the public schools and Boston University, graduating with the degree LL.B., in 1890. He commenced practice at Dorchester, N.B., as an attorney, in 1890, and was made a K.C. in 1907. He represented Carleton, N.B., in the Liberal interest in the New Brunswick Legislature from 1899 to 1900, and from 1904 represented the same constituency in the House of Commons. He joined the union government which was formed during the war, as Minister of Public Works, resigning on his present appointment.

R. G. Chamberlin, Chief of Investigation Department, C.P.R., Montreal, has been appointed by the Dominion Government as Commissioner of Police of Canada, and as such is in charge of police arrangements during the Prince of Wales' entire Canadian tour.

D. C. Coleman, Vice President, Western Lines, C.P.R., returned to Winnipeg, Aug. 4, after a trip over the company's lines in the prairie provinces and British Columbia. He went to Calgary later on and was one of the speakers at the industrial conference which opened there Aug. [illegible].

Sydney E. Dewey, General Eastern Freight Agent, G.T.R., New York, who died suddenly at Buffalo, N.Y., Aug. 8, was born at Beckenham, Kent, Eng., July 4, 1879, and entered G.T.R. service Jan. 1, 1896, since when he had been, to May 10, 1893, clerk, Division Freight Agent's office, Toronto; May 10, 1903 to Mar. 1, 1904, Soliciting Freight Agent, Hamilton, Ont.; Mar. 1, 1904 to Apr. 16, 1906, Travelling Freight Agent, Hamilton, Ont.; Apr. 16, 1906 to Jan. 14, 1907, Contracting Freight Agent, New York; Jan. 14, 1907 to Oct. 23, 1911, Travelling Freight Agent, New York; Oct. 23, 1911 to Feb. 16, 1914, Commercial Agent, Pittsburg, Pa.; Feb. 16, 1914 to Feb., 1916, Commercial Agent, New York, and from Feb., 1916, General Eastern Freight Agent, New York.

Sir Henry Lumley Drayton, K.C., who has resigned the position of Chief Commissioner, Board of Railway Commissioners for Canada, to enter the Dominion Government as Minister of Finance and Receiver General, was born at Kingston, Eng., Apr. 27, 1869, and educated in England and Canada, commencing his [illegible] in [illegible] as a law student at Toronto. He was called to the Ontario bar in [illegible] and commenced practice in Toronto, being appointed Assistant City Solicitor in [illegible], remaining to Sept., 1900 [illegible] private practice. On [illegible], he was appointed Crown Attorney for the County of York, Ont., [illegible] Nov., [illegible], to resume private practice. He was appointed a K.C., Jan. 20, 1908, and on Apr. 25, 1910, was appointed counsel for the City of Toronto, and subsequently was one of Toronto's representatives on the Ontario Hydro Electric Power Commission. In July, 1912, he was appointed Chief Commissioner, Board of Railway Commissioners, following the death of J. P. Mabee. On the outbreak of war he was in London, Eng., and under the acting High Commissioner rendered good service in connection with the aiding of Canadians who were stranded at various points on the continent on account of the war, and was created a knight bachelor in June, 1915. He was sworn in as Minister of Finance and Receiver General, and as a member of the Privy Council for Canada, Aug. 2.



Sir Alfred W. Smithers, M.P.,
Chairman of the Board, Grand Trunk Railway Co.

E. C. Gill, of the C.P.R. Publicity Department in Europe, sailed from Liverpool, Eng., early in August for a tour through Canada, to obtain information with regard to prospects for British settlers and manufacturers in the Dominion.

Grant Hall Vice President, C.P.R., returned to Montreal, Aug. 7, after a five weeks trip through Western Canada, during which he visited the various points on the company's system where new construction has been started recently. He was accompanied by W. B. Lanigan, General Traffic Manager, Montreal, and from Winnipeg by D. C. Coleman, Vice President, Western Lines. They were guests at a breakfast given by Moose Jaw citizens Aug. 2.

D. B. Hanna, President, Canadian National Rys., has been re-elected a director of the British Empire Trust Co., London, Eng.

William D. Hannah, Chief Fuel Inspector, G.T.R., Montreal, has retired after nearly 40 years of continuous service with the company. He was born at Newton Stewart, Scotland, Sept. 1, 1844, and entered G.T.R. service in 1880. He has occupied positions as assistant agent, night yardman at Toronto, and general inspector, station agent, fuel inspector, and Chief Fuel Inspector at Montreal. On his retirement he was presented by the staffs of the Stores and Purchasing Departments with a purse of money.

Robert Wetmore Hannington, who has been appointed Solicitor for British Columbia, Canadian National Rys., Vancouver, B.C., was born at Dorchester, N.B., graduated from Dalhousie University in law and was called to the bar in 1892. He went to Nelson, B.C., in 1897 and commenced practice there, and in 1908 moved to Vancouver, where he continued practice. He was appointed City Solicitor, Victoria, B.C., in 1915, and held that position to the date of his present appointment. He is a son of the late Hon. D. L. H. Hannington, a former Premier of New Brunswick, and at the time of his death senior judge of the New Brunswick Supreme Court.

Lieut.-Col. F. C. Hawkes, O.B.E., of the Indian State Railways, who served in Mesopotamia from 1915 to 1919, latterly as Assistant Director of Railways, was married in England recently to Miss C. M. Bovey, second daughter of the late Dr. H. T. Bovey, formerly Dean, Applied Science Faculty, McGill University, Montreal, and afterwards Rector of the Imperial College of Science and Technology.

Alfred J. Heath, of the Refund Department, C.P.R., Montreal, died there suddenly July 25. He was born at St. John's, Nfld., in 1857, and entered C.P.R. service at St. John, N.B., in 1889, and prior to his transfer to Montreal in 1901 was District Passenger and Ticket Agent there.

Brig.-General C. L. Hervey, D.S.O., engineer and contractor, Montreal and Lancaster, Ont., was a lieutenant in the Corps of Guides when war broke out and was later promoted to captain. When the Imperial authorities called for the formation of a Canadian Overseas Railway Construction Corps, the work of which is fully described in this issue of Canadian Railway and Marine World, he was appointed Major in command of no. 1 company. In September, 1916, he was transferred to the Canadian Railway Troops and promoted to Lieutenant-Colonel and Officer Commanding the 4th Battalion, C.R.T. In July, 1918, he was seconded to the Imperial Army and promoted to Brig.-General, and since returning to Canada has been placed on the reserve of officers with that rank.

T. E. Hillman, who died at Whitestone, N.Y., recently, was born at Worthington, Eng., Oct. 24, 1848. From 1889 to 1891 he was Engineer in Charge of the St. Clair Tunnel (G.T.R.) with supervision of trial borings, location, construction on tunnel, approaches and connecting railway lines. He was later engaged as chief engineer in locating and building several electric railways and hydraulic plants in Ontario, including that of the Dominion Power and Transmission Co. at Decew Falls. In 1910 he supervised test borings, on Bow River, Alta., for the foundation of the C.P.R. irrigation dam.

H. J. Humphrey, who has been appointed Superintendent, Trenton Division, Ontario District, C.P.R., Toronto, was born at Berry's Mills, N.B., Jan. 26, 1879, and entered railway service in June, 1896, since when he has been, to Aug., 1897, telegraph operator at various points, Intercolonial Ry.; Aug., 1897, to Aug., 1901, telegraph operator, Boston & Maine Rd.; Aug., 1901, to April, 1902, telegraph operator, Intercolonial Ry.; May 9, 1902, to Sept. 6, 1903, telegraph operator, C.P.R., Calgary, Alta.; Sept. 6, 1903, to June 1, 1907, dispatcher, C.P.R., Calgary, Alta.; June 1, 1907, to Nov. 1, 1909, dispatcher, C.P.R., Medicine Hat, Alta.; Nov. 1, 1909, to April 10, 1911, dispatcher, C.P.R., Calgary, Alta.; April 10, 1911, to July 1, 1912, Chief Dispatcher, C.P.R., Macleod, Alta.; July 1, 1912, to Jan. 8, 1915, Car Service and Fuel Agent, Saskatchewan Division, C.P.R., Moose Jaw; Jan. 8, 1915, to Jan. 1, 1916, Superintendent of Car Service, Western Lines, C.P.R., Winnipeg; Jan. 1, to Nov. 6, 1916, Superintendent of Car Service, Eastern Lines, C.P.R., Montreal; Nov. 6, 1916, to Feb., 1917, Superintendent, Farnham Division, Quebec District, C.P.R., Farnham; Feb. to Apr. 2, 1917, Superintendent, Laurentian Division, Quebec District, C.P.R., Montreal; Apr. 2, 1917 to Aug. 1, 1919, Superintendent Browneville Division, New Brunswick District, C.P.R., Browneville Jct., Me.

S. J. Hungerford, Assistant Vice President, Canadian National Rys., E. W. Oliver, General Superintendent, Niagara, St. Catharines and Toronto Ry., and W. R. Robertson, Superintendent, N. St. C. & T.R., were in a head on collision between the special car in which they were travelling on the N. St. C. & T.R., between Welland and Forthill, Aug. 15, and a regular car, due to the motorman disobeying a crossing signal. Both cars were damaged considerably, but no one was hurt further than being somewhat badly shaken.

George E. Hyde, who died at Cluny, Alta., Aug. 1, was, from 1911 to 1914, an engineer in Natural Resources Department, C.P.R., Calgary, Alta., and prior to that, was Chief Engineer, St. Marys and Western Ontario Ry., a C.P.R. subsidiary.

W. B. Lanigan, Freight Traffic Manager, C.P.R., Montreal, made a trip to the Pacific Coast in July and August.

Lorne Macdonald, formerly Division Freight Agent, G.T.R., Toronto, and promoted recently to Assistant General Freight Agent, Montreal, was entertained to dinner by the Toronto staff, July 29, and presented with a gold repeater watch, and a gold mounted umbrella for Mrs. Macdonald.

Mrs. A. D. MacTier, wife of the Vice President, Eastern Lines, C.P.R., Miss MacTier and Captain Stewart MacTier, of Montreal, made a trip to the Pacific coast recently.

Simon James McLean, who has been appointed Assistant Chief Railway Commissioner for Canada, was born in Quebec, June 14, 1871, and was educated at private and public schools there, and at Cumberland, Ont., and later, at the Ottawa Collegiate Institute, and from 1890 to 1894 was a student in the University of Toronto, Political Science Department. Among the academic positions held by him at various times, are 1894-5, Mackenzie Fellow, University of Toronto; 1895-6, University Fellow in Economics, Columbia University, New York; 1896-7, University Fellow in Economics, Chicago University, 1897-1902, Professor of Economics, and Sociology, University of Arkansas; 1902-06, Associate Professor of Economics Leland Stanford Jr. University, California; 1906-08, Associate Professor of Political Economy, University of Toronto. He is a B.A. and LL.B. of Toronto University; M.A. of Columbia University, Ph.D. of Chicago University, and a member of the Ontario bar. He has made a special study of transportation problems in various parts of the world, and has an intimate knowledge of transportation matters, both legislative and administrative, and has had a wide experience in direct contact with business men, railway and labor representatives, both in Canada and the U.S. As a tribute to his insight into such matters he was elected to the chairmanship of the transportation section of the Commonwealth Club of San Francisco. He has been a prolific writer on transportation subjects, having contributed largely to technical periodicals, reviews, etc. From 1898 to 1901 he acted in an advisory capacity to the Railways and Canals Department, and prepared a special report which was subsequently published by that Department. In 1901 he was appointed special commissioner on Railway Rate Grievances for Canada, and conducted investigations in leading towns throughout the Dominion. The findings of this investigation were embodied in a report which recommended that a railway commission be organized for Canada, with power over rates and classification, and that it should have transferred to it the functions hitherto exercised by the railway committee of the Privy Council. These recommendations were adopted by the government, and embodied in the Railway Act of 1903. From 1904 to 1905 he was expert agent of the U.S. Census Bureau, and of the Interstate Commerce Commission, and conducted investigations to determine the valution of railway property in the Western States, and in 1908 he acted as chairman of conciliation boards to investigate disputes in two many cases. He was appointed to the Board of Railway Commissioners in Sept., 1908 for 10 years, and was reappointed in 1918 for a second term.

S. J. McLean,
Assistant Chief Railway Commissioner

J. A. McKenzie, town ticket agent, G.T.R., Woodstock, Ont., fell from the roof of the verandah at his house, while doing some work on it, Aug. 11, and fractured his hip.

Sir William Mackenzie, ex-President Canadian Northern Ry., and Miss Mackenzie, returned to Toronto, Aug. 8, from England.

M. H. MacLeod, Vice President, operation, etc., Canadian National Rys., returned to Toronto, Aug. 18, after an extended trip over the various lines west of Toronto. He was accompanied for the greater part of the trip by A. E. Warren, General Manager Western Lines; J. R. Cameron, Assistant General Manager, Western Lines; H. A. Dixon, Chief Engineer, Western Lines; R. G. Reid, General Master Mechanic, and T. Turnbull, Engineer Maintenance of Way.

M. M. Mahoney, heretofore Superintendent of Transportation, Canadian War Mission, Washington, D.C., has been appointed Secretary of the mission, succeeding J. Watson Bain, resigned.

A. Palmer, foreman of a G.T.R. bridge gang, St. Thomas, Ont., died in the General Hospital, Chatham, Ont., Aug. 11, as the result of a wound in the throat, believed to have been self inflicted.

J. G. Rutherford, C.M.G., one of the members of the Board of Railway Commissioners, Ottawa, has been appointed chairman of a commission which has been empowered by the Dominion Government to investigate the possibilities of the Canadian northland, as a permanent meat and wool producing area, particularly in regard to the establishment of herds of musk-ox and reindeer, and he has also been appointed as a royal commissioner to enquire into the conditions pertaining to race meetings in Canada, and betting in connection therewith.

Robert Arnett Sewell, who has been appointed Superintendent of Car Service, Eastern lines, C.P.R., Montreal, was born at Brampton, Ont., Sept. 2, 1880. He entered transportation service with the Canadian Express Co., as clerk at Brampton, Ont., in Jan., 1895, and remained in that service until May, 1898, when he entered C.P.R. service, since when he has been, to Dec., 1898, assistant agent, Cheltenham, Ont.; Dec., 1898, to Apr., 1899, operator at various points on the Eastern Division; Apr., 1899, to Aug., 1903, operator, relieving agent and dispatcher at various points on the Ontario Division; Aug., 1903, to Jan., 1912, agent and dispatcher at various points on the Western Lines; July, 1914, to Dec., 1916, agent, Oshawa, Ont.; Dec., 1916, to Nov., 1917, Chief Dispatcher, Toronto; Nov., 1917, to Oct., 1918, Inspector of Transportation, Eastern Lines, and for a short time, acting Superintendent, Trenton Division, Ontario District; Oct., 1918 to Aug. 1, 1919, Assistant Superintendent, Montreal Terminals Division, Quebec District, Montreal.

John S. Shaughnessy, who died at Chicago, Ill., Aug. 10, was a nephew of Lord Shaughnessy, Chairman, and former President, C.P.R. He was for a time, several years ago, in Minneapolis, St. Paul and Sault Ste. Marie Ry. service.

Sir Alfred Waldron Smithers, M.P., Chairman of the Board, Grand Trunk Ry. Co., London, Eng., who was knighted recently, was born in 1850 and has been a member of the London Stock Exchange for nearly 40 years. He was elected a director of the G.T.R. in 1896 and Chairman of the Board in 1909. He is also Chairman of the English Association of American Share and Bondholders and

M.P. for the [illegible] Division of K[illegible] arrived in Canada Aug. 10, [illegible] with the Dominion Government in regard to the G.T.R.'s future, and to [illegible] the company's lines.

Guy Tombs, whose resignation of the position of Assistant Freight Traffic Manager, Canadian National Rys., Montreal, to become Traffic Manager for the Canadian Export Paper Co., was announced in our last issue, was presented recently with a gold watch and chain by the staffs of the Ontario and Quebec lines, with an address and a cut glass punch set with tray by the Montreal male office staff and with a gold signet ring by the female staff.

M. Frank Tompkins, who has been appointed General Freight Agent, lines Matapedia, Que., and Edmundston, N.B., to Port Arthur and Armstrong, Ont., Canadian National Rys., Moncton, N.B., was born at Margaree, N.S., Dec. 6, 1878, and entered Canadian Government Rys. service Nov. 23, 1896, since when he has been, to Feb. 1, 1900, telegraph operator at various points; Feb. 1 to May 1, 1900, freight clerk, Truro, N.S.; May 1, 1900, to Sept. 1, 1902, freight clerk, Sydney, N.S.; Sept. 1, 1902, to July 1, 1903, accountant in Superintendent's office New Glasgow, N.S.; July 1, 1903, to July 1, 1904, telegraph operator, New Glasgow, N.S.; July 1, 1904, to Jan. 1, 1911, relieving agent at various points; Jan. 1, 1911, to Nov. 30, 1914, chief clerk, Division Freight Agent's office, Halifax, N.S.; Nov. 30, 1914, to June 1, 1917, Division Freight Agent, Halifax, N.S.; June 1, 1917 to Jan. 1, 1919, Assistant General Freight Agent, Canadian Government Rys., Moncton, N.B.; Jan. 1, to Aug. 1, 1919, Assistant General Freight Agent, lines Matapedia, Que., and Edmundston, N.B., to Port Arthur and Armstrong, Ont., Canadian National Rys., Moncton, N.B.

A. T. Weldon, who has been appointed Assistant Freight Traffic Manager, all lines east of but not including Port Arthur, and Armstrong, Ont., Canadian National Rys., Montreal, was born at Dorchester, N.B., Mar. 6, 1876, and entered transportation service in 1890, since when he has been, to Apr., 1900, in different capacities in the Freight Department, Intercolonial Ry.; Dec., 1901, to Aug., 1904, in Division Freight Agent's office, I.R.C., Halifav, N.S.; Aug., 1904, to May 1, 1907, Secretary, Halifax Board of Trade; May 1 to Nov. 18, 1907, General Sales Agent, Port Hood-Richmond Ry. Coal Co., Halifax, N.S.; Nov. 18, 1907, to 1909, Division Freight Agent, I.R.C., Halifax, N.S.; 1909 to Oct. 1, 1914, General Freight and Passenger Agent, Black Diamond Steamship Co., Montreal; Oct. 1, 1914, to June 9, 1917, Assistant General Freight Agent, Canadian Government Rys., Moncton, N.B.; June 9, 1917, to Dec. 31, 1918, General Freight Agent, Canadian Government Rys., Moncton, N.B.; Jan. 1, to Aug. 1, 1919, Assistant Freight Traffic Manager, lines east of Matapedia, Que., and Edmundston, N.B., Canadian National Rys.

Inverness Coal and Ry. Co.—As stated [illegible], the [illegible] Trust Co. is act[illegible] this company. An [illegible] to a Nova [illegible] to lease the [illegible] port states that [illegible] probability that the rail[illegible]er by the Dominion Government, and merged in the Cana[illegible]ational Rys.

The Liberal Party's Attack on the Dominion Government's Railway Policy.

At the convention in Ottawa, early in August, of delegates representing the Liberal party throughout Canada, the following resolution, moved by Hon. G. P. Graham, ex-Minister of Railways and seconded by Hon. R. Lemieux, M.P., ex-Postmaster General, was adopted without discussion:—

"Whereas the construction of the National Transcontinental Ry. wholly upon Canadian soil, including terminal facilities, and in the completion of the projected steamship connection with Europe and the far east, thus affording the best possible transportation between the Orient and the mother country, and opening up a large portion of Canada not before developed, and providing for lowering of the freight rates was undertaken by the Liberal government and Parliament of Canada; and,

"Whereas, the accomplishment of the purpose for which this transportation system was designed has been thwarted by the studied hostility of the Borden administration, this convention expresses its opinion that only by the defeat of the present government can the beneficial results which should accrue from the construction of this great national transcontinental route be secured; and,

"Whereas, the government by its policy in dealing with the Canadian Northern Ry. System, which in addition to granting of subsidies and guaranteeing of bonds also made large loans of public money and thus involved the Dominion of Canada in financial obligations which resulted in the government assuming the ownership of the said system; and,

"Whereas, in addition to assuming the enormous liabilities incurred by the purchase of the Canadian Northern Ry. System the Borden government forced through parliament, in contravention of legislation already on the statute books, an act, under which $10,000,000 was paid to C.N.R. interests, the identity of whom has never been disclosed, this convention condemns, with all possible vigor this entire unbusinesslike transaction and demands full investigation into the conditions surrounding the purchase of the C.N.R. and the destination of the moneys paid.

"The government now owns and operates some 16,000 miles of railway. We believe that the present system of management by a board, the majority of the members of which devote but a small portion of their time to this work, is unwieldy, inefficient and extravagant, and that under it and the present administration public ownership and operation will not receive a fair trial.

"Adequate facilities and tonnage for ocean traffic are a vital concern to the commerce of Canada, and the utter lack of foresight on the part of the government in neglecting to see that such facilities and tonnage were provided for the immediate after-the-war period is not only humiliating to the Canadian people but is materially impairing our export trade.

"At this time, when the country should be in a position to take full advantage of opportunities to secure its proper share of the export business on which the financial, industrial and agricultural future of Canada depends, we are confronted with the lamentable situation that no adequate provision has been made for the transportation of the products of the farm, the factory and the forest to the markets of the world.

"With the knowledge of enormous destruction of tonnage by the havoc of war in its possession, the failure of the government to protect the trade of Canada against the condition that now confronts it shows an absence of business ability which merits the severest condemnation of the people of Canada.

"This convention declares its fullest confidence in the future of Canada, believing that a wise and economical development of our natural resources and a judicious and vigorous immigration and colonization policy coupled with strict economy and efficient management in every department of government will solve the transportation and other difficult problems now confronting the country."

Sir George Cartier's Great Work for Railways.

In referring to the monument to the late Sir George Etienne Cartier, which has been erected at Quebec, the Toronto Globe says:—"As an advocate of railways he rendered distinct service. In 1852 he rendered two bills to the legislature, one to authorize the Grand Trunk Ry. Co. to build between Toronto and Montreal, and the other to incorporate a company to construct a railway from opposite Quebec to Trois Pistoles, and for the extension of that railway to the eastern boundary of the province. During the construction of the Grand Trunk the company's credit on several occasions became dangerously low, and Cartier led in the agitation for aid. Similar emergencies arose a generation later in the construction of the Canadian Pacific. Indeed, Sir George Cartier himself had considerable to do with the inception of the C.P.R. Late in the sixties he had taken a leading part with William McDougall in the negotiations in England, which resulted in the purchase of the great prairie regions of the west from the Hudson's Bay Co. In 1872 he introduced the legislation connected with the C.P.R. scheme, providing for grants of 50,000,000 acres of land and $30,000,000 in cash.

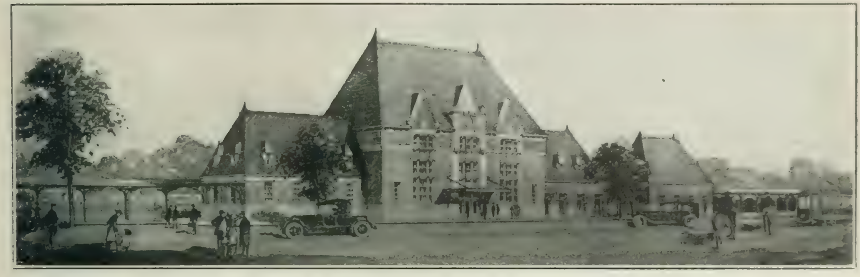
Grand Trunk Ry. Notice is given that there has been filed with the Secretary of State at Ottawa a certificate that the shareholders of the company had, at a special meeting held in London, Eng., on July 30, passed a resolution assenting to and accepting the Grand Trunk Act, 1919, which authorized the creation of perpetual 4 per cent. consolidated debenture stock to a total amount of £2,500,000.

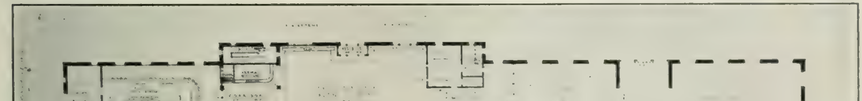
Montreal Incline Ry.—The Montreal Administrative Commission is reported to have decided Aug. 8, not to operate the Incline Ry. The commission had an inspection of the property made with the result that it was found it would cost from $5,000 to $10,000 to put it in a thorough state of repair, and that the work would take about two months to complete.

Vehicle Traffic on Quebec Bridge—The Levis County Council, passed a resolution recently asking the Dominion Government to open a road for vehicle and general traffic on the Quebec bridge. Copies of the resolution have been sent to other public bodies interested, with the request that they petition the government similarly.

Canadian Pacific Railway Construction, Betterments, Etc.

Three Rivers' New Station—The company has had plans prepared for a new station at Three Rivers, Que. The design is of the French chateau style, and the building will have a large general working room with ladies waiting room, ticket offices, etc., surrounding it in the center; while at the ends will be the baggage and express offices. The building will have a concrete foundation, brick walls, reinforced concrete floors and roof, steel frame, main walls of Citadel, Quebec, brick, trimmed with Deschambault limestone, copper roof. The main waiting room walls will be marble wainscot and Caen stone or marble above tile floor. The lunch room and lavatories will be finished with marble dadoes and tile floors. The wood trimming generally will be red oak.


The Canadian Pacific Railway's New Passenger Station at Three Rivers, Que.


Ground plans of Canadian Pacific Railway Stations at Three Rivers, Que. The upper plan is that of the new station, the lower plan that of the old station.

Kingston Freight Terminals—With respect to a press report as to the laying out of a new freight terminal at Kingston, we are advised that the only work contemplated is the building of a new freight shed on a new location with the necessary tracks to serve it. The work has been under consideration for some time.

Linwood to Waterloo Extension—A press report from Kitchener, Ont., states that the local board of trade has asked C.P.R. representatives to be present at its next meeting in order to discuss a proposal to build a line from Linwood on the Guelph and Goderich line to Waterloo. It is reported that the company has made surveys for such a line and has obtained estimates as to probable traffic, etc.

Bridge in Victoria—The agreement proposed to be made between the City of Victoria and the C.P.R., as owners of the Esquimalt and Nanaimo Ry. for the erection of a new bridge at Johnson St., Victoria, has been under discussion at several city council meetings recently. The questions involved have to do with building of the highway approaches, and the traffic over the bridge. It is expected that the agreement will be finally settled at an early date. (Aug., pg. 432).

Canadian Exports of Railway Track Material. Figures compiled by the U.S. Bureau of Statistics show that during June, Canada exported the following railway track material, the figures given representing the weight and the value: Spikes, 53,028 lb., $61,683; steel rails, 717 tons, $41,928; also switches, frogs, splice bars, etc., $26,806 and car wheels and axles, $10,550.

Freight and Passenger Traffic Notes.

Traffic on the Edmonton, Dunvegan and British Columbia Ry., into the Peace River country is reported to be increasing. During the week ended Aug. 9, it was reported that 28 carloads of cattle, 20 carloads of horses, 6 cars of settlers' effects, and 64 cars of general freight were dispatched from Edmonton, and that 509 passengers bought tickets at Edmonton station.

Vancouver, B.C., merchants are carrying on a campaign to attract Alberta wheat to that city for export. They are directing their attention to the question of freight rates from the point of production to Vancouver, and shipping rates to China and Japan, and also the question of the provision of elevators and wharves, at Vancouver, and of the necessary vessels.

The Fredericton, N. B., Board of Trade, Aug. 12, is reported to have taken up with C. A. Hayes, Vice President Traffic, Canadian National Rys., questions in connection with the projected service on the extended St. John and Quebec Ry. The service proposed to be given is a tri-weekly one, and Mr. Hayes is reported to have advised the Board of Trade that if the results of the tri-weekly service indicate that prospects are such as to justify the expense, a daily service will be provided.

Railway Rolling Stock Orders and Deliveries.

Canadian National Rys. have received [illegible] electric type locomotives, Loc. 5,100 to [illegible] class 14 A, [illegible] from Montreal Locomotive Works.

Canadian National Rys. have ordered [illegible] steel mail cars; 20 all steel first class passenger cars and 13 compartment observation cars from Canadian Car and Foundry Co., Montreal.

The C.P.R., between July 15 and Aug. [illegible] received 2 tourist cars and 1 Pacific type locomotive from its Angus shops and 2 vans from its Winnipeg shops.

The American Cyanamid Co. has ordered 6 transfer cars from Canadian Car & Foundry Co. for delivery by Sept. 20.

The Hydro Electric Power Commission of Ontario has received another electric locomotive from Canadian Car & Foundry Co.

The G.T.R. has ordered 9 steel mail cars, 44 box cars, 2 stock cars and repairs for a number of hopper and box cars from Canadian Car & Foundry Co. The mail cars are to be delivered between Sept. 22 and Oct. 31, the box cars between Oct. 1 and 17.

The Canadian National Rys., 20 all steel mail cars, ordered from Canadian Car & Foundry Co., will be built according to the specifications prepared by the Post Office Department's Railway Mail Service branch, as approved by the Board of Railways Commissioners and which are summarized on pg. 472 of this issue. The general dimensions will be as follows:—

Length over end sills	73 ft. 6 in.
Length between truck centers	57 ft. 6 in.
Length over buffers, about	77 ft. 6 in.
Width over side sills	9 ft. 9⅝ in.
Width over all at eaves	10 ft. 1⅞ in.
Width to clear story	5 ft. 11¼ in.
Height from rail to roof at center	14 ft. 2 in.
Height over lamp jacks, about	14 ft. 5 in.
Height from rail to eave mouldings	11 ft. 2½ in.
Height from rail to sill at end	3 ft. 7⅝ in.
Height from rail to sill at center	3 ft. 9 in.

The Canadian Car & Foundry Co., between June 13 and Aug. 21, delivered 30 baggage cars, and 250 ballast cars to Canadian National Rys.; 30 steel frames for tourist cars, to C.P.R.; 1 electric locomotive to Hydro Electric Power Commission of Ontario, and repaired 200 refrigerator cars for the G.T.R. The company repaired 177 wood box cars for the Grand Trunk Pacific Ry. at its Fort William plant, and delivered 13 stock cars to Canadian National Rys., from, and built 150 refrigerator cars for the G.T.R., at its Amherst plant.

The Canadian National Rys'. 9 dining cars which are being built by Canadian Car & Foundry Co., will have the interior finished in quarter oak. Special arrangements are made to provide ample refrigerator and locker space, and refrigerator being equipped with the [illegible] system, with separate compartments for poultry, meat, milk and vegetable lockers. The kitchen will be equipped with removable carving tables, hot tables for cooked meats and poultry, and special arrangements for heating [illegible] dishes. The cars will also be equipped with humidor for cigars and with mineral water lockers, and special [illegible] water filter to provide the best [illegible] water for drinking purposes. They will be electrically lighted throughout, with fans in body of car and exhaust [illegible] kitchen. The cars will be equipped with the latest type of clasp brake [illegible] al arrangements are made in [illegible] with steel rein[illegible] prevent telescoping in case [illegible]on. The chief dimensions are:

Length over buffers	81 ft. 10 in.
Length over end sills	73 ft. 6 in.
Width over side sills	9 ft. 9⅝ in.

The Canadian National Rys'. 18 steel sleeping cars which the Canadian National Rys. ordered from Canadian Car & Foundry Co., will be of the C.N.R. standard type with 6-wheel trucks with 5 in. x 9 in. axles, McCord journal boxes, rolled steel wheels, latest type of clasp air brakes, Westinghouse L.N. equipment with 18 in. brake cylinder, hot water heating with the largest size of Pullman standard type of hot water heater, with 2½ in. duplicate coils, under feed water tanks with water raised by compressed air and C.N.R. standard piping arrangements; the interior finished in mahogany with latest design of friezette, short nap plush. The cars will have 12 sections, one drawing room and one smoking room. The lower berths will be fitted with 2 coat hangers each and upper berths with one each; C.N.R. standard curled hair mattresses and C.N.R. standard type and weight of blankets and linen. The cars will be electrically lighted throughout, with lights in both upper and lower berths and with electric fans in the corridor, semi-incandescent lamps, and fire extinguishers to meet the Board of Railway Commissioners' requirements. Delivery is to be made between Oct. 1 and Nov. 27. The dimensions are:—

Length over end sills	73 ft. 6 in.
Length of berth accommodation	37 ft. 6 in.
Length of smoking room end	17 ft. ¼ in.
Length of drawing room end	18 ft. 11¾ in.
Width over side sills	9 ft. 9⅝ in.

Orders by the Board of Railway Commissioners.

(Continued From Page 480).

28,638. Aug. 6.—Authorizing Canadian National Rys. to rebuild bridge over Mud Creek, Ont., at mileage 125.40 from Todmorden, Ont.

28,639. Aug. 6. Extending to Dec. 1 time within which G.T.R. shall complete spur for M. M. Cummings, Westboro, Ont.

28,640. Aug. 9.—Ordering G.T.R to install a 30 in. concrete pipe culvert 24 ft. long between Lots 54 and 53, St. Malachie d'Ormstown Parish, Que., and to regrade ditch on north side of track between Lots 52 and 53.

28,641. Aug. 6.—Authorizing Canadian National Rys. to rebuild bridge over Donovan Creek, Ont., at mileage 127.50 from Todmorden, Ont.

28,642. Aug. 6.—Authorizing Grand Trunk Pacific Ry. to build car feery slip on portion of water front, Block C, at Prince Rupert, B.C.

28,643. Aug. 6. Authorizing Grand Trunk Pacific Ry. to build road diversion in lieu of road allowance on north and east boundaries of n.e. ¼, Sec. 22, Tp. 27, Range 6, west 2nd meridian, Sask.

28,644. Aug. 11. Amending order 18,870, Feb. 18, 1913, re Great Northern Ry. train service between Vancouver, B.C., and Blaine Wash., on Vancouver, Victoria and Eastern Ry.

28,645. Aug. 12. Dismissing application of A. Cooper & Co., Fort William, Ont., for order requiring that C.P.R. Neebing siding be put into operation again and placed on tariff list.

28,646. Aug. 6. Authorizing Canadian National Rys. to build new crossing over arm of Sydenham Lake, Ont., at mileage 166.10 from Todmorden, Ont.

28,647. Aug. [illegible] Extending to Aug. 31, time within which Canadian National Rys. shall make alteration to station at Baldur, Man., required by order [illegible] June [illegible]

28,648. Aug. [illegible] Ordering G.T.R. to build culvert at point east of White Station, Godmanchester Tp., Que.

28,649. Aug. 11. Ordering G.T.R. to build subway for vehicular and pedestrian traffic under its tracks at St. Paul Ave., Brantford, Ont.

28,650. Aug. 1[illegible]. Relieving Grand Trunk Pacific Ry. and C.P.R. from maintaining towerman to operate crossing near Forrest, Man., between [illegible] p.m. and [illegible] a.m.

28,651, 28,652. Aug. 12. Authorizing Canadian National Rys. to cross two highways in Chatham Tp., Que.

28,653. Aug. 12.—Authorizing C.P.R. to build connecting track between its Queen's Wharf Branch and the Toronto Harbor Commissioners' tracks and to cross Bathurst and Housey Sts. at grade in Toronto.

28,654. Aug. 9. Authorizing Canadian National Rys. and Montreal Terminal Ry. to operate over interlocking plant at crossing of Imperial Oil Co. spur, Pointe aux Trembles Parish, Que., without first stopping.

28,655. Aug. 13. Ordering Grand Trunk Pacific Ry. to appoint station agent at Darmody, Sask., by Sept. 15.

28,656. Aug. 11. Amending order 28,540, July 12, re speed limitation by C.P.R. at crossing of highway, 2½ miles east of Oshawa, Ont.

28,657. Aug. 11.—Approving agreement July 21, 1919, between Bell Telephone Co. and Norland Independent Telephone Co., Victoria County, Ont.

28,658. Aug. 11.—Authorizing Canadian National Rys. to extend siding across John St., Longueuil, Que.

28,659. Aug. 11.—Authorizing Canadian National Rys. to build siding extension at Evanturel station, Que.

28,660. Aug. 11. Ordering G.T.R. to build 5 ft. highway on east side of bridge carrying public road near Danville station, Que., over its tracks.

28,661. Aug. 13. Dismissing J. L. Atkinson's application re/road crossing on Vancouver, Victoria & Eastern Ry. at Kilgard, B.C.

28,662. Aug. 14.—Approving Temiscouata Ry. on Standard Passenger Taric C.R.C. 72, on basis of 4c a mile.

28,663. Aug. 8. Authorizing C.P.R. to cross at grade 27 highways on its Archive-Wyemark Branch, Sask.

28,664. Aug. 14.—Authorizing C.P.R. to build siding across road allowance between Secs. 23 and 24, Tp. 20, Range 10, west 2nd meridian, Sask.

28,665. Aug. 14.—Approving C.P.R. plan of half interlocking plant at crossing of C.P.R. and St. John Ry on Main St, Fairville, N.B.

28,666. Aug. 14.—Relieving G.T.R. from providing further protection at crossing near Waterville, Que.

The Esquimalt and Nanaimo Railway and Foreshore Coal Rights.

The Imperial Privy Council gave judgment, Aug. 2, on the Esquimalt and Nanaimo Ry.'s appear against the decision of British Columbia courts in the action brought by H. W. Treat to establish his rights to minerals under the foreshore of lands granted to the company in connection with the construction of the railway from Esquimalt to Nanaimo, B.C. Treat was granted a license by the B.C. Government to prospect for coal under the Vancouver Island foreshore. The Esquimalt and Nanaimo Ry. received certain grants of land from the government in aid of the construction of its railway, which lands ran down to the wateredge. The company claimed that Treat was a trespasser when he began prospecting along the foreshore of the lands conveyed, and entered action. The main question involved in the action was what was meant by the words "coast line" in a statutory conveyance. The B.C. courts held unanimously that the expression indicated the boundary at high water. The Judicial Committee upheld this view, and dismissed the appeal with costs.

Steel Rails Making at Sydney—In view of the reported closing down of the Dominion Iron and Steel Co.'s rail mill at Sydney, N.S., the Sydney Board of Trade and the town council held a joint meeting Aug. 8. A letter was read from General Superintendent Rice of the Dominion Iron and Steel Co., saying that all rail contracts for the Dominion Government had been completed July 31, and that the other rail contracts would be finished up in a week. He outlined what other work it was proposed to do before the plants were close down. The meeting decided to bring the matter to the Dominion Government's attention, and to urge that orders be given to the company in order that the various plants may be continued in operation. A press dispatch of Aug. 18 stated that the plants would be closed odwn on Aug. 23 for an indefinite period.

Railway Development, Projected Lines, Surveys, Construction, Betterments, Etc.

Canadian Western Ry.—The Dominion Parliament has conditionally extended for five years the time within which the company may build its projected railway, from the International Boundary, through Pincher Creek and Cowley, and along the Old Man River to Livingstone Mountain, and thence to Calgary, Alta., with a branch to Michel, B.C. (May, pg. 235).

Esquimalt and Nanaimo Ry.—A press report states that this company, which is a C.P.R. subsidiary, will ask tenders shortly for the construction of 12 miles of line, from near the present terminus at Port Alberni, towards the Great Central Lake, Vancouver Island, B.C. (July, pg. 381).

Essex Terminal Ry.—The Dominion Parliament has granted a conditional extension of five years within which the company may build its authorized branch line from Ojibway to Pelton, Ont., 7 miles, and to connect the same with the Michigan Central Rd., the Pere Marquette Rd., and the Windsor, Essex and Lake Shore Rapid Ry. (June, pg. 313).

Grand Trunk Ry.—A press report of Aug. 12 stated that work has been started on the extension of the company's yards at East London, Ont. The yards will, it is said, be extended from Rectory St. to Hale St., Pottersburg, involving the laying of about eight miles of new tracks, and a considerable amount of granding.

Grand Trunk Pacific Ry.—The Regina city commissioners are reported to be considering taking steps to compel the company to fulfil its agreement to build a railway station and hotel in the city, for which concessions were granted to the company's subsidiary, the G.T.P. Branch Lines Co. in 1911-12. The city granted a site exempt from taxation, on the company agreeing to build a $250,000 station and a $1,000,000 hotel.

A Prince Rupert, B.C., press report of Aug. 13, stated that the construction of the car ferry slip at that place was well under way, and that it is expected to be completed in October. The estimated cost is $50,000. Details of construction were given in our last issue. (Aug. pg. 431).

High River, Saskatchewan and Hudson River Ry.—The Dominion Parliament has granted a conditional extension of time for five years, within which the company may build its projected railway, from any point in Tps. 25 to 28, Range 1, West 4th Meridian, Alta., to Saskatoon, Sask., to the Saskatchewan-Manitoba boundary between Tps. 52 to 56, and thence to a junction with the Hudson Bay Ry. at Pas, Man., under construction by the Dominion Government. (Mar., pg. 135).

Hudson Bay Ry.—A press report states that the construction of 10 miles of line will take the track to a point on the Nelson River, whence there is navigable water to Port Nelson on Hudson Bay, Man.

Kettle Valley Ry.—A press report states that work has been restarted on the construction of the branch line from Princeton to the Copper Mountain district, B.C. The contractors' men stopped work in April, and it is reported that very little work has been done since then. Tierney Bros., the contractors, is expected to have had the line completed in June. (July, pg. 381).

Pacific Great Eastern Ry.—The question of the diversion of the Pacific Great Eastern Ry. in the Quesnel district, British Columbia, is being discussed by public bodies throughout the district. Vanderhoof people are particularly anxious that the line be diverted to pass through that place, and a deputation visited Prince George recently to place their case before delegates of the Victoria, Vancouver and New Westminster Boards of Trade, who were on a trip over the line.

The British Columbia Premier is reported to have announced that a survey party will be sent out shortly to go over the location between Clinton and Ashcroft for the sole purpose of seeing that the best location has been obtained for the line.

Track is expected to be laid to Williams Lake by the end of October. (Aug., pg. 434).

Quebec and Saguenay Ry.—A suggestion has been made that after this line to Murray Bay has been completed and taken over by the Canadian National Rys. should be extended to Chicoutimi, Que. (Aug., pg. 434).

St. John and Quebec Ry.—The final inspection of the extension from Gagetown to a connection with the C.P.R. at Westfield, N.B., was made, Aug. 23, and the line was opened for through traffic to St. John, N.B., Aug. 25. (Aug., pg. 434).

Timiskaming and Northern Ontario Ry.—Recent press reports state that the engineering party sent out from North Bay, Ont., to make a survey of the country between Cochrane, the present terminus of the T. and N.O.R. and James Bay, is making satisfactory progress. The party was reported to have more than half completed the trip to James Bay, at the end of July. The report states that the party has had several accidents, and encountered a good many difficulties. The country through which they have passed is stated to contain considerable muskeg, and other ground in which construction would be difficult. It is expected that the party will return to headquarters in the autumn. (June, pg. 314).

The Toronto, Hamilton and Buffalo Ry. is reported to have served notice of appeal against the Board of Railway Commissioners' suspended order with respect to the building of a bridge over its tracks on Main St. West, Hamilton, Ont., towards which it was ordered to pay 70% of the cost.

The question of the removal of the company's coaling dock at Hamilton, and replacing it by a modern coaling plant on a new site, is again being considered by the Hamilton City Council's special committee. One of the members of the committee asserted at a meeting, Aug. 16, that the company could make money by scrapping the present plant and building a concrete coaling plant at the Aberdeen yards. The present dock blocks the extension of Homewood and Stanley Aves. and Herkimer St.

"A grinding application of the brakes does a car no good."

"In other words, you've got to handle a car as you would bad news."

"Eh?"

"Brake it gently." Kansas City Journal.

Pay of Inspectors of Highway Crossings, Etc.

The Board of Railway Commissioners passed general order 269, Aug. 7, as follows: Re regulations regarding plans and specifications required to be filed with the board, dated Jan., 1919, being standard rules for the construction of highway, farm, wire, and pipe crossings, and general requirements for interlocking appliances at rail level crossings, junctions, and drawbridges: Upon its being represented to the board by the G.T.R. that the pay of inspectors for inspecting all crossings should be increased to $11 a day, instead of $3, as provided in the case of wire crossings by general order 267, amending the standard conditions and specifications for wire crossings, the Canadian National Rys. and the C.P.R. concurring in the above representations, it is ordered that the said regulations be amended by striking out the words "three dollars" after the word "exceed," in the sixth line of paragraph 7, page 14, and before the word "per," and substituting therefor the words "eleven dollars"; and by adding after the word "applicant," in the sixth line of the said paragraph 7, the words, "such payment to cover both wages and expenses."

Steel Rail Deliveries to Railways.

We are officially advised that up to Aug. 2 the Dominion Iron and Steel Co. had delivered 103,673 gross tons of steel rails, completing orders placed by the Dominion Government in Nov., 1918. The rails have been distributed to the following railways:—

	Gross tons
Canadian Government Rys.	44,718
Canadian Government Rys. (stocked)	132
Canadian Northern Ry.	2,378
Canadian Northern Ry. (stocked)	977
Canadian Pacific Ry.	21,288
Grand Trunk Ry.	33,821
Timiskaming & Northern Ontario Ry	161
Total	103,673

Edward Fitzgerald's Appointment—Sir R. M. Kindersley, Governor, Hudson's Bay Co., in presiding at a general court of the company in London, Eng., recently, said among other things: "In view of the ever-increasing duties which devolved upon Sir Augustus Nanton and other members of the advisory committee in Canada, the board secured the services of Edward Fitzgerald recently. For many years he was Assistant General Purchasing Agent for the C.P.R. He will occupy the post of Deputy Chairman of the advisory committee in Canada, devoting his whole time to the company's interests."

Calgary Industrial Congress—Among the principal speakers at the industrial congress at Calgary, Alta., in August, were D. C. Coleman, Vice President, Western Lines, C.P.R.; A. E. Warren, General Manager, Western Lines, Canadian National Rys.; J. S. Dennis, Chief Commissioner of Colonization and Development, C.P.R., and Robt. Dollar, President Robt. Dollar Steamship Co.

Hudson Bay Ry.—We are officially advised in connection with a recent press report that the Canadian National Rys. had absorbed the Hudson Bay Ry., that this is not the case. The line from Pas, Man., towards Nelson, is being handled by the Canadian National Rys. staff for the present for the Dominion Government.

Aerial Transportation Notes.

The British Minister of Munitions is reported in a London cablegram to have contracted for the sale of 700 aircraft engines and a great number of airplanes for Canada and the United States.

Vickers Limited, according to a press cable, is about to start a combined passenger and mail service between London, Eng., and Flushing, Holland, by aircraft, as the first of similar services to France, and Central Europe.

The Canadian Air Board's Vice Chairman is reported to have stated recently that it is hoped to start surveying operations by hydroplanes before long, and that other lines of operations to be established will be the carrying of mails, forest patrol work and public inspection.

The Northern Canada Trades Ltd., of which E. L. Janney is President, is reported to have bought three aeroplanes of the J.N.4 type, and to be converting them into hydroplanes. They will, it is said be used for explorations in Ungava Territory, and for supplying the company's trading and other parties.

Major-General Seely is reported to have stated in the British House of Commons, Aug. 16, that the Imperial Government intended to offer prizes aggregating £64,000 for plans for the best types of commercial seaplanes, and large and small aeroplanes. The paramount essential element which will govern decisions will be safety.

A direction finder invented by Dr. Bellini and Capt. Tosti, and perfected by the Marconi Wireless Telegraph Co., is reported as capable of enabling an aviator to steer a true course either at night or through fog. The finder is said to have been tested by the British Admiralty in connection with marine work, and to have proved satisfactory.

Capt. R. E. Long, formerly in charge of the Canadian Air Force's technical section is reported to have been appointed Secretary of the Canadian Air Board, established recently by the Dominion Government. Other appointments to be made will include a superintendent of flying operations, a superintendent of the certificates branch and a medical officer.

A London, Eng., press cable of Aug. 4, stated that it was expected that the first passenger airship would leave Barrow-in-Furness during the month, travelling via Lisbon and Sierra Leone to Rio de Janeiro, South American and return. The airship is reported to be 535 ft. long, with a capacity of 1,250,000 cubic ft., and a full power speed of 60 miles an hour.

The Aero Club of Manitoba has been formed by former air service men. Membership is open to any one who has served in any capacity with the air forces of any of the allied countries. The objects are to promote good fellowship among those interested in flying, to promote flying, to safeguard flyers and render charitable and financial aid to flying men in case of need.

The Aerial Service Co. Ltd., has been organized at Regina, Sask., to carry on business in commercial flying. R. J. Groome, is President of the company which has a hangar four blocks west of Albert St. The minimum charge for a flight is $15, and a schedule of rates for single and return trips to Moose Jaw and other points in the province is reported to have been drawn up.

A recent press report stated that arrangements were being made for a flight from Halifax, N.S., to Vancouver, B.C., that it was hoped to start the trip on Sept. 30, with short stops at Montreal, Toronto, Port Arthur, Winnipeg, Calgary and Vernon, B.C., and to make Vancouver in 40 hours from the time of starting. D. K. Trim is mentioned as the pilot and W. H. Walsh as the navigating officer. Both were former officers of the Royal Air Force.

The American Express Co. was reported, Aug. 15, to have practically completed arrangements for the establishment of a daily passenger and baggage service between London, Eng., and Paris, France. It is stated that the service will be inaugurated in October. The company is also reported to be arranging for an aeroplane service in connection with the arrival and departure of trans-Atlantic steamships at Liverpool and Southampton.

The Canadian Aero Co. Ltd., has been incorporated under the Dominion Companies Act with authorized capital of $50,000 and office at Brantford, Ont., to establish, equip, maintain and operate services of aircraft of all kinds for the carriage of passengers, mails, express and freight between such points within or without Canada as may from time to time be determined upon. The provisional directors include W. S. Brewster and G. D. Heyd, Brantford.

Capt. E. C. Hay, of the Dominion Flying Corps, left Vancouver, Aug. 7, at 4.13 a.m., with the object of flying to Calgary, Alta., within 18 hours. The route taken was to Vernon, 225 miles; thence to Grand Forks, 125 miles, to Cranbrook, 175 miles, to Lethbridge, 225 miles, and to Calgary, 120 miles, a total of 870 miles. He arrived in Calgary at 8.50 p.m., thus making the trip in 16 hr. 37 min., the actual flying time being 13 hours. This is the first flight made over the Rocky Mountains.

Handly-Page, Ltd., has been incorporated under the Dominion Companies Act with a capital of $2,500,000 and offices at Morrisburg, Ont., to manufacture, buy, sell and have aeroplanes of all kinds; to build cars, shops, boats, piers, wharves, aerodromes and other structures, and to carry on a variety of other operations connected therewith. The provisional directors are: W. H. Workman, Rear-Admiral Mark Kerr, C.B., London, Eng.; H. C. Clark, Montreal; F. R. Chalmers, W. H. McGannon, Morrisburg, Ont.

The Dominion Parliament at its last session passed an act authorizing the Canadian Pacific Ry. to establish, maintain and operate services by air craft between such points and places within Canada as may be found desirable, and to exercise and employ such powers as may be necessary for such purposes. These powers are to be exercised subject to all regulations put in force by the government; a clause to this effect having been inserted in the act at the instance of the government which also secured the elimination of the power asked for the carry on business without, as well as within, Canada.

The Dominion Government has passed an order in council approving of regulations recommended by the Air Board as follows:—No aircraft shall fly over any city or town except at such altitude as will enable it to land outside the city or town should the means of propulsion fail through mechanical breakdown or other cause; provided that this prohibition shall not apply to any flight undertaken for a special purpose approved by the Air Board, or any area comprised within a circle with a radius of one mile from the center of an aerodrome approved by or under the control of the Air Board. No person in any aircraft shall carry out any trick flying, or exhibition flying, over any city or town area or populous district; or carry out any trick flying or exhibition flying over any regatta, race meeting, or meeting for public games or sports, except where specially arranged for in writing by the promoters of such regatta or meeting; or carry out any flying which, by reason of low altitude or proximity to persons or dwellings, is dangerous to public safety; or drop or cause to permit to be dropped from the aircraft any article capable of causing injury or damage. Where any aircraft flies in contravention of any provision of these regulations, the owner and the pilot or commander shall be deemed to have contravened them, provided that it shall be a good defence if the contravention is proved to have been due to stress of weather or other unavoidable cause, or to have been approved by the Air Board. Any person contravening any of the regulations shall be liable to imprisonment for not exceeding 6 months or to a fine not exceeding $1,000, or to both such imprisonment and fine.

Arrangements Between Dominion and Provincial Governments to Relieve the Drought Situation in the Prairie Provinces.

In view of the serious situation with respect to feed for live stock that has arisen in certain parts of the western provinces owing to drought, it has been found necessary for the Dominion Government to give some assistance to farmers and stockmen in the dry area in order to carry their cattle over winter. The dry area may be defined as all that part of the provinces of Alberta, Saskatchewan and Manitoba lying roughly south and west of a line drawn from Wetaskiwin to Camrose, north to Chipman, east to Lloydminster, south to Chauvin, then to Elbow, Moose Jaw, Weyburn, Virden, Souris and south to the International Boundary.

Conferences have been held between representatives of the railways, provincial governments and the Dominion Government, and a scheme of assistance practically agreed upon.

Hay taken into the dry area over the C.P.R., the C.N.R. or the G.T.P.R., will be carried at no cost to the purchaser, as this will be met by the railways, the provincial government, and the Dominion Government paying equal shares. The same arrangement applies to the transportation of hay-making machinery from points in the dry area to northern districts where hay can be cut, and back to the point of origin.

Assistance will be given to owners of less than 100 cattle or 300 sheep, and assisted shipments will be limited to two carloads for each owner. The exact amount of assistance has not yet been decided upon, but if the railways and the provincial governments are prepared to do likewise, the Dominion Government will pay one-third of the cost of transportation of cattle and sheep to some feeding ground, and back to the dry area next summer. In the event of this not being agreed to, it is proposed that the railways should pay one-half of the return transportation only, leaving one-quarter of the return freight to be paid by the provincial government and the remaining one-quarter by the Dominion Government. This latter arrangement will mean that the owner must ship the cattle and sheep out at his own expense, and if they are returned before Aug. 1, 1920, and the other conditions are fulfilled, they will be returned to him without charge.

The above arrangements only apply to shipments over the C.P.R., the C.N.R. and the G.T.P.R. As the railways in Northern Alberta, the Edmonton, Dunvegan and British Columbia and the Alberta and Great Waterways are unwilling to make any freight concessions, the provincial and Dominion Governments will each pay one-half of the cost of transportation on hay, hay making machinery and live stock moved over these two lines, under the same conditions.

The order in council authorizing the Dominion Government's share in the above arrangement has been passed, and it is hoped that it will be possible to put the scheme into operation at an early date, so that the serious feed situation in the prairie provinces may be somewhat relieved.

The Conservation of Track Material

The following committee report was presented at the Roadmasters' and Maintenance of Way Association of America's last annual meeting:

All members of the committee realize the importance of the subject to be considered and the saving which can be effected by close supervision of track material, both in and out of track.

Rails—One of the largest expenditures which the railway companies make is for new steel rails. A large number of rails are permanently damaged in track on account of the maintenance forces being unable to properly take care of the rails, resulting in battered and chipped ends. On a number of roads these rails are taken out of track, a sufficient amount sawed off each end, rail re-drilled and used again on branch lines. The average cost per ton for this work, including labor, sawing, drilling, oil and saw blades, is approximately 40c a ton. The committee recommends this as good practice.

Angle Bars—Cracked angle bars can be welded by the acetylene gas process and made use of again. The cost of this work is from $1.50 to $2.00 a pair, and we believe that it would be better economy to scrap the defective angle bars rather than weld them. Worn and bent joints can be straightened and built up for 20c a joint and made use of again. The bar is heated in an oil furnace, placed in die and swedged under a drop hammer. In this manner bar is swelled to its original section by means of pieces of steel 1⅞ x ⅛ in. thick placed in the center of bar.

Track Bolts—A large number of good usable track bolts can be recovered wherever rail is being renewed, if bolts are oiled before renewals are made, at a cost as follows: per mile for oiling: 4 hours labor, 30c an hour, $1.20; 1 gal. kerosene oil at 10c a gal. and 1 gal, black oil at 13c a gal., cost of labor recovering bolts 4½c a bolt. Bolts which are recovered to be used in sidings and industrial tracks have an approximate life of 8 years.

Track Spikes—Old spikes can be straightened and used again in sidings and industrial tracks at a cost of not to exceed 70c a 200 lb. keg. There are a number of different ways of straightening old spikes, but the most approved way and the one recommended by your committee is with a press, where from 2 to 4 spikes may be straightened at a time. This is a decided advantage over other methods, on account of bringing the head back to its original position, where with the hand method or trip hammer it is impossible to straighten the heads up.

Worn Switch Points can be made use of in several different ways: First, by cutting off a sufficient amount of worn point and replaning same. The cost of labor for this method is not less than $10 a point. Second, the worn point can be built up by the acetylene gas process at an approximate cost of $2.25 a point, but a point so built up should only be used in sidings.

Frogs—Worn and broken frogs can be repaired at a large saving over the cost of new frogs. To repair these frogs in the shops cost considerably more than by the acetylene gas process. To repair 90 lb. spring rail frog in shop, bolts, rivets, new wing rail, including labor and price of rail costs, $70. A new frog of this kind costs $160. A no. 9, 100 lb. spring rail frog, new short point, bolts and rivets, including labor costs, $45 to repair. Cost of new frog, $152. Rigid frogs can best be repaired with the gas process at approximately the following cost: New point and both wing rails built up and bolted, including the gas and labor charge, from $12 to $14 a frog, and by shop process $25, saving by gas process $13 a frog, with the additional advantage that the frogs can be built up under traffic, if necessary, at a slight additional cost.

Tie Plates—No tie plates should be discarded as scrap, unless they are entirely unfit for further use, but should be made use of on storage tracks and industrial sidings. Plates of heavier section can be re-punched and used on lighter section of rail to prevent rails cutting into ties. This conserves ties.

Track Ties—To conserve ties in track they should be inspected in accordance with the association's recommended practice. Ties removed from track should be carefully sorted and those fit for sidings or temporary track piled separately. Ties fit for fuel should either be disposed of to company employes, or to outside parties, to be used for that purpose, or they can be unloaded and used for engine fuel. Good use of old track and switch ties can be made for cribbing and docking. No old ties should be burned except those which are absolutely worthless for any other purpose.

Fences—To conserve lumber supply, the committee recommends a more extensive use of wire fencing and concrete posts.

Crossing Plank—To further conserve the supply of crossing plank which is a very large item, the committee recommends the following for consideration: Concrete slabs for highway crossings, macadam crossings and the paving block crossings. Either of these methods for crossings would successfully take the place of our plank crossings, if properly installed, requiring less attention and the cost would not exceed plank crossings, and in some cases would cost less.

Track Tools—In order to conserve tools, careful inspection should be made at frequent intervals, and defective tools should be sent to shop for repairs.

Coal—We are told that there will be a great shortage of coal this winter; therefore we should conserve it at every point. Coal is used by the track forces in the tool houses, labor camps, blacksmith shops, derrick cars, ditching machines and riding cars. If only a few shovelfuls are saved each day it will help to cut down the shortage. Coal can be saved in a number of different ways: Where it is used for camps, instead of unloading on the ground, a platform should be provided for it to be unloaded on and only a small amount unloaded at a time, as coal deteriorates when left out in the air any length of time and camp help will only use the lump coal. When spilled along the track it should be loaded up promptly or disposed of to outside parties and not thrown over the bank out of sight. In camps and toolhouses, fires should only be kept burning when necessary.

Other Supplies, such as wicks, chimneys, oil cups, lanterns, torpedoes and fusees should be furnished gangs in such quantities that all will be used, and not left lying around the camps and tool houses until useless.

Oils and Gasoline—Now that on a number of roads tie-tamping machines and motor cars are used, there is a great saving to be made in oils and gasoline if operators of such machines are carefully instructed in regard to their duties. We should all remember to look after the little things; the large ones will be taken care of also.

Scrap—Now that material is hard to get, a close watch should be kept on the scrap piles. Your committee recommends that all scrap be picked up by section forces weekly and placed for loading at designated points and that all scrap be loaded up on the divisions once a month, at this time the roadmaster or some competent foreman should accompany the train and all material that can be made use of again, should be sorted out and held for future use. Only material that is scrap should be disposed of. Other material scattered along the track, such as marker lamps, grease plugs, air brake hose, etc., should be shipped direct to the motive power department to be used over again.

Attempt to Defraud the C.P.R.—John Casserley, a laborer, was sentenced to three months imprisonment at Calgary, Alta., Aug. 12, for attempting to defraud the C.P.R. He checked a trunk from Edmonton to Pincher Creek, and claimed that it had been opened in transit, and that $500, in addition to wearing apparel, had been taken. An action was brought to recover $565, but the company, after investigation, secured an admission that there had not been any loss. The company then prosecuted Casserley for attempting to obtain money by false pretences.

Transportation Appointments Throughout Canada.

The information under this head, which is gathered almost entirely from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Board of Railway Commissioners—Hon. F. B. CARVELL, K.C., ex-Minister of Public Works, has been appointed Chief Commissioner, vice Sir Henry L. Drayton, K.C., who has entered the Dominion Government as Minister of Finance and Receiver General.

S. J. McLEAN, Commissioner, has been appointed Assistant Chief Commissioner.

Canadian National Rys.—F. BRADLEY, heretofore sleeping and dining car inspector, has been appointed equipment inspector, sleeping, dining and parlor car, hotel and news department, Winnipeg, vice J. A. McAllan, transferred.

J. D. CAMERON, latterly in military service overseas has been appointed City Freight Agent, Victoria, B.C.

R. W. HANNINGTON, heretofore City Solicitor, Victoria, B.C., has been appointed Solicitor for British Columbia, C.N.R. Officer, Vancouver, B.C.

W. M. HOLLISTER, has been appointed sleeping and dining car inspector, Winnipeg, vice E. L. Clarke, resigned.

J. A. McALLAN, heretofore equipment inspector, sleeping, dining and parolr car, hotel and news department, Winnipeg, has been appointed sleeping and dining car inspector, Winnipeg, vice F. Bradley, transferred.

S. MORRISON has been appointed acting District Engineer, Pacific District. Office, Vancouver, B.C.

M. F. TOMPKINS, heretofore Assistant General Freight Agent, Moncton, N.B., has been appointed General Freight Agent, with jurisdiction over lines Matapedia, Que., Edmundston, N.B., and east. Office, Moncton, N.B.

A. T. WELDON, heretofore Assistant Freight Traffic Manager, Moncton, N.B., with jurisdiction in the Maritime Provinces, has been appointed Assistant Freight Traffic Manager, with jurisdiction extended to inclde all lines east of, but not including Port Arthur and Armstrong, Ont., Guy Tombs, Assistant Freight Traffic Manager, lines west of Matapedia, Que., and Edmundston, N.B., to, but not including Port Arthur and Armstrong, Ont., having resigned to enter commercial business. Office, Montreal.

J. A. WINTER, has been appointed sleeping and dining car inspector, Winnipeg, vice P. Cotton, appointed dining car steward.

The Pacific District has been divided as follows:—Division 1, Edson, Alta., to Boston Bar, B.C., including Boston Bar; Superintendent, J. E. NELSON, Kamloops Jct., B.C.

Division 2, Boston Bar to Vancouver, including Port Mann, and Vancouver terminals and Vancouver Island lines; Assistant Superintendent, L. E. MUNCEY, Vancouver, B.C.

The jurisdiction of the dispatching office at Kamloops Jct., will include the entire district.

Canadian Pacific Ocean Services Ltd.—T. R. PERCY, heretofore chief clerk, Passenger Department, C.P.R., Montreal, has been appointed General Agent, Passenger Department, C.P.O.S., Yohohama, Japan.

Canadian Pacific Ry.—H. J. HUMPHREY, heretofore Superintendent, Browneville Division, New Brunswick District, Browneville Jct., Me., has been appointed Superintendent, Trenton Division, Ontario District, vice R. W. Scott, transferred. Office, Toronto.

G. S. LYTLE, heretofore Car Service Agent, Manitoba District, Winnipeg, has been appointed Car Service Agent, Saskatchewan District, vice J. A. Berry. Office, Moose Jaw.

F. S. ROSSETER, heretofore Assistant Superintendent, Sudbury Division, Algoma District, Sudbury, Ont., has been appointed Assistant Superintendent, Toronto Terminals Division, Ontario District, vice W. J. Stinson, transferred. Office, West Toronto.

A. T. Weldon
Assistant Freight Traffic Manager, Eastern Lines, Canadian National Railways.

R. W. SCOTT, heretofore Superintendent, Trenton Division, Ontario District, Toronto, has been appointed Superintendent, Toronto Terminals Division, Ontario District, vice T. Collins transferred. Office, Toronto.

R. A. SEWELL, heretofore Assistant Superintendent, Montreal Terminals Division, Quebec District, Montreal, has been appointed Superintendent of Car service, Eastern lines, vice O. M. Lavoie, promoted. Office, Montreal.

W. J. STINSON, heretofore Assistant Superintendent, Trenton Division, Ontario District, Trenton, has been appointed Assistant Superintendent, Trenton Division, Ontario District, Havelock, vice R. de B. Girouard, transferred.

W. J. SUTCLIFFE, heretofore chief clerk to Auditor of Freight and Telegraph Receipts has been appointed Assistant Auditor of Freight and Telegraph Receipts, vice J. Bonner, superannuated. Office, Montreal.

E. G. WHITE has been appointed Superintendent of Department of Colonization and Development. Office, Montreal.

Central Vermont Rd. (U.S.R.A.)—I. AUSTIN has been appointed acting Track Supervisor, Montpelier, Vt., vice W. Z. Penell.

W. Z. PENELL, heretofore Track Supervisor, Montpelier, Vt., has been appointed Track Supervisor, St. Albans, Vt., vice W. Bibby, resigned to enter G.T.R. service.

Edmonton, Dunvegan & British Columbia Ry.—C. DOWLING, Traffic Manager, Edmonton, Alta., is reported to have resigned to enter other service in Eastern Canada.

Grand Trunk Ry.—W. GILLESPIE, heretofore Mechanical Superintendent Central Vermont Ry., St. Albans, Vt., has been appoflinted General Foreman, Scrap and Reclamation yard, G.T.R., Montreal.

A. D. McCARTHY has been appointed Assistant Superintendent, Montreal Terminals, vice F. J. Miller, resigned.

C. S. OGILVIE, heretofore Assistant Engineer, Ottawa, Ont., has been appointed Assistant Engineer, Montreal Division, vice C. Murgatroyd, resigned. Office, Montreal.

Grand Trunk Pacific Ry.—R. H. MERRITT, heretofore City Ticket Passenger and Ticket Agent, Calgary, Alta., has been appointed City Passenger and Ticket Agent, Seattle, Wash.

United States Railroad Administration—F. E. DEWEY has been appointed appointed General Assistant, New England District, Eastern Region. Office, Boston, Mass.

Windsor-Detroit Bridge or Tunnel Project.

In connection with the proposal to construct a bridge or tunnel underneath the Detroit River to provide for highway traffic between Detroit, Mich., and Windsor, Ont., it is reported that the general opinion is more favorable to a bridge than to a tunnel. Plans for such a bridge are reported to have been prepared by J. A. L. Waddell, of Kansas City. A preliminary survey of the water front on both sides of the river is reported to have been made, and a site selected tentatively. It is suggested that the bridge entrances shall be close to the water's edge on both sides of the river, instead of by long inclines, which would bring them too far back, particularly on the Canadian side. Foot passengers could be carried to and from street level to the bridge level by elevators, and vehicle traffic would move along spiral roadways. The spiral on each side of the river, would have a diameter of 340 ft., and would make three turns to reach the bridge level of 130 ft. The cost of such a bridge and spirals is estimated as about the same as for a twin tunnel under the river, with the added advantage of eliminating the possible danger from automobile exhausts. The Dominion Prime Minister has informed the Mayor of Windsor that owing to the retrenchment made necessary by the war, no government aid can be given towards the construction of a bridge or tunnel between Windsor and Detroit for many years to come.

Railway Cartage Rates Increased—Railway companies in Canada have issued supplement 52 to C.R.C. no. E3280, effective Sept. 4, providing increases in cartage rates applicable in cities and large towns on their eastern lines.

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TORONTO, CANADA, SEPTEMBER, 1919.

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The C.P.R. Management asks its Conductors' Co-operation.

The following letter from Alfred Price, General Manager, Eastern Lines, C.P.R., reproduced in facsimile of his handwriting, was sent recently to all passenger train conductors under his jurisdiction:

"This letter is being addressed to all passenger conductors on Eastern Lines, but it is nevertheless intended as a very personal message to you. Ever since the early eighties, when its passenger train service was first inaugurated, the courtesy of C.P.R. conductors and other train and station employes, has been proverbial. Even from the beginning, practically all employes who had to deal directly with the public, took a pride in the new enterprise and the reputation for courtesy established by the pioneers in the service has been perpetuated by the newer and younger men.

"The responsibilities you have to assume, and the many duties you have to perform, are fully appreciated. It is well understood that in addition to conforming to numerous exacting train rules, you have jurisdiction over employes and the care of every passenger on your train, and that there are many things to worry, perplex and annoy you. It is common knowledge that occasionally there are unreasonable, disagreeable and even quarrelsome people to deal with, and under such circumstances it is extremely hard to maintain one's equanimity. It is, however, in just such a situation that you have an opportunity of showing your real worth to the company by preserving a courteous, calm and dignified demeanor. Remember that you are carrying passengers from day to day who are not accustomed to railway travel, and who find everything in connection with their first trip exceedingly strange. Such passengers need special consideration. Some women are accompanied by irritable and obstreperous children, who are most trying upon their nerves. A little kindly attention from you will help them to stand the strain. You may be handling American, European and Asiatic travellers, who are making their first trip on a C.P.R. train. They have heard of C.P.R. efficiency and courtesy, and are on the lookout for a demonstration of both. If you are true to the traditions of the service, you will not disappoint them. Every day you are collecting tickets from people who control the routing of large volumes of freight. They are judging the C.P.R. by you, and if they are impressed by your efficiency, courtesy and patience, their further patronage will probably be assured.

"It is recognized that the C.P.R.'s present unexampled position is due in large measure to the quality of the work of its employes, and to their unswerving loyalty and devotion to the company's interests. We have no monopoly of most of the traffic we are handling, and competition is growing keener every day. If therefore the C.P.R. and its employes are to continue to prosper, the company must retain the admiration, the confidence and the good will of its old friends, and it must also win new friends in ever increasing numbers. As there are such vast multitudes of people who travel on C.P.R. trains—over 15,000,000 a year—it would not be even remotely possible for the company's officials to meet any large proportion of them, so as to foster and develop amongst them the proper sentiment; while you and the other employes through whom the public transacts its business with the company come into personal contact with all these people. This gives you and the other passenger conductors of the system the unparalleled opportunity of making friends for the company of over 40,000 persons every day of the year. Feeling assured of your pride in being a vital part of our great transportation organization, and of your attachment to and interest in all that pertains to its welfare, you can without doubt be depended upon to do your part in binding more closely to it the old friends, and winning to it the new friends, who are so necessary to its continued prosperity."

Lifting of Canadian Northern and Grand Trunk Pacific Rails for War Purposes.

During 1917 and 1918, Canadian Railway and Marine World published considerable information about the removal of rails from the Canadian Northern and Grand Trunk Pacific Railways for use on the British western front. Following is the official report on the work, by Alex. Ferguson, engineer in charge, as issued recently by the Railways Department:—

"On May 21, 1917, instructions were given to proceed with the work of lifting track from the Grand Trunk Pacific and Canadian Northern roadbeds between Imrie and Resplendent, Alta., to provide steel rails for the use of the British armies in France, as authorized by order in council. An organization was immediately created, and the work of lifting track and of transforming the two lines into one was commenced.

"The G.T.P.R. track between Imrie and Leaman Jct., 13.6 miles; between Obed and Pocahontas, 42.25 miles; and between Geikie and Resplendent, 34.8 miles, was lifted, and the rails and angle bars shipped to Three Rivers, Que.

"The Canadian Northern track between Leaman Jct. and Obed, 79.9 miles, and between Snaring Jct. and Geikie, 22.05 miles was lifted, and the rails relaid on the G.T.P.R. between Leaman Jct. and Obed, and between Snarring Jct. and Geikie.

"The G.T.P.R. rails between Pocahontas and Snaring Jct. were lifted and relaid partly with 60 lb. steel and partly with 80 lb. Canadian Northern rails in order to release the G.T.P.R. rails for shipment to France, and at the same time preserve rail connection with the coal mines at Pocahontas. This portion of the G.T.P.R. line is being operated as a spur and is, as yet, considered merely temporary.

"The first shipment of steel rails for Three Rivers left Edmonton on June 17, 1917, and the last on Oct. 26, 1917. The total shipments amounted to 23,408 gross tons of rails and 1,110 gross tons of anglebars.

"During Oct., Nov. and Dec., 1917, a considerable amount of work was done on the construction of highways between Otley and Carrot Creek and between Peers and Fulstow, in order to give the settlers access to the G.T.P.R. line. Befor the close of the fiscal year arrangements were made for the completion of these roads and for the construction of a roadway from Rosevear on the G.T.P.R. to Horner."

Traffic Orders by Board of Railway Commissioners.

Midland Railway Standard Freight Tariff

28,594, July 26. Re application of Midland Ry. of Manitoba, under sec. 330 of the Railway Act, 1919, for approval of its Standard Freight Tariff C.R.C. 80. Upon reading what is filed in support of the application, and the report and recommendation of the board's Chief Traffic Officer, it is ordered that the said tariff, to take effect on Aug. 24, 1919, to apply locally in Manitoba between points on the company's railway north of Midland Jct., cancelling the company's Standard Freight Tariff C.R.C. 5, be approved; the said tariff, together with a reference to this order to be printed in at least two consecutive weekly issues of the Canada Gazette.

Joint Class Freight Tariffs

28,618, Aug. 1. Re joint class freight tariffs, to apply on interline traffic between Grand Trunk, Canadian Pacific, and Canadian National Railways. Upon reading the submissions filed on behalf of the said railway companies, the Canadian Manufacturers' Association, the Boards of Trade of Toronto and Montreal, Dominion Canners, Ltd., and others; and upon the report and recommendation of the board's Chief Traffic Officer it is ordered

1. That within the territory covered by order 3258, July 6, 1907, as amended, in what is known as the International Rates Case, and in conformity with the relevant provisions thereof, also with the station groupings of the respective companies as shown in their tariffs between points west of Toronto on the one hand, and points east of Toronto on the other, joint tariffs of class rates be compiled to apply between stations on the Canadian Pacific and Grand Trunk Rys., the Canadian Pacific and Canadian National Rys., respectively, on the basis of the so-called schedule A scale, with the addition of the following figures to be incorporated in the rates themselves.

1	2	3	4	5	6	7	8	9	10 classes
8	7	6	4	2½	2½	2½	2½	2½	2½

cents per 100 lb.

the rates so compiled to include the service of transfer from the one company to the other; subject, however, to a minimum joint charge of 100 lb. at the 1st class rate, but not less than 75c.

2. That the joint class freight tariffs carrying out the requirements of this order be published and filed so as to become effective not later than Oct. 1, 1919.

3. That the following be made the points of interchange of interline freight traffic between the said companies under the terms of this order. Lennoxville, Montreal, Ottawa, Brockville, Peterborough, Toronto, London, Mount Forest, Orillia, North Bay, Actonville, Ste. Rosalie, Renfrew, Kingston, Milton, Guelph, Woodstock, Tillsonburg, Inglewood, and Essa (Utopia).

Following is the report of the board's Chief Traffic Officer, which was concurred in by the board and adopted as its judgment:

"Since everything likely to be of value appears to have been submitted, I think this old question should be disposed of. It is perhaps unnecessary to review the various stages prior to the filing of G. T. R. (C. R. C. no. E. 3842) and C. P. R. (C. R. C. no. E. 3439) Tariff to Joint Mileage Class Rates to apply on interline traffic between themselves, to become effective May 1, 1918. This tariff having been objected to, it was suspended by order 27160, Apl. 26, 1918, following a hearing at Ottawa on April 16. The last hearing was held at Ottawa on May 7, 1918. On Sept. 25, 1918, the tariff was withdrawn and cancelled, order-in-council P. C. 1863 having issued in the meantime, and none has been substituted.

'The G.T.R. had, and still has, a joint tariff to and from points on the Central Ontario Ry., (now part of the Canadian National) via Trenton, but the rates are claimed by Dominion Canners, Ltd., to be excessive and restrictive of trade. It appears, generally speaking, to be a little higher than the tariff first referred to, the basis of which may be explained as follows: Taking the old standard tariff in effect before the 15 per cent. case, representing, of course, single line movements, the general rates for the same mileage blocks were made by adding 4c per 100 lb. to the 1st class rates up to 110 miles; for the blocks over 110 to 220 miles 2c were added to the 1st class rates; and for all distances beyond 220 miles the single line standard rates were adopted as the joint rates for like mileages. To the 1st class joint rates so arrived at 15 per cent. was added so as to bring the schedule in line with the judgment in the 15 per cent. case. Then the rates for classes 2 to 10 were graduated from those 1st class rates in conformity with the scaling of the standard tariff. Of course, had this tariff been permitted to go into force, or if it were now resubmitted on the same plan, it would now include the further 25 per cent. increase.

"These were the rates for haulage only; an additional charge of 4c per 100 lb., to cover cost of transfer of l. c. l. freight from one line to the other, being provided for.

"The greatest objection to this tariff was that it had as its general basis the maximum or standard eastern scale, which, in practice, is applied to only a small proportion of the traffic moving under the classification ratings. The great bulk of such traffic is directed from or to the manufacturing and jobbing centers, and is subject in the east to the lower scale of what is known as Schedule A. It is to this schedule that the joint tariffs should be related, in my opinion, if they are to be of any practical service. Two points have, however, to be kept in view. Both the standard tariff and Schedule A are one company's scales, and the board has had frequent occasion to rule that they cannot be applied as of right to joint hauls. The other point is that while physical connection exists at the point of transfer of the suggested tariff, thus enabling the interchange of carload traffic without handling, on the other hand, at several of them l. c. l. shipments have to be transshipped and teamed. Cartage cost varies, even in the case of the big cartage corporations with which the railway companies have contracts. The present rates, regardless of classification, of those cartage companies, are 6c per 100 lb. at Montreal; 5c at Toronto; 4½c at Windsor and Walkerville, and 4c at the other cartage points. Some of the interchange points shown in the tariff referred to are such cartage points; at the others the companies must rely on the best terms they can make with the local carters.

"Careful consideration has decided me to recommend that within the territory covered by order 3258, July 6, 1907, as amended, in what is know as the International Rates Case, and in conformity with the relevant provisions thereof, also with the station groupings of the respective companies as shown in their tariffs between points west of Toronto on the one hand, and points east of Toronto on the other, joint tariffs of class rates be compiled to apply between stations on the C. P. R. and G. T. R., the C. P. R. and C. N. R., and the G. T. R. and C. N. R., respectively, on the basis of the so-called Schedule A scale, with the addition of the following figures to be incorporated in the rates themselves.

1	2	3	4	5	6	7	8	9	10 classes
8	7	6	4	2½	2½	2½	2½	2½	2½

cents per 100 lb.

the rates so compiled to include the service of transfer from the one company to the other; subject, however, to a minimum joint charge of 100 lb. at the 1st class rate, but not less than 75c. It is not my purpose that these additional figures should be understood to represent merely an approximation to the average cost of transferring the freight; they are intended to include that, and as well, some addition to Schedule A, because of its application to a joint service. The unfairness of applying the tapering rate of the extending mileage of a single carrier to the same aggregated mileage, but shorter individual hauls, of two carriers will not be overlooked. In the sum total the railways may come out ahead of the transfer costs; but on the other hand, the board will not be committed to the principle of single line rates for a two line service.

"The companies' proposition provided 10 transferpoints,asfollows: Lennoxville, Montreal, Ottawa, Brockville, Peterborough, Toronto, London, Mount Forest, Orillia and North Bay. These do not sufficiently cover the field, and my proposal to add the following 10 more, making two facing pages, instead of a single page, of the tariff, is satisfactory to the companies, the additions being Actonville, Ste. Rosalie, Renfrew, Kingston, Milton, Guelph, Woodstock, Tillsonburg, Inglewood, Essa (Utopia).

"As the work of compilation will take some time during the vacation season, I think Oct. 1, might reasonably be named as the effective date, if these recommendations are approved.

"I give below a comparison up to 500 miles of the 1st, 5th, 6th, and 10th class rates, as proposed in the joint mileage tariff first referred to, as increased by 25 per cent., and including in the 1st class the 4c for transfer, with the rates, including transfer, herein recommended. It will be understood that the mileages are selected, there being intervening groups taking lower rates than shown for the farther distaces.

	Proposed.				Recommended.			
Miles.	1st	5th	6th	10th	1st	5th	6th	10th
50	44	20	19	13	40	18	17	12½
75	53	24½	22	15½	48	22½	21½	15½
100	58½	27½	24½	19	51	24½	22½	17
125	61½	29	25½	20	57	27	24½	18
150	64½	30	27½	22	60	28	25½	20
200	73	34½	32	23	62½	30	27	21½
250	79	37½	34½	25½	68½	32½	30	24½
300	90½	43	40	29	74½	35½	32½	25½
350	99	47½	44½	32	77	37	34½	25½
400	104½	50½	47½	33	83	40	37	28
450	113½	54½	52	36½	88½	42½	40	30
500	119	57½	54½	39	91	44½	41½	31½

Temiscouata Railway Passenger Fares

28,620, July 31. Re application of Temiscouata Ry., for permission to increase its standard passenger fare to 4c a mile, and re complaint of Municipality of Ste. Rose du Degele, Que., against the cancellation of second class fares by the company. Upon hearing the matter at Riviere du Loup, July 10, the applicant company, the Municipalities of Edmundston, Cabano, Riviere du Loup, and Temiscouata, the County of Madawaska, and the Towns of Notre Dame du Lac and Ste. Rose du Degele being represented, and what was alleged at the hearing; and upon reading the further submissions filed. It is ordered that the company be authorized to publish and file tariffs increasing its 1st class standard passenger fare to 4c a mile; and that this increased rate shall not become effective until the company has complied with the requirements of secs. 330 and 334 of the Railway Act, 1919. That the complaint of the Municipality of Ste. Rose du Degele be, dismissed.

28,662, Aug. 14. Re application of Temiscouata Ry., under sec. 334 of the Railway Act, 1919, for approval of its standard passenger tariff(C.R.C. no. 72, on the basis of 4c a mile: Upon the recommendation of the board's chief traffic officer, the said tariff having been filed on the basis permitted by the board in its order 28,620, July 31, it is ordered that the said tariff dated to become effective Aug. 25, be approved, the said tariff, with reference to this order, to be printed in at least two consecutive weekly issues of the Canada Gazette.

Belated Demurrage on Lumber Cars.

28,621, Aug. 1. Re complaint of Kilgour Manufacturing Co., Hamilton, Ont., against a belated bill of demurrage amounting to $1,200, subsequently reduced to $515, on 101 cars of lumber received at Hamilton from various points during Jan. to July, inclusive, 1917: Upon hearing the complaint at Toronto, June 24, 1918, the complainant, the Canadian Manufacturers' Association, the C. P. R. and the Canadian Car Service Bureau being represented at the hearing, it is ordered that the complaint be dismissed.

Demurrage Tolls Confirmed

28,622, Aug. 1. Re application of Dominion Millers' Association, Canadian Millers' Committee, Canadian Manufacturers' Association, Ontario Retail Lumber Dealers' Association, Toronto Board of Trade, Peterborough Board of Trade, and the Premier Potato Co., for revision of rule 9 of general order 201, Aug. 1, 1917, and the restoration of the demurrage toll in effect prior to Aug. 20, 1917. Upon hearing the application at Ottawa, July 8, 1919, the Canadian Manufacturers' Association, the Boards of Trade of Montreal and Toronto, the Canadian Lumbermen's Association, Canadian Car Demurrage Bureau, Michigan Central Rd. and the Grand Trunk, Canadian Pacific, and Canadian National Rys. being represented, it is ordered that the application be dismissed.

The Chief Commissioner, Sir Henry Drayton, gave the following judgment: "This complaint is made by shippers and consignees who desire that the present demurrage tolls should be decreased. No complaint is made as to the basis of the present tariff. On the other hand, shippers think it more equitable than the tariff in force in the United States. The whole question is the amount. The application is opposed by the railways, which are desirous of getting as many cars as possible on hand for the grain movement and of keeping terminals as free as possible, so as to prevent congestion and blocking the movement.

"Mr. Marshall, for the Toronto Board of Trade, and who supported the application, introduced figures which showed, for the period under review, under the increased demurrage tolls, affording as they do a direct incentive to shippers to load and to consignees to unload with all diligence, a saving of 90,820 car days.

"The shippers are not unanimous on the application. The Ford Motor Car Co. state: 'We have not felt any serious effect resulting from the higher demurrage charges, and if these higher charges have resulted in the more prompt release of equipment and the reduction of congestion, we cannot see that it would be wise to reduce to the old basis, as we feel that it would only be inviting a return of old conditions of car shortage and congestion when the volume of traffic is again restored.'

"Mr. Tilston, who appeared for the Montreal Board of Trade, said: 'This matter has been considered very carefully by my committee, and from what we know of the car shortage, if we are going to succeed in moving the crop in the autumn, it will be very undesirable for the board to make any reduction in the present demurrage rates. The present rates of $1, $2, $3, $4, and $5 are more equitable to the honest dealer who is doing his best to unload his cars within the free time limit. The board should not make any reduction in these penalties.'

"The present situation is not normal. Usually some 62 per cent. of the country's grain moves via Buffalo. Owing to the requirements of the United States movement, Buffalo is this year closed to our grain. If anyhing like a proper movement of grain overseas is to be made, full facilities must be given the traffic. The car supply must be sufficient, and terminal congestion so often arising out of delayed cars avoided as much as possible. The car days saved under the higher tolls, and amounting to 90,820, would, allowing 6 days for the short movement from the Bay ports to Montreal, and with a loading of 1,600 bush. to a car, afford transportation for no less than 25,212,800 bushels to our chief sea port. In the public interest no reduction can be made under the present circumstances, and the application ought to be dismissed."

Cartage Allowance to Canada Sugar Refining Co.

28,630. Aug. 8. Re C.P.R. Co.'s application for authority to continue in effect the allowance made to the Canada Sugar Refining Co. of 1¼c per 100 lb. on account of cartage at Cote St. Paul, Montreal, as published in Tariff C.R.C. E3369: Upon hearing the application at Ottawa, Mar. 18, the Canadian Pacific, Grand Trunk and Canadian National Railways, and the Canadian Manufacturers' Association being represented, it is ordered that the application be refused and that C.P.R. Tariff C.R.C. no. E3369, in so far as it provides for a cartage allowance of 1¼c per 100 lb. to the Canada Sugar Refining Co. at Cote St. Paul, be disallowed; general order 252 to remain in effect.

Advanced Rate Charged on Grain.

28,635. Aug. 1. Re complaint of Merchants' Grain Co., Fort William, Ont., that it was charged an advance of 2c per 100 lb. on grain from Fort William, by reason of embargoes placed by the C.P.R., which prevented the complainant shipping prior to Mar. 15, on which date the advanced rates took effect: Upon hearing the complaint at Fort William, Mar. 5, the complainant and the C.P.R. being represented at the hearing, and upon reading the further submissions filed, it is ordered that the complaint be, and it is hereby, dismissed.

Location of Marker Sockets on Railway Cars.

The Board of Railway Commissioners passed general order 270, Aug. 7, as follows: Re order 10453, May 3, 1910, dealing with location of markers on G.T.R. passenger trains and general order 127, July 6, 1914, directing that all railway cabooses be equipped with marker sockets as provided by the order. Upon its appearing that railway companies have marker sockets at the corners of the roof on some of their passenger cars, in addition to the lower positions; upon the report of the board's Chief Operating Officer, that, in his opinion, and with a view to standardization in equipment and practice, the requirements as to passenger cars and cabooses should be the same, it is ordered as follows:

1. When passenger cars and cabooses are equipped with marker sockets in the lower position (the said lower position to be at such elevation as will permit of lamps and flags being placed therein from the platform or floor of the car without the use of steps), markers shall be carried in such lower sockets.
2. All passenger cars and cabooses hereafter constructed shall be equipped with marker sockets in the lower position.
3. All passenger cars and cabooses now in use, not equipped with marker sockets in the lower position, shall be so equipped on or before May 1, 1920.
4. Order 10453, May 3, 1910, and general order 127, July 6, 1914, are rescinded.

The St. John and Quebec Ry. has, it is reported, completed arrangements for running rights over the C.P.R. from Westfield to St. John, N.B., so as to give a through service over the recently completed extension from Gagetown to Westfield.

Department of Railways and Canals, Canada.

WELLAND CANAL.

NOTICE TO CONTRACTORS.

Placing Stone Protection on Summit Level Between Thorold and Port Colborne.

SEALED TENDERS addressed to the undersigned and marked "Tender for the placing of Stone Protection on the Summit Level of the Welland Canal between Thorold and Port Colborne," will be received at this office until 12 o'clock, noon, on Monday, September 8, 1919

Specification and form of contract to be entered into can be seen at the office of the Chief Engineer of the Department of Railways and Canals, Ottawa, and at the office of the Superintending Engineer, St Catharines, Ont.

An accepted bank cheque for the sum of $1,500 made payable to the order of the Minister of Railways and Canals must accompany each tender, which sum will be forfeited if the party tendering declines entering into contract for the work at the rates stated in the offer submitted

The cheques thus sent in, will be returned to the respective contractors whose tenders are not accepted.

The lowest or any tender not necessarily accepted.

By order, J. W. PUGSLEY,
Secretary

Department of Railways and Canals.
Ottawa, August 25, 1919

Electric Railway Department

Increases in Electric Railway Freight and Passenger Rates.

British Columbia Electric Ry.—J. L. Retallack, Public Utilities Commissioner for British Columbia, gave a ruling, Aug. 6, as to the scope of evidence admissible under the Public Utilities Act in the 6c fare case. The matter came before him July 10, under the provisions of the act passed at the Legislature's last session, which authorized the B. C. Electric Ry. to charge a 6c fare on certain of its lines until such time as the Commissioner shall fix a rate. At the hearing July 10, W. G. Murrin, Assistant General Manager B. C. E. Ry., argued for the fullest scope, viz., the inclusion of evidence as to the whole of the company's investments and operations in the province, while E. G. McCrossen for the city argued for the limitation of the investigation to such of the company's investments as are necessary to its street railway service within Vancouver City, and of its operations and receipts therein.

The commissioner in his ruling stated that he had to deal with the subject matter of the mandatory enquiry under Sec. 11 (4) of the act, which was to determine the just and reasonable rate to be charged by the B. C. E. Ry. on any line of railway which enters or traverses any portion of the city; and with the application of the City of Vancouver for the determination of the just and reasonable car fare to be charged within the limits of the city, with consideration of the B. C. E. Ry. Co's receipts within such limits, but without consideration of any capital investment, operating or other costs of the company outside such limits, except such as directly affect the cost of street railway operations within such limits.

After reviewing the arguments submitted the commissioner ruled that evidence as to the company's investments, operating and administrative costs, fixed charges and receipts in the Victoria area, be excluded from the enquiry under the act. He also ruled that evidence as to the company's gas system in Vancouver be also excluded, and "for the reason of insufficient correlation that evidence of the company's investments in land or other property in the Vancouver area, for speculative or any other purposes, except directly for the purposes of its power, light and railway systems shall be excluded from the enquiry. The scope of the enquiry is further limited by the statute itself; and by the fact that certain lines are being operated under some new charters, and consequently beyond his jurisdiction. These are: The Burnaby Lake line east of Commercial Drive. The Kitsilano line from the north end of Granville St. bridge and from the Granville St. station. The siding south of False Creek from Granville St. to Main St. bridge. The Vancouver and Lulu Island.

Following a review of the remainder of the arguments, the commissioner said: "I therefore rule that in the enquiry under this act, evidence shall be accepted as to the B. C. E. Ry. Co's investments of capital, in the area contiguous to and inclusive of the delta of the Fraser River, the cities of Vancouver and New Westminster, the municipalities of Point Grey, South Vancouver and Burnaby, the city and district of North Vancouver and the districts served by the New Westminster and Chilliwack line, and including its investments, present property values administrative costs, fixed charges and receipts, whether directly or through its subsidiary companies in its power and electric lighting systems in said district.

Upon the city's statement the commissioner pointed out that if its application were acted upon a decision would be necessary as to whether it would be just to secure such net return on the company's investment, either by continuing the present system of rates being more or less different rate for each governmental division of the district of Vancouver by establishing a basic rate, modified in relation to mileage, for the whole of said district, or by establishing the zone system throughout the district, viz., a fare figured in proportion to the density of population and mileage.

The commissioner concluded as follows: "I have not yet sufficient evidence, either, that the present system of rates is unfair and prejudicial to Vancouver, or as to the fairness and practicability of any other system, to justify me in giving a ruling now as to proportionate rates. Moreover, the other cities and municipalities which make up the district of Vancouver, are also interested in this issue. Therefore in order to obtain further evidence and to afford all parties likely to be affected an opportunity of being heard, I propose to give notice of and to hold a hearing to consider this particular issue, such hearing will not delay the general hearing under the act."

The commissioner then directed that for the convenience of all parties, the city's application and the enquiry under the act be consolidated.

The remainder of the sitting was occupied in fixing details of the procedure to be followed in carrying out the decision, and the commission adjourned to Aug. 19.

The following represented the different interests: British Columbia Electric Ry., W. G. Murrin and V. Laursen; City of Vancouver, E. G. McCrossen, E. F. Jones and Alderman McKae; Point Grey, G. G. McGeer; New Westminster, Burnaby and Surrey, W. G. McQuarrie, M. P.

Hamilton Radial Electric Ry.—A new schedule of fares was put in operation between Hamilton and Oakville, Ont., Aug. 18. The new rates from Hamilton are: To Burlington Beach, 30c single, 35c return; to Burlington, 25c single, 45c return; to Bronte, 35c single, 65c return; Oakville, 45c single, 85c return. The scale for individual workmen's tickets and for family tickets limited to six weeks is:

	Workmen's ticket 12 trips	Family ticket 26 trips
Kenilworth	$ .90	$2.60
Ghent's	.90	2.60
Canal	1.20	3.90
Burlington	1.50	4.55
Burlington	1.20	......
Pine Cove	1.80	5.20
Bronte	2.10	7.80
Oakville	3.60	9.10

Under the former schedule, a single trip to Burlington Beach, or Burlington cost 15c and a return ticket 25c, these being the figures fixed in the Burlington Village and Saltfleet Tp. franchise bylaws. In 1918 the Board of Railway Commissioners authorized the company to charge a return fare of 64c to Burlington, subject to the village's consent. This consent was refused and the company stopped operating the line. Subsequently an arrangement was made to reopen the line, and at a later date an amendment was made in the Dominion Railway Act giving the Board of Railway Commissioners power to revise rates notwithstanding any contract between a company and a municipality. An officer of the Dominion Power and Transmission Co., which owns the H.R.R., is reported to have said, Aug. 13, that the company did not wish to increase the rate to the extent authorized by the board at present, but if the line continues to lose money there will have to be a further increase.

Lethbridge Municipal Ry.—Fares on this railway were advanced on July 1 to 10c cash, or 4 tickets for 25c. For children the fare is 5c cash, or 6 tickets for 25c. Workmen's tickets were abolished. Following is a comparison of the old and new fares.

	New	Old
Cash fare	10	5c
Adults' tickets	4 for 25c	5 for 25c
Children's cash fare	5c	....
Children's tickets	6 for 25c	10 for 25c
Workmen's tickets (limited)	....	6 for 25c

We are advised that the change is merely an experiment, and that if it is found ineffective in producing a reasonable increase in revenue other changes may be made.

Moncton Tramways, Electricity and Gas Co.—The New Brunswick Board of Commissioners of Public Utilities, has issued its final order on the Moncton Tramways, Electricity and Gas Co.'s application, dated Aug. 28, 1918, for an increase of fares on its electric railway, and increased rate for natural gas and electric current. At the hearing in Nov., 1918, an interim order was granted, to run for four months, abolishing special rates and allowing the company to charge a straight 5c fare on its electric railway. At the final hearing the commissioners decided that as the rate of 8 tickets for 25c for workmen and school children was specified in the company's act of incorporation, it was not within their jurisdiction to alter it.

The final order directs "that the company be authorized to discontinue selling any tickets for street railway fares at the rate of 6 for 25c, and in lieu thereof be authorized to charge 5c for each and every street railway fare or ticket. This variation of the tariff to be in force and effect from July 1. This order is not to interfere in any way with the tariff now in force under which the company sells 8 tickets for 25c to workmen and school children, and which is to remain in force until otherwise ordered."

Montreal Tramways Co.—The Montreal Tramways Commission is reported to be giving consideration to the question of a revision of fares to be charged by the Montreal Tramways Co. during the current year. The fares for the past year are said to have averaged 4.8c a passenger, while the average cost per passenger was 4.64c. For this year the commission will have to provide $1,000,000 additional for wages. The accounts are being audited, and as soon as this work is completed the commission will be able to fix the fare to be charged.

Guelph Refuses to Lease Guelph Radial Railway to the Grand River Ry. Co.

Guelph, Ont., ratepayers on Aug. 11, by a vote of 1,285 to 437, refused to sanction the bylaw to lease the Guelph Radial Ry. to the Grand River Ry. Co. on the terms, detailed in Canadian Railway and Marine World for Aug., pg. 442.

The vote was the end of a short but exciting campaign. When the city council first approved of the agreement on July 15, its action was apparently generally approved by the citizens. The agreement contained a clause to the effect that it was not to become operative until approved by the Hydro Electric Power Commission of Ontario, with which the city has an agreement for the construction of an electric railway line from Toronto to London, etc. It was principally in connection with this point that the campaign was carried on. Sir Adam Beck, chairman of the commission, spoke at two meetings in opposition to the bylaw, and a great deal of work was done in the same direction by representatives of the municipalities of the district which are members of the Hydro Electric Railway Association of Ontario.

A press report of Aug. 15 stated that, as a result of the Guelph vote, a proposal to have a meeting of representatives of municipalities in Wellington County at Arthur at the end of the month had been called off. The meeting was to have been held to confer with C.P.R. officers as to the building of an electric railway from Guelph through Elora, Fergus, Drayton, Palmerston, Arthur and Mount Forest.

Change in Ontario Law Respecting Assessment of Electric Railway Structures, Etc.

An act to amend the Assessment Act, and other acts in connection therewith, passed at the Ontario Legislature's last session, contains the following sections:

"12. Section 44 of The Assessment Act is amended by adding the following as subsection 4:—

"(4) Notwithstanding anything contained in this section or any other section of this act the structures, substructures, superstructures, rails, ties, poles and wires of such an electric railway, shall be liable to assessment and taxation in the same manner and to the same extent as those of a steam railway are under the provisions of section 47 and not otherwise.

"13. Section 45a of The Assessment Act, as enacted by 8 Geo. V., cap. 20, sec, 39. is amended by adding at the beginning of subsection (2) the words "Subject to the provisions of subsection (3)" and by adding the following as subsection (3):

"(3) Notwithstanding anything contained in this section or in paragraph 7 of section 5, any restaurants, merry-go-rounds and switch-back railways carried on in connection with an electric railway owned, leased or operated by or for a municipal corporation or vested in or controlled by a commission on behalf of a municipal corporation, shall be assessable."

The Assessment Act, R.S.O. 1914, chap. 195, provides as follows in sec. 47.

"(2) The assessor shall assess the land and property aforesaid as follows:

"(a) The roadway or right of way at the actual value thereof according to the average value of land in the locality; but not including the structures, substructures and superstructures, rails, ties, poles, and other property thereon:

"(b) The said vacant land, at its value as other vacant lands are assessed under this act:

"(c) The structures, substructures, superstructures, rails, ties, poles and other property belonging to or used by the company (not including rolling stock and not including tunnels or bridges in, over, under, or forming part of any highway) upon, in, over, under or affixed to any highway, street or road (not being a highway, street or road merely crossed by the line of railway) at their actual cash value as the same would be appraised upon a sale to another company possessing similar powers, rights and franchises, regard being had to all circumstances adversely affecting the value including the non-user of such property, and

"(d) The real property not designated in clauses (a), (b) and (c) of this subsection in actual use and occupation by the company, at its actual cash value as the same would be appraised upon a sale to another company possessing similar powers, rights and franchises. 4 Edw. VII, c. 23, s. 44 (2):

"(3) Notwithstanding anything in this tures, superstructures, rails, ties, poles, act contained, the structures, substruc- wires and other property on railway lands and used exclusively for railway purposes or incidental thereto (except stations, freight sheds, offices, warehouses, elevator, hotels, roundhouses and machine, repair and other shops) shall not be assessed.

"(5) A railway company assessed under this section shall be exempt from assessment in any other manner for municipal purposes except for local improvements."

Heretofore, while steam railways in Ontario were exempt from assessment and taxation on structures, substructures, superstructures, rails, ties, poles and wires on railway lands, electric railways were not exempt. The amendment given above exempts electric railways also and puts them in exactly the same position as steam railways.

The Ontario West Shore Railway's Funds.

In connection with the winding up of the Ontario West Shore Ry's affairs, T. Strothers, the trustee appointed by chap. 135 of the Ontario statutes of 1915, has on deposit with certain branch corporations $139,360.92 derived from the sale of rails and other material of this unfortunate uncompleted electric railway. Under the terms of an act passed by the Ontario Legislature at its recent session, the trustee is entitled to purchase $20,000 of the company's unsecured bonds, outstanding, and in the event of being unable to do so to pay interest thereon, until the fund is distributed. The fund is to be invested, subject to the Ontario Railway and Municipal Board's approval, and the interest arising from the securities purchased is to be paid over half yearly, in pro-rata proportion to the municipalities of Goderich, Ashfield, Huron and Kincardine, and the holders of the $20,000 of unsecured bonds if unpurchased, until maturity, when the fund will be distributed between them. The municipalities named guaranteed bonds for $400,000 in aid of the construction of the railway.

Application was made to the Ontario Railway and Municipal Board, Aug. 12, by the Mayor of Goderich as representing the municipalities interested to have the fund invested for the next five years in the projected issue of Dominion war bonds. Counsel for the trustee asked that the investment of the fund be left in the Toronto General Trusts Corporation's hands provided that there would be no brokerage expenses in connection with the handling of the fund. The corporation promised interest at the rate of 5½ per cent. under the arrangement. Decision was adjourned pending further consideration by the municipalities.

The Montreal Tramways Co.'s Commissioners Street Line.

The Montreal Tramways Co.'s tracks on Commissioners St., Montreal, are about to be removed, and a press report states that they will not be replaced. Some years ago certain property rights on the street were taken to the courts, and the Supreme Court decided that the Montreal Harbor Commission's contention was correct. The chairman of the Montreal Tramways Commission is reported to have stated Aug. 19, that the court decision, having been given against the Montreal Tramways Co., there is nothing to be done but to remove the tracks, now that the Harbor Commission wants to deal with the property and the work of removing the tracks will be undertaken very shortly.

The Commissioners St. car line was closed to traffic, Aug. 25. It has never been a busy one, the busiest time being during the navigation season. The lines affected by the closing of Commissioners St. are the Ontremont and Delorimer routes. The first lines swings off McGill St. to Commissioners St. for only a very short distance so as to make the turn, and the effect of the removal of the tracks will not serviously affect this service. The Delorimier line, however, runs right along the harbor front from Berri St. to McGill St., and gives the navigation service. The public will now have to use the Notre Dame St. line, and make their way to the water front.

It was reported recently that the Montreal Tramways Co. had been asked to remove its lines to the opposite side of Commissioners St., but the report of Aug. 24, states the company will not relay the tracks, as to do so would cost at least $90,000.

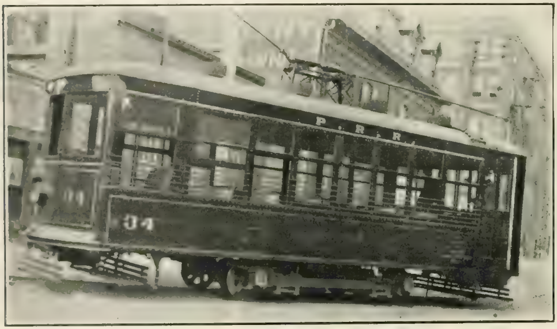
The Harbor Commission proposes to lay some additional freight tracks on Commissioners St.

Poles on Quebec Streets—The question of poles carring electric wires on the streets has again been brought forward in Quebec. W. J. Lynch, General Manager, Q.R.L. & P. Co., is reported to have said the company is willing and anxious to do everything in its power to avert accidents. All the companies interested, he said, should get together and discuss the matter with the city authorities.

One-Man, Safety Cars, on Peterborough Radial Railway.

The Peterborough Radial Ry., which is owned by the Ontario Government, and is operated by the Hydro Electric Power Commission of Ontario, placed in service recently two one-man, safety cars, which have the following general dimensions, etc.:

Length over all	27 ft. 9½ in.
Width over all	7 ft. 8 in.
Height overall	9 ft. 9⅝ in.
Height of rail to floor	2 ft. 3 15-16 in.
Wheel base	9 ft. 0 in.
Wheel size	24 in.
Seating capacity	34



One-man, Safety Car, Peterborough Radial Railway.

The one-man safety car is, as its name implies, operated by one man, which has led people to believe that this form of operation is dangerous to the public safety. This impression, needless to say, is entirely erroneous, and it is claimed that these cars are safer in operation that the average city car operated by both motorman and conductor. It is called the one-man safety car for this reason. The operator has complete control over the car, and does not depend for his starting and stopping signals on a conductor. The passengers entering, leaving, and awaiting to enter, or to leave, are in his full view at all times. He operates the opening and closing of the one and only door from which entrance and exit is obtained. It is impossible for him to start the car while the door is still open, since on the particular position of the brake valve which operates the air cylinder controlling the opening of the door, the brakes are also fully applied. Similarly, it is impossible for him to open the door until the car has come to a complete stop, as when he throws his handle to the door opening position of the valve, the brakes are automatically fully applied. This feature eliminates any possibility of any person getting either on, or off, the car while it is in motion. Even if the operator was willing to let them, he could not do it. The step, of course, folds up when the door is closed, and there are no outside grab handles to permit anyone to ride outside who might insist on trying to get on while the car is in motion.

The air brakes are of extra capacity, permitting a very quick stop with full service application, a stop which is nevertheless free from jar when properly applied. The car body is of the very latest design and is extremely light and easy riding, with no strength sacrificed in its almost entire construction of steel.

The controller is fitted with an improvement of the old form of dead man release. It is absolutely necessary for the operator at all times to keep his hand on the controller handle, and be wide awake to his job, unless the brakes are fully applied. When the brakes are fully applied, then, and then only, can he remove his hand from the controller handle. If he should happen to take his hand off the handle at any position of the controller, a plunger operated by air automatically throws out the circuit brake. The brakes are automatically applied in full service position, the doors unlatched (not opened) and the car automatically comes to a complete stop. This feature does not allow any accident to occur, due to the operator taking a fainting spell, or becoming suddenly incapacitated. It also is important in this respect. Suppose that the operator is unnerved, through something unexpected happening, such as a child suddenly running out in front of the car, or an automobile crossing suddenly at a bad traffic intersection. He does not know what to do to stop the car, in other words he loses his nerve, all he has to do is to let go of everything and watch what happens. The breaker goes out, throwing off the power, the brakes go on, sand is applied to the rail, the car stops itself.

Again, supposing several people have boarded the car, and some person in the lead requires change. The operator wishes to start the car, and after he ras the car in motion, wishes to have both hands free in order to properly make change. There is a foot valve, which he places his foot on, and which performs the same function as the dead man release in the controllers. When he places his foot on this valve he can take his hand off the controller without throwing the breaker and applying the brakes. But should he remove his foot from this valve, the same thing happens as if he removed his hand from the controller handle.

The simplicity of the automatic features of this equipment is very important. All operations of the sand service brakes, emergency brakes, door opening and door closing mechanism are on different positions of the handle on the compact brake valve. The acceleration rate and the breaking rate are much faster than in the average car, enabling the operator to make better schedules.

The equipment is for double end operation, with two trolley bases and poles, and is also supplied with trolley catchers. A bungalow type motor driven compressor assures an ample supply of air at all times. H. B. life guards are provided. The car body is of steel side plate construction, and semi-steel body structure throughout, making a very light strong car. The electrical equipment consists of two G.E. 258C motors and K63B controllers.

The cars were built by the National Supply Car & Equipment Co., St. Louis, Mo.

"Ottawa Electric Railway News."

The Ottawa Electric Railway has commenced the publication of the "O.E.R. News," a four page, 7 x 4½ in. folder, to be distributed in the cars. An article in the first issue, addressed "To our Patrons," says:

"The purpose of this little publication, which we propose to issue each week, is to foster the spirit of co-operation that is so essential in the development of an industry which, as in the case of a street railway, takes on the proportions of a public institution. Any industry that has for its patrons thousands of people in every walk of life, whom it must serve every day from January to December, must depend upon the co-operation of these people to successfully carry out much that is planned for the betterment of the service.

"It is our purpose to keep in close touch with our patrons in all matters that have to do with street railway operation. We want to establish a community interest in local street railway transportation for it is one of the most important industries in any city and the development and progress of a municipality may generally be measured in proportion to the character and extent of its street railway service. We shall keep you posted on any news concerning the service and shall tell you of our plans for its improvement and extension as the occasion arises. We invite correspondence on subjects pertaining to the service, and we want you to feel that this is your publication as well as ours. Get a copy of the O.E.R. News every weekend and keep in touch with the progress of events in street railway affairs."

Niagara, St. Catharines and Toronto Railway Strike—All the company's employes, conductors, motormen, power house men and trackmen, went on strike on Aug. 21 at 4 a.m., owing to the dismissal of certain conductors who were charged with dishonesty. The employes organization demanded that the evidence against the men be submitted to them. The management refused to comply, on the ground that in the case of a breach of criminal law, the evidence is crown property. When the employes realized this, they voted to return to work on Aug. 25 at 4 a.m.

Electric Railway Projects, Construction, Betterments, Etc.

British Columbia Electric Ry. A press report states that the company has prepared plans for the construction of a transformer station at Barnett, B. C.

A press report states that work has been started on the reconstruction of 5 miles of track in district 2, south of Tucks, on the Lulu Island line, at an estimated cost of $25,000. This line is owned by the C.P.R., but is leased to the B.C.E.R.

Grand River Ry.—We are officially advised that in addition to the 2 miles revision between Hespeler and Preston, now under construction, which has already been described, the company contemplates making a revision of the freight line between Kitchener and Waterloo, 2 miles, and a change of route in the City of Galt, so as to transfer its line to a private right of way. F. H. Midgeley, Galt, Ont., is Resident Engineer. (May, pg. 267).

Hamilton St. Ry.—A press report, states that the company is about to undertake the repair of its tracks on Herkimer St., Hamilton, Ont. (June, pg. 324).

Lake Erie and Northern Ry. has, according to a press report, made surveys for a spur line into the Holmdale district, Brantford, Ont., and we have been officially advised that the company is contemplating the building of a spur line into Paris, Ont.

Montreal Tramways Co.—It was reported Aug. 14, that the city council was about to proceed with the expropriation of Kelley St., in Ahuntsic, Bordeaux Ward, so as to enable the company to build the extension of its line authorized in the contract with the city. It is not considered likely that construction will be done this year.

The Montreal Tramways Commission was reported, Aug. 14, to have arrived at a decision to remove the present tracks on Bridge St., and to operate an autobus service thereon between Wellington St. and Mill St. The commission has authority to do this under sec. 89 of the contract, which provides that "If in the opinion of the commission the requirements of the population and of the traffic justify it, and the financial conditions permit, the company shall establish and operate within or without the limits of the city an autobus system on the streets which the commission shall designate, and under the conditions which it shall determine, provided that the establishment and the operation of such system shall not be a charge upon the company's revenues in the sense that the earnings of the autobus system shall be sufficient not to unjustly affect the company's passenger or freight rates."

Nova Scotia Tramways and Power Co. We are officially advised that the proposed extensions and improvements include the following: Track department—rehabilitation of present lay out, and the construction of about half a mile of new single track, in order to afford quicker access to the business district of the city. Power house—installation of new boilers; addition of two benches of retorts in the gas plant, and the extension of the gas main distribution. Electrical distribution department—a complete rehabilitation of the present aerial lines, and the tion of the present aerial lines, and the usual amount of short extensions to supply the normal growth of business. (Aug. pg. 449).

Ottawa Electric Ry.—The Ottawa, Ont., City Council has, according to a press report, authorized the construction of a loop for the St. Patrick cars on Cobourg, Murray and Charlotte Sts.

Sherbrooke Ry. and Power Co. A press report states that the company is preparing plans for an extension of its lines. The company operates 9 miles of line in Sherbrooke, Que., and vicinity.

Woodstock, Thames Valley and Ingersoll Ry.—A press report states that the route of the projected provincial highway through Western Ontario, in passing from Woodstock to Ingersoll, will follow the route of the Woodstock, Thames Valley and Ingersoll Ry. for some distance, and that some arrangement will have to be made between the company and the government in regard to the matter.

Electric Railway Finance, Meetings, Etc.

British Columbia Electric Ry. and allied companies:—

	June, 1919	June, 1918	12 mons. to June 30, 1919	12 mons. to June, 30 1918
Gross	$411,605	$488,873	$7,062,550	$5,986,437
Expenses	362,027	388,019	5,284,938	4,630,691
Net	49,578	100,854	1,777,621	1,355,746

Calgary Municipal Ry.—A press report states that it was reported to the city commissioners of Calgary, Alta., recently that the municipal railway had earned a profit of $5,898.28 for July, against a profit of just over $100 for July, 1918, and that the deficit on the operations for the seven months ended July 31, was about $1,900. The following figures for July are given:—

	1919.	1918
Passengers carried	1,465,044	1,134,180
Car mileage	277,046	288,257

Cape Breton Electric Co:—

	May, 1919	May, 1918	5 mons. to May 31, 1919	5 mons. to May, 31, 1918
Gross	$46,350.66	$28,916.96	$230,884.91	$193,106.22
Expenses	38,449.70	27,740.74	175,182.00	148,106.22
Net	7,900.96	11,176.22	55,702,91	45,724.30

Edmonton Radial Railway:—

	1919.	1918
Receipts for June	$53,274.94	$41,084.01
Operating expenses and fixed charges	58,461.15	52,297.57
Deficit	$5,186.21	$11,213.56
Passengers carried	867,933	770,538

The City Comptroller has issued a report on the city finances for the 6 months ended June 30, which shows the recepits, operating expenses, etc., of the E.R.R. as follows:—

	1919.	1918.
Receipts	$311,408.25	$265,067.38
Operating expenses	228,690.10	193,699.57
Net receipts	$82,718.15	$71,367.81

This report does not show the fixed charges on the railways separately from the other civic utilities, but gives a total figure of $381,534.83 for capital charges and depreciation. In another report it is stated that the deficit for the 6 months on the railway was $44,434.29 against $56,127.93, and that 5,625,864 passengers were carried against 5,383,584 for the corresponding period of 1918.

Hamilton St. Ry.:—

	1919.	1918
Receipts for 3 months, ended June 30	$219,238.71	$212,256.33
City's percentage	17,539.09	15,460.50

London and Port Stanley Ry. The City Treasurer of London, Ont., was reported to have received on Aug. 13, $48,391.60 covering rent and interest charges of the L. and P. S. Ry. for the half year ended June 30.

Sandwich, Windsor and Amherstburg Ry.—A press report states that the Windsor, Ont., City Counmil has served notice on the Sandwich, Windsor and Amberstburg Ry., of its intention to purchase the lines in the city upon the expiration of the franchise in 1922.

Toronto Civic Ry.:—

	Earnings	Passengers
July, 1919	$35,610.47	2,113,046
" 1918	28,285.97	1,691,403

Toronto Ry., Toronto & York Radial Ry., and allied companies:—

	June, 1919	June, 1918	6 mons. to June 30, 1919	6 mons. to June, 30 1918
Gross	$842,697	$1,035,932	$6,133,296	$6,356,169
Expenses	543,040	582,154	3,643,296	3,455,413
Net	299,657	453,778	2,490,000	2,900,756

Toronto Suburban Ry.—A press report states that switches will be built into several industrial plants on the line between Toronto and Weston, Ont.

An unconfirmed press report states that the Canadian National Railways is planning to expend the T.S.R.'s Lambton-Guelph line to Kitchener, Stratford and London, and on to Windsor or Sarnia. (Mar., pg. 143).

Waterloo-Wellington Ry. Negotiations for the sale of this line, formerly the Berlin and Northern Ry., are in progress between W. H. Breithaupt, President, and the Kitchener, Ont., City Council. V. S. McIntyre, Superintendent of the city's electric railway, is reported to have completed an investigation of the Waterloo-Wellington Ry., and to be preparing a report for the Kitchener Light Commissioners. It is reported that the price asked by the company is about $75,000.

The company's line is 3.15 miles long; it has outstanding $17,800 of common stock, and $2,400 of bonds, a total of 20,200. The total revenue from all sources for the year ended June 30, 1918, was $8,159.93; the operating expenses were $7,909.04; taxes $244.25; interest on funded debt $130 and interest in floating debt $2,746.95. The net loss on the year's operations therefore was $2,870.13.

Winnipeg Electric Ry. and allied companies:—

	June, 1919	June, 1918	6 mons. to June 30, 1919	6 mons. to June, 30 1918
Gross	$112,615	$293,140	$1,874,640	$1,811,338
Expenses	147,805	218,282	1,458,487	1,385,293
Net	*35,190	74,858	416,153	426,045

*Deficit.

The net deficit after allowing fixed charges for June was $95,307.61.

Proposed Sale of London Street Railway.

A press report of Aug. 18 stated that the mayor of London, Ont., had received a letter from the London St. Ry. Co., offering to sell the company's lines to the city, and giving an indication of the price which would be accepted. The par value of the company's shares is $40, and the report states that the price asked approximates $55 a share. The latter was expected to be given consideration by the city council's committee on Aug. 27, though it was stated later that the matter might be postponed.

Some days previous to the receipt of the letter, it was stated that while negotiations were going on, there was a difference between the city and the company representatives as to the method to be adopted for arriving at the value of the property. The city favoring the fixing of the purchase price by an agreement while the company wanted the appointment of arbitrators to make a valuation.

Electric Railways Employes' Wages, Working Conditions, Etc.

The British Columbia Electric Ry.'s street railway employes on Aug. 8 submitted a proposed new wages schedule together with notice of the re-opening of the present agreement, which will, therefore, automatically expire thirty days from that date. The new scale for city motormen and conductors asked by the men is 55c to 65c an hour, to be [illegible] in 12 months, in place of 40c to interurban men the proposed scale is 65c [illegible] an hour, reached in 18 months. For [illegible], reached in 12 months, instead of [illegible], reached in 18 months.

A totally new provision is for the payment of 70c an hour to city motormen and conductors on night runs, which the men propose shall be those after 6.30 p.m., except when completed before 8.30 p.m.

The proposed agreement provides for a guarantee of an 8 hour day for week days, and 6 hours for Sundays, instead of a minimum of 6 hours on week days, as under the old contract. The spread is proposed to be reduced from 11 hours to 10 hours.

Under the terms of the present agreement, either party can reopen it on giving one month notice, and it will be, therefore, necessary to come to some conclusion before Sept. 8. The matter will in all likelihood go before a conciliation board.

Guelph Radial Ry.—The Guelph, Ont., City Council has under consideration an application from Guelph Radial Ry. employes for an increase of wages. The men are reported to be asking for an 8-hour day, for 44c an hour for the first three months, and 47c thereafter, with time and a half for overtime.

Hamilton St. Ry.—The branch of the union to which the Hamilton St. Ry. employes belong, is reported to have been discussing the wage question. The present agreement between the men and the company will not expire until Mar., 1920, and the younger members are reported to be in favor of repudiating the agreement and demanding the same rates of pay as were granted recently to the employes of the Dominion Power and Transmission Co.'s suburban lines. It was reported Aug. 8, that the company had offered to pay 4c an hour additional by way of bonus, on condition that the agreement be extended for a year. The Minister of Labor was asked, Aug. 12, to send a representative to Hamilton to discuss the situation.

Moose Jaw Electric Ry.—A settlement was reported to have been effected, Aug. 15, between this company and its employes, and the car service was resumed Aug. 16. The wage schedule is said to have been adjusted temporarily, but the question which delayed the settlement was that of the recognition of the union. The terms of the settlement had not been made public at the time of writing. During the strike, the company made several efforts to carry on the service, but is said to have been able to operate only a limited service during the week preceeding the settlement.

The Ottawa Electric Ry. had, prior to [illegible], had a signed agreement as to wages and working conditions with Division 279 of the Amalgamated Association of Street and Electric Railway Employes of America, which contained about 65 clauses, and was the result of boards of conciliation appointed in past years, each year adding more and more to the agreement and binding the company to various concessions. All of the employes who worked on an hourly basis, with the exception of about 10, were members of Division 279. This agreement expired on June 30. On June 1, the company was presented with a draft agreement, to take effect on July 1, asking for an increase in the wage rate to 60c an hour, and many other concessions, such as double time for Sundays and legal holidays, two weeks holidays with pay for all employes, etc., which would amounted in all to an increase of over $600,000 a year. It was pointed out to the committee from the union that such an agreement was impossible, as the total profits from the business during the past fiscal year were less than $300,000. Negotiations were carried on during June, but without reaching any agreement, as the men stated that they could not be satisfied with anything less than 60c an hour, although they agreed to drop many other concessions asked.

The men refused to apply for a board of conciliation and stated that on July 1 they would go on strike. The Superintendent urged them to apply for a board of conciliation and to comply with the law, but they did not agree to this. The company thereupon applied for a board which was appointed by the Labor Department. The men refused to appoint a member of the board to represent them, and the Labor Department appointed one for them. At a meeting of the board on June 30, the men notified the chairman that the board must bring in an award as to wages for their mass meeting at midnight or they would go on strike the next day. The chairman stated this was impossible and strongly urged them to wait until the board could make its award as in any case if the rates could be adjusted satisfactorily to both parties, they would be dated from July 1.

However, the men went on strike on July 1. The company stated publicly that it would not do anything to operate a service until the board had finished its work. The Minister of Labor, who was out of town, returned a few days later and notified the board to suspend its sittings until the men had returned to work and restored the conditions which prevailed before the strike. A mass meeting was held and the union refused to allow its members to return. Although the President of the international organization had wired, stating the strike was illegal and urging to men to return to work, also that they would receive no strike pay.

The company then announced in the press that it would not employ strike breakers, but asked for applications from men who wished to be trained for the positions of conductors and motormen, and who would be given a guarantee of 9 hours a day as permanent employes. A class of 100 was formed at once and several hundred applications were received and kept on a waiting list until this first class had become trained. On July 9 the company started operating 22 cars and commenced another class for training. The service was gradually increased until on July 18 the company had 56 cars running, out of a normal service of 100. It could undoubtedly have done much better than this but purposely held back in order to give the old hands a chance to return. On July 18 the union committee asked for a proposition from the company and were told that 150 employes who had been given a promise of permanent work would have to be retained in the service, at nine hours work a day; those who were employed as conductors and motormen to be booked at the bottom of the relief runs. This would mean that 150 of the men who were on strike could not return to work, but would be placed on a waiting list and called upon as vacancies occurred. After a very stormy meeting the men voted to return under these conditions and at the old maximum rate of 39c, at which rate the new employes had been engaged.

The Brotherhood of Railway Trainmen offered to act as mediators between the company and the striking employes, but their efforts were devoted in trying to induce the company to break faith with the new employes and restore the rest of the strikers who were left without employment. These negotiations failed. On July 25 a meeting was arranged between representatives of the company, the men's union and two members of the board of conciliation, and agreement was reached with regard to rates and also the status of the striking employes who were on the waiting list. This was reduced to writing and signed by the various parties, the company refusing to sign an agreement such as the man had asked for prior to the strike. The net result was that the men received increases ranging from 3c to 6c an hour, and that as far as the strike was concerned, the company won an unqualified victory. It was clearly established that the work of a car man in city service is not skilled labor, and that men can be trained in a few days. The company had the sympathy of the general public and the newspapers all through the strike. An attempt to cause a sympathetic strike through the Trades and Labor Council failed. The principal provisions of the agreement are as follows:

Wages to be paid conductors and motormen from Aug. 1, as follows, per hour: First year, 39c; second year, 41c! third year, 43c; fourth year and thereafter, 45c. On Sundays, New Year's Day, Victoria Day, Dominion Day, Civic Holiday, Labor Day, Thanksgiving Day and Christmas Day, 10c an hour extra over regular rates will be paid. The rate for overtime shall be time and one half on all days at the regular rate. This will not include Sundays and legal holidays mentioned above. An allowance of one hour will be made to spare men who show up at 6 a.m., noon relief, and 6 p.m., who do not get work. An allowance of 10 minutes will be made for crews taking out or putting in cars in barns.

The overtime rate, and Sunday and legal holiday rate mentioned above will apply to all departments and to all employes working on an hourly basis. The following rates will be paid per hour:

Air brake and fare box repairer, machinist, carpenter and armature winder	50c
Painter, pitmen, car changers	45c
Glazier, armature winders' assistant, electrical trouble and bench workers, pit helpers, oilers and greasers	42c
Car cleaners	35c
Car inspectors	40c
Apprentices, at rates arranged for on employment with 5c an hour increase every six months.	
Linemen	45c
Ground men	39c
Chauffeurs	40c
Trackmen	40c

Laborers	37c
Switchmen	35c
Dynamo tenders, 1st class, main power plant, 8 hr. day	50c
Dynamo tenders, 2nd class, substations, 9 hr. day	44c

The new men, i.e., those taken into the service between July 1 and July 18, will be booked at the bottom of the list of conductors and motormen who are guaranteed 9 hours a day, and will remain so until such time as all the men who are at present working spare or are on the waiting list have been absorbed into the positions senior to those occupied by the new men today. The company, through its Superintendent, will do everything possible to adjust matters in the future so as to place the old employes into the positions they occupied prior to July 1. The committee representing the employes who are members of the employes union, agree that their members will do nothing, when either on or off duty, to force the men who are known as new employes to leave the service. All parties accept these new men as permanent employes and with full rights as such, with the one exception mentioned above, that until the old employes have been placed in their old positions, they will remain stationary at the bottom of the list of those men booked on 9 hours. Those men who have been unable to return to the other departments than the car service are considered as on a waiting list, and will be given the first available chance to return to their former positions as vacancies occur. The company guarantees that no discrimination will be used against any man in its employ because of his belonging to an association or union of employes.

Winnipeg Electric Ry.—A board of conciliation is the question of wages to be paid the company's trainmen and shopmen. The board consists of Chief Justice Mathers, chairman; J. T. Haig, K.C., representing the company, and R. S. Ward, representing the men.

Toronto Civic Railway Operating Results.

The Toronto Bureau of Municipal Research has issued the following statement of the results of operating the Toronto Civic Ry. from 1915 to 1919:

Year	Expenditures, including debt charges.	Income	LOSS Amount	LOSS % of Income
1915	$ 332,074.25	$ 199,980.49	$132,093.76	49.3
1916	343,975.17	225,031.38	118,943.79	66.1
1917	432,136.83	275,972.78	156,164.05	52.8
1918	460,082.87	331,724.00	128,358.87	38.7
Estimated, 1919 ..	629,677.93	340,000.00	289,677.93	85.2
Total..	$2,198,247.05	$1,372,708.65	$825,538.40	60.1

In reviewing the city estimates for this year, the Commissioner of Finance, Thos. Bradshaw, said: "The recommendation to increase the fares of the civic car lines to an extent that would eliminate the annual deficit, though often repeated, and strongly urged, has met with no result. Nothing can more discredit the policy of public ownership in the eyes of the man on the street than this uneconomic policy in regard to a service which, from its present limited nature, is of advantage to a special section of the ratepayers only. Moreover, many others, who are not Toronto citizens at all by virtue of residence beyond the city limits, receive transportation at a nominal rate and do not even contribute to the yearly deficits as general taxpayers.

"The deficit for 1919 is estimated to reach about one-half of a mill on the assessment, and the suggestion has been made that all deficits should be capitalized and made a part of the funded debt, which will be established when the Toronto Ry. is acquired, but it is felt that such a proposal could not have received due consideration. It is estimated that these accumulated deficits would amount to the large sum of approximately $1,750,000 by Sept., 1921, and if this amount were added to the price to be paid for the tangible assets of the Toronto Ry., the total capital liability of the enterprise would be so greatly increased that the successful operation of the system under municipal ownership would be very seriously handicapped from the beginning. This augmentation without value savors too much of certain corporation methods, and their accompaniment of inflated and watered capial, with its well known disastrous and burdensome effects.

"It must, of course, be recognized that the heavier the capitalization of an enterprise, the greater must be the earnings in order to maintain it, and the logical result of over capitalization of the street railway of Toronto by the city, would be an inevitable increase in the citizens' transportation charges."

Ottawa Electric Railway Insurance and Sick Benefit Society.

F. D. Burpee, Superintendent, Ottawa Electric Ry., has issued the following bulletin to all employes:—"It has been suggested that an insurance and sick benefit society would be welcomed by a large number of the employes. The company's directors have authorized me to say that if this is the case, they will agree to pay into such a scheme, an equal amount to that paid in by the employes who wish to participate, and all expenses connected with the society.

"The scheme I have in mind covers a life insurance policy of $1,000, payable at death from any cause, which could be converted at about the age of 65, into the same amount of cash, or continued as a paid-up insurance policy for a greater amount; a sick benefit amounting to $10 weekly, for any 10 weeks in one year, after the first week's absence, from any illness, or from accident occurring while off duty; and the services of a doctor, free of charge, to members of the society. Accidents while on duty are not being considered, as they are taken care of by the Workmen's Compensation Act of Ontario.

"It would also be arranged that if a man left the service for any reason whatever before reaching the age of 65, he could continue his policy by assuming the full payment of the premium, or give up the policy and take its cash surrender value. This could be done at any time after three year's premiums had been paid, and after five years the cash surrender value should amount to greater than the premium paid by the holder of the policy. This clause practically means that the policy becomes a savings bank account, and in the event of the man leaving the service for any cause, after 5 years, would bring him back in cash more than he had paid in, as well as providing protection during his employment.

"In order to put the society on a permanent basis the life insurance would be underwritten by a responsible life insurance company, the payments of the premiums being guaranteed by the railway company.

"We have a number of employes who have passed the age that would be accepted by any insurance company, except by the payment of a premium that would be too heavy for the society to stand. The directors are willing that the railway company should take care of the interests of these employes separately, so that they would not become a burden on the society, but they would receive the same benefits as the younger employes. The scheme is entirely optional, and is open to the employes of all departments, including those occupying supervisory positions. The sick benefit will not be open to those who are employed on a monthly salary. It is expected that the monthly charge for each man will not exceed $2, and will probably be considerably less. The exact amount cannot be ascertained until the applications have been received, and the ages of those applying are definitely known.

"The scheme will be guaranteed by this company and, as far as the life insurance is concerned, will be covered by a responsible insurance company. It will enable any employe to obtain the benefits referred to above at half or less than half of the amount they would cost in any other way.

"All those who wish to become members of this society are requested to give their names, ages, and dates of birth as soon as possible to the officials mentioned below: Conductors and motormen, Mr. Tobin; car shops and barn, Mr. Baldwin; line department, Mr. Ouelette; track department, Mr. Monette; power department, Mr. Bradley.

"An application will not obligate you to anything until the exact monthly rate to carry this scheme on can be obtained. This rate will depend on the average age of those who wish to join. If you wish to avail yourself of these benefits put your name in at once, and as soon as the rate is given it will be announced by bulletin, when any who wish to withdraw their names can do so."

Mainly About Electric Railway People.

Captain A. C. Eddy, Engineer of Maintenance of Way, British Columbia Electric Ry., Vancouver, is back in the company's service after being attached to the U.S. Engineers for nearly two years, and being engaged in construction service in France for the U.S. army.

Chas. Elliott, heretofore Claims Agent, Niagara, St. Catharines and Toronto Ry., St. Catharines, Ont., has been appointed Assistant Superintendent at Niagara Falls, Ont., with jurisdiction over the Niagara Falls, Wesley Park and Clifton Tramway Co.'s line and Niagara Falls terminal, D. Toomey, heretofore Inspector at Niagara Falls, having resigned.

George Kidd, General Manager, B.C. Electric Ry., returned to Vancouver recently after spending three months in England, conferring with directors there. He had no changes in policy or staff to announce, the trip being for routine purposes only. One of the directors is expected to visit British Columbia shortly.

Mrs. A. W. McLimont, who died at Ottawa at the end of July, was mother of A. W. McLimont, Vice President and General Manager, Winnipeg Electric Ry.

Mrs. G. A. Seixas, who died at West Field, N.J., was mother of E. F. Seixas, formerly Manager of the Niagara, St. Catharines and Toronto Ry., St. Catharines, Ont., and now General Manager and Official Representative, Monterey Ry., Light and Power Co., Monterey.

Electric Railway Notes.

The Winnipeg Electric Ry. has received 2 semi-steel cars from Ottawa Car Manufacturing Co.

The Three Rivers Traction Co. has received 2 one-man wooden cars from Ottawa Car Manufacturing Co.

Toronto and York Radial Ry. employes, about 200 in all, have decided to join the Toronto Railway Employes' Union, instead of forming a separate branch.

The British Columbia Electric Ry. was fined $30 by the Victoria police magistrate, recently, for permitting one of its cars to proceed at a greater rate of speed than 10 miles an hour.

The British Columbia Electric Ry. entertained the members of the Engineering Institute of Canada's Vancouver branch, at its Lake Buntzen hydro electric power development plant recently.

The Regina Municipal Ry. employes' union voted recently to withdraw from membership in the Regina, Sask., Trades and Labor Council, owing to that body having endorsed the constitution of the one big union.

The Cape Breton Electric Co. began recently a safety first campaign through advertisements in the local papers. The first talk was introductory, and subsequent talks were addressed to passengers, parents, boy scouts, auto drivers, etc.

The Vancouver, B.C., City Council gave the first reading recently to a bylaw repealing the bylaw authorizing the operation of a jitney service in the city, passed during the recent strike in which British Columbia Electric Ry. employes joined.

The Nova Scotia Tramways and Power Co. contemplates the purchase for its lines in Halifax, N.S., of 20 single truck Birney safety cars, as soon as the Nova Scotia Board of Commissioners of Public Utilities grants the necessary permission to do so.

The British Columbia Public Utilities Commissioner has under consideration an application of residents of South Vancouver for an increased service. The people ask for a 15 minute through service instead of the present shuttle car service on Main St. from 52nd St.

In Vancouver every Friday, one of the B.C. Electric Ry.'s observation cars is handed over to one of the military hospitals for the use of convalescent soldiers. Seventy tickets are given out each week to the blue band men and they enjoy the cars' regular trip through the city.

The Edmonton, Alta., City Commissioners propose to continue granting passes for disabled soldiers on the Edmonton Radial Ry., and to make an application to the military authorities at Ottawa for payment. The same decision was made with regard to 12 passes issued to the military police.

The Montreal Tramways Commission is said to have under consideration the operation of one man cars on certain city stub lines. It was reported Aug. 12 that arrangements would be made to hold a meeting at the end of August at which the question could be discussed by all parties interested.

The London and Port Stanley Ry. is quoting a round trip fare from London to Cleveland, Ohio, on Wednesdays and Saturdays, returning on the following day. The trip from Port Stanley to Cleveland and return is made by the steamboat Theodore Roosevelt, which runs daily between those ports.

Saskatoon, Sask., ratepayers, by a vote of 174 to 123, taken recently, defeated the proposal favoring the operation of one-man cars on the Saskatoon Municipal Ry. They also defeated the proposal to provide the funds necessary for the alteration of the present cars to permit of their operation as one-man cars.

The Oshawa Ry. has ordered a 50 ton electric locomotive from Ottawa Car Manufacturing Co. It is to be all steel construction, 32 ft. long over bumpers, cab 16 ft. long by 10 ft. wide. top of rail to top of roof 12 ft. It will be equipped with four 100 h.p. Westinghouse motors with Westinghouse H.L. double end control, Westinghouse EL 14 air brake and locomotive brake.

The Grand River Ry. inaugurated a Sunday car service on its lines between Galt, Preston, Hespeler, and Kitchener, Ont., Aug. 3. The service is an hourly one, and the cars arrive at and leave Galt, in connection with the cars on the Lake Erie and Northern Ry., which is operated under the same management. It is now therefore possible to make a Sunday trip from Kitchener to Port Dover on Lake Erie, and return on the same day.

The Elgin, Ont., county judge has reserved judgment on the appeal of the London and Port Stanley Ry. against an assessment of $61,000 on its property in Port Stanley, Ont., property. The company claims that the line, being municipally owned, is exempt from taxation even under the act passed at the Ontario Legislature's last session. This act, counsel for Port Stanley, contended, was passed for the purpose of making the property assessable.

A London, Ont., City Council's committee had before it recently a report on the service given by the London St. Ry., which claimed that the company was not maintaining the service called for in the bylaw, reference being specially made to the continued maintenance of a stub line on Rectory St., between Dundas St. and Hamilton Road. The report was adopted, but the matter was referred back to the committee in order that a further report might be received from the City Engineer.

The Winnipeg Electric Ry. announced recently that it was employing 517 returned soldiers. Of these 259 are previous employes, who went back to their positions enjoying their seniority and all benefits which accrued during their absence overseas. Following are other particulars: Employes in company's service having joined army, 607; returned soldiers previously employed re-entered service, 259; returned soldiers not previously employed now in service, 258; returned soldiers employed, but since resigned, 357.

The Regina, Sask., City Council on Aug. 9, approved of a report of the commissioners on the question of the feasibility of having the Regina Municipal Ry. cars meet all trains at the union station. The commissioners reported against the proposal. Superintendent Houston pointed out that the most feasible way of providing such a service would be to extend the College line round the South Railway St. loop, and give a 10-minute service. In order to pay operating charges and overhead expenses it would be necessary to carry 1000 passengers a day from the station. Commissioner Thornton is reported to have said that there was absolutely no chance of getting sufficient patronage to justify the operation.

John Mackay & Co.'s appeal against the judgments of the Canadian court in his action against the City of Toronto for $42,000 for services rendered in connection with the proposed purchase of the Toronto railway by the city some few years ago, came before the Imperial Privy Council recently, judgment being delivered Aug. 7, dismissing the appeal, with costs. When the case was before the Canadian courts judgments were rendered against appelant each time, one judgment stating that if he was entitled to recover the amount he should receive would be approximately $7,000. The point on which the appeal failed was that there was no agreement between the parties and that the then mayor had no authority through the city council to commit the city to the matter.

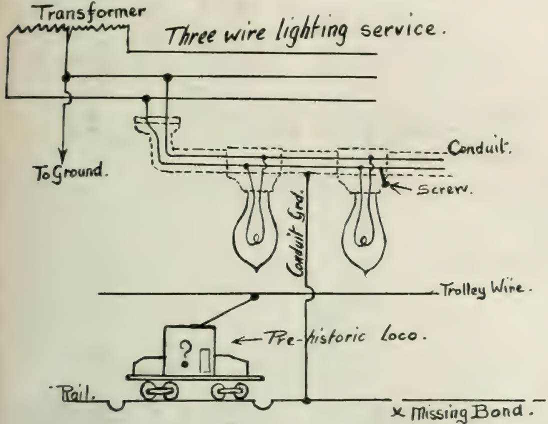
Toronto Preparing to Take Over the Toronto Ry.—The mayor of Toronto made the following statement recently: "The city council's traffic commission will meet weekly, as soon as the exhibition is over. During the past six months a sub-committee of R. C. Harris, E. L. Cousins and Mr. Bradshaw, have been working on the financial, legal and engineering features of the taking over of the Toronto Ry. and everything is being done that can be done. A report will be presented to the city council shortly dealing with the whole question. The commission will report the extension of civic car lines, the opening of a car factory to manufacture cars, and on the submission of a bylaw for $5,000,000 for equipment, track allowances and other matters, as well as on many matters referred to it during the past six months by the city council. As soon as we take over the railway, a commission of three or more will be appointed, similar to the harbor board, to take complete control of the system, and operate it."

Fort William Municipal Ry. and Port Arthur Civic Ry.—A Port Arthur, Ont., press dispatch of Aug. 20 says that Sir Adam Beck, chairman, Hydro Electric Power Commission of Ontario, has offered to take over the municipally owned railways in Fort William and Port Arthur, to put them under one management, and to make them pay. These lines are operated by commissions representing the city councils of Port Arthur and Fort William, respectively and have been losing money for some years past. There are several lines in each city and an interurban line connecting the two cities.

Electrification of Belgian Railways—A Brussels cablegram states that the electrification of the principal railways in Belgium is to be proceeded with at once. The first line to be electrified will be that between Brussels and Antwerp, the estimated cost of the work being 15,000,000 francs. The electrification of the line from Brussels to Ghent, Louvain and Namar will be gone on with at a later date. The cablegram adds that contracts for the work had not been let up to Aug. 9.

A Peculiar Trouble at Vancouver.

The accompanying diagram illustrates a rather remarkable case of trouble which occurred some years ago in a machine shop on the south side of False Creek, Vancouver. Whenever a train passed the building all the lights on one side of the shop would flare up and burst. After some Sherlock Holmes-ing, the following clues were picked up:



The central or neutral wire of the lighting service was permanently connected to ground at the transformer.

The conduit system in the building was connected to the B.C.E.R. track to "ground" it.

One of the light wires had become "grounded" on to the conduit, as a result of a screw, securing a light receptacle, having punctured the insulation.

Some enterprising individual, in a hurry to become wealthy, had removed some of the copper bonds from the track by means of a hammer and cold chisel.

The result was that when an electric locomotive passed over the place where the bonds should have been, the 500-volt direct current flowed from the trolley wire through the motors to the rail, along the rail to conduit ground wire, thence through lamps to a real ground at the transformer. The lamps, being designed for 110 volts, went on strike when forced to carry 550 volts. J. H. Northrop, Horne-Payne substation, in British Columbia. Electric Railway Employes Magazine.

The London and Lake Erie Ry. and Transportation Co. has, we are officially advised, sold the whole of the copper wire from its dismantled line from London to Port Stanley, Ont., to Frankel Bros., Toronto.

St. Thomas Municipal Ry. Operation—The City of St. Thomas, Ont., is considering making changes in regard to the operation of its electric railway, which for some time past has been losing losing about $1,000 monthly. The substitution of one-man cars, for the two-man cars now operating, is one of the things suggested.

Answers to Questions on Electric Railway Topics.

Answers to questions were sent by Canadian electric railway officials recently to the American Electric Railway Association's question box:—

Zone Systems.—What would be the determining factors in establishing zone limits on a city property, when it is intended to have on central city zone and one outside suburban zone?

W. G. Murrin, Assistant General Manager, British Columbia Electric Ry., Vancouver, B.C.—The factors determining zone limits are the geographical and topographical layout of the system, density of traffic and length of average haul. For example, in our east outlet from the business district is controlled in one direction by the bridges available, so that to reach a district less than two miles away requires the same mileage as another over three miles out.

Continuous Use of Power.—Is it good practice on roads of less than 75 miles, to allow cars on the line continually, the city lines included being less than 10 miles?

W. G. Murrin, Assistant General Manager, British Columbia Electric Ry.—It depends upon headway of traffic and consequent liability to delays and collisions. All work except emergency jobs would have to be done at nights, or when traffic is at a minimum, and proper flagging rules should be enforced.

Draftsmen's Association Formed in Toronto.

Following a series of meetings in Toronto by a number of draftsmen of all branches, the Draftsmen's Association has been formed with the following objects: To promote more professional etiquette of the various branches of arts and science similar to that of the physician, lawyer, etc. To ensure that all work be carried out by men of specific qualifications. That the branches of arts and science shall know each other closer in relation to their work, and eliminate professional jealousy. That by means of lectures and classes to be given by advanced members of the association, a broader knowledge be imparted to the younger element of all branches. To act habitually through the associations of architects, engineers and draftsmen and their chapters; in other words, to act as a compact, professional body, and not as individuals. To convince the employers of the different branches that the maintenance of ethical standards is the only right road to business success. To make the employers believe in us because we believe in ourselves. To promote such interest and participation in public and quasi-public affairs that will show the draftsmen to be men of general ability and civic pride, and not merely self-interested individuals. To create a more equable relation between employers and employes. That the employers who purchase the brains of the different services financially realize the value thereof. Last, and not least, that by inspiration and thoroughness in the training of the junior draftsmen the association aspires to do what the societies of architects and engineers have failed to do, viz: a more sound training in every branch of the arts and science and ensure better recognition of the draftsman as a co-ordinate to the architect or engineer.

Disaster at Port Colborne Elevator.

The Dominion Government terminal grain elevator at Port Colborne, Ont., was wrecked Aug. 9, by an explosion, which is thought to have been caused by the ignition of dust. There was about 400,000 bush. of wheat in the elevator at the time, and it is expected that a considerable portion of this will be salved. The building itself was practically wrecked and the top was blown some distance, and fell on the Montreal Transportation Company's steel barge Quebec, which was loading at a nearby slip. The upper works and deck of this vessel were battered in and the vessel was eventually beached to save her from sinking. The number of deaths in the elevator and on the barge Quebec was 10, and several were severely injured. The Dominion Government has appointed a board of engineers to determine the cause of the disaster, to make recommendations with a view to preventing any similar occurrence in future, and also to decide as to the repairs and reconstruction of the elevator buildings and the salvaging of the grain left in the bins. The board consists of C. N. Monsarrat, Consulting Engineer, Dominion Government; A. St. Laurent, Assistant Deputy Minister, Public Works Department; D. W. McLachlan, Engineer in Charge, Port Nelson Terminals, Hudson Bay Ry.; and John Murphy, Electrical Engineer, Railways and Canals Department.

The Board of Conciliation appointed to deal with the wages question of the Toronto Ry. and Toronto Electric Light Co.'s employes, consists of Judge Gunn of Ottawa, Chairman; W. H. Moore, General Manager, Toronto and York Radial Ry., representing the companies, and F. Bancroft, Toronto, on behalf of the men. It has since been announced that Judge Gunn has declined the appointment.

Railway Lands Patented—Letters patent were issued during July for Dominion railway lands in Western Canada to the Canadian Nothern Ry. covering 9,493.70 acres.

Marine Department

Canadian Government Merchant Marine, Ltd., Shipbuilding, Opertion, Etc.

Orders for Steamships—Since Canadian Railway and Marine World for August was published, the Marine Department has been negotiating with the Dominion Shipbuilding Co., Toronto and the Midland Shipbuilding Co., Midland, Ont., for additional steel cargo steamships for Canadian Government Merchant Marine Ltd. It is said that the Dominion Shipbuilding Co. has been awarded an order for 2 ships, approximately [illegible],550 tons d.w. each, single deck type, improved Canard to Lloyd's classification, speed 11 knots, approximate delivery dates May and June, 1920.

Names of Steamships. It was stated in Canadian Railway and Marine World for August that some of the names chosen for vessels of the Canadian Government Merchant Marine Ltd., fleet might be changed, and that names ending in "er" might be substituted for them. We have since been advised of the following changes:

Canadian Cadet, approximately 3,400 tons d. w., being built by Port Arthur Shipbuilding Co., Port Arthur, Ont., changed to Canadian Sower.

Canadian Scout, approximately 5,100 tons d. w., being built by Wallace Shipyards Ltd., North Vancouver, B.C., changed to Canadian Raider.

Keels Laid—Since Canadian Railway and Marine World for August was published, we have been advised of the laying of the following keel:

S.S. Canadian Inventor, Marine Department contract 36; builder's yard no. 13, approximately 8,100 tons. d.w., J. Coughlan & Sons, Vancouver, B.C., July 24.

At the dates of our last advices keels were expected to be laid as follows, but up to Aug. 26 we had no information that they had been.

Marine Department Contract 30; builder's yard no. 2; approximately 8,100 tons d.w., Harbour Marine Co., Victoria, B.C., expected to be laid about Aug. 21.

Marine Department contract 32; builder's yard no. 43; approximately 4,300 tons d.w., Port Arthur Shipbuilding Co., Port Arthur, Ont., expected to be laid Aug. 21.

Marine Department contract 33; builder's yard no. 44; approximately 4,300 tons, Port Arthur Shipbuilding Co., Port Arthur, Ont., expected to be laid Aug. 22.

Delivery of Steamships—The steel cargo steamships which are being built for the Marine Department, and which have been completed so far, were delivered to Canadian Government Merchant Marine Ltd., for operation, as follows:

Feb. 22, s.s. Canadian Voyageur, 4,575 tons, d.w.; Canadian Vickers, Ltd., Montreal.

April 26, s.s. Canadian Warrior, 3,995 tons, d.w.; Collingwood Shipbuilding Co., Collingwood, Ont.

May 9, s.s. Canadian Pioneer, 8,408 tons, d.w.; Canadian Vickers Ltd., Montreal.

May 23, s.s. Canadian Ranger, 8,382 tons, d.w.; Canadian Vickers Ltd., Montreal.

June 7, s.s. Canadian Recruit, 3,964 tons d.w.; Collingwood Shipbuilding Co., Collingwood, Ont.

June 19, s.s. Canadian Volunteer, 4,530 tons, d.w.; Wallace Shipyards Ltd., North Vancouver, B. C.

July 18, s.s. Canadian Trader, 3,341 tons, d.w.; Port Arthur Shipbuilding Co., Port Arthur, Ont.

Aug. 7, s.s. Canadian Sailor, 3,357 tons, d.w., Port Arthur Shipbuilding Co., Port Arthur, Ont.

Aug. 7, s.s. Canadian Trooper, approximately 4,300 tons, d.w., Wallace Shipyards, Ltd., North Vancouver, B. C.

Aug. 14, s.s. Canadian Seigneur, approximately 8,100 tons, d.w., Canadian Vickers, Ltd., Montreal.

Deadweights of Steamships. The following table shows the approximate tons d.w. provided for in the contracts for 8 of the steel cargo steamships ordered by the Marine Department for Canadian Government Merchant Marine, Ltd., and the finally determined weights at which the builders are paid at the price per long ton stated in the contract.

Steel cargo steamship Canadian Trader, 3,341 tons d.w., built for Canadian Government Merchant Marine Ltd., by Port Arthur Shipbuilding Co., Port Arthur, Ont.

	Approximate	Determined
Canadian Pioneer	8,100	8,408
Canadian Ranger	8,100	8,382
Canadian Recruit	3,750	3,964
Canadian Sailor	3,400	3,357
Canadian Volunteer	4,300	4,530
Canadian Trader	3,400	3,341
Canadian Voyageur	4,300	4,575
Canadian Warrior	3,750	3,995

Officers of Steamships—Following is a list of captains and chief engineers of steamships so far appointed by Canadian Government Merchant Marine Ltd., the first column containing the name of the vessel, the second that of the captain and the third that of the chief engineer:

Canadian Miller	Lt. Commander J. G. Randell	J. M. Roche
Canadian Pioneer	T. R. Coffin	P. C. Bennett
Canadian Ranger	A. S. M. Nicholls	R. J. Webster
Canadian Recruit	J. D. MacKenzie	R. N. Simpson
Canadian Signaller	J. E. Faulkner	Robt. Blair
Canadian Sailor	W. E. Baker	J. W. Abolit
Canadian Seigneur	F. Ferguson	J. Gladstone
Canadian Trader	D. Campbell	Chas. Thompson
Canadian Volunteer	A. O. Cooper	John Young
Canadian Voyageur	A. L. Starrett	J. T. Meredith
Canadian Warrior	E. C. Sears	L. Marshall

The s.s. Canadian Trader, approximately 3,400 tons d.w., was delivered by the Port Arthur Shipbuilding Co. to the Marine Department, July 18, transferred to Canadian Government Merchant Marine Ltd., and proceeded light to Erie, Pa., clearing from there on July 23, with a cargo of no. 8¾ coal consigned to Canadian National Rys. at Montreal.

Canadian Vickers Ltd., Montreal, delivered the s.s. Canadian Seigneur, Marine Department contract 25; builder's yard no. 69, approximately 8,100 tons d.w., to the Marine Department, Aug. 14, and she was transferred immediately to Canadian Government Merchant Marine Ltd. A full description of this type of ship was published in Canadian Railway and Marine World for April.

The company launched the s.s. Canadian Miller, Marine Department contract 26; builder's yard no. 70, approximately 8,100 tons d.w., on Aug. 16, when she was christened by Mrs. J. W. Norcross, wife of the President, Canada Steamship Lines. The vessel has the following dimensions, length overall, 413 ft. 1 in.; length, b.p., 400 ft.; breadth moulded, 52 ft.; depth moulded, 31 ft.; draft loaded 25 ft. 1 in. She is of the two deck, poop, bridge and forecastle type, and equipped with triple expansion engines with cylinders, 27.44 and 73 in. diar. by 48 in. stroke, 3,000 i.h.p., for a speed of 11 knots an hour, and supplied with steam by 3 single ended boilers at 180 lb. working pressure. Immediately after launching, she was towed to the fitting out wall, and it is expected she will be ready for service early in September. The Canadian Miller is the fifth ship built by this company for the Canadian Government Merchant Marine, making an approximate total of 40,000 tons, and 3 more ships are under construction.

We are advised that the company expects to launch the s.s. Canadian Navigator, Marine Department contract 23; builder's yard no. 73, approximately 4,300 tons d.w. about Sept. 13.

Collingwood Shipbuilding Co., Kingston, Ont., which has a contract for one steel cargo steamship, Canadian Beaver, approximately 3,750 tons d.w., from the Marine Department, for Canadian Government Merchant Marine Ltd., advised us Aug. 5 that the ship will probably be launched late in September or early in October, but that this will depend largely on deliveries of material.

J. Coughlan & Sons, Vancouver, B.C., laid the keel of the s.s. Canadian Inventor, approximately 8,100 tons d.w., for Canadian Government Merchant Marine Ltd., Marine Department contract 36; builder's yard no. 13, on July 24. The keels for the s.s. Canadian Importer and the s.s. Canadian Exporter, each also approximately 8,100 tons d.w., were laid Apr. 26 and May 3, respectively, as stated previously in Canadian Railway and Marine World.

Davie Shipbuilding & Repairing Co., Lauzon, Que., which has contracts from the Marine Department for 2 steel cargo steamships, Canadian Trapper and Canadian Hunter, each approximately 5,100 tons d.w., advised us Aug. 5 that it expected to launch them by the latter end of September.

Steel Cargo Steamship, Canadian Ranger, 8,382 tons d.w., built for Canadian Government Merchant Marine Ltd., by Canadian Vickers Ltd., Montreal, on her maiden trip down the St. Lawrance, en route to Liverpool, Eng.

Dominion Shipbuilding Co., Toronto, is reported to have been assured by the Marine Department of an order for 2 steel cargo steamships for Canadian Government Merchant Marine Ltd., of approximately 3,550 tons d.w., each, single deck type, improved Cunard to Lloyd's classification, speed, 11 knots, approximate delivery dates May and June, 1920.

Harbour Marine Co. Ltd., Victoria, B.C.—The Marine Department's contracts 29 and 30, for 2 steel cargo steamships of approximately 8,100 tons d.w. each, were let to Victoria Machinery Depot Co., Victoria, B.C., which name has appeared in our full page table, "Orders for steel cargo steamships for Canadian Government Merchant Marine Ltd." for several months past. As a subsidiary company, Harbour Marine Co. Ltd., has been formed to build the ships, its name has been substituted in our table for Victoria Machinery Depot Co. As stated in our last issue, the keel for Marine Department's contract 29, builder's yard no. 1, was laid July 14, and we have since been advised that the keel for Marine Department contract 30; builder's yard no. 2, was laid Aug.

Port Arthur Shipbuilding Co., Port Arthur, Ont., delivered the steel cargo steamship Canadian Sailor, Marine Department contract 20; builder's yard no. 40; 3,357 tons d.w., to the Marine Department, Aug. 6. She was transferred immediately to Canadian Government Merchant Marine, Ltd., and left Aug. 7, at noon, for Montreal, with grain.

The company expects to launch two other vessels as follows: s.s. Canadian Adventurer, Marine Department contract 19a; builder's yard no. 41, approximately 3,400 tons d.w., about Sept. 1, and s.s. Canadian Sower, Marine Department contract 20a; builder's yard no. 42, approximately 3,400 tons d.w., about Sept. 15. Keels for 2 steel cargo steamships, Marine Department contracts 32 and 33; builder's yard numbers 43 and 44, each approximately 4,300 tons d.w., were to be laid Aug. 21 and 22. It was the intention to deliver these two ships this year, but the programme has been changed.

Prince Rupert Dry Dock and Engineering Co., Prince Rupert, B.C.—A Vancouver press report of Aug. 7, stated that keels for the 2 steel cargo steamships of approximately 8,100 tons d.w. each for Canadian Government Merchant Marine Ltd., would be laid about the end of August, and that it was expected that both vessels would be completed and ready to hand over to the government by Feb. 1, 1920, construction on both vessels proceeding simultaneously. The report also stated that the price to be paid to the company, is the same as to other western concerns, viz: $188 a ton. Reference to the detailed table of government shipbuilding on another page of this issue, will show that the price paid for this type of vessel, to this and other Pacific coast firms, is $198 a ton d.w.

C.P.R. Scholarships at McGill University.—Only one candidate qualified at the recent McGill matriculation examinations for the five scholarships in the applied science faculty offered by the C.P.R., viz: Jacob Bloomfield, Montreal.

The Railways of Canals Department received tenders during August for the purchase of the motor schooner, Neophyte, as she lies at Port Nelson, Hudson Bay. She was built at Amsterdam, Holland, in 1903, and is of steel with the following dimensions, length 107 ft.; breadth, 10.7 ft.; depth, 6.2 ft.; tonnage, 150 gross; 97 net; 188 tons d.w. capacity on 7 ft. draft. She is rigged for sailing as a fore and aft schooner, and the auxiliary equipment includes a 4 h.p. motor, driving screw.

Details of the Different Types of Steamships for Canadian Government Merchant Marine Ltd.

The following are comparative details of the six different types of steamship being built for Canadian Government Merchant Marine Ltd.:

	2,800 ton.	3,400 ton.	3,750 ton.	4,300 ton.	5,100 ton.	8,100 ton.	10,500 ton.
Length, overall	280 ft.	260 ft.	260½ ft.	333 ft. 7 ins.	344 ft.	413 ft. 1 in.	[illegible] ft
Length, bet. perpendiculars	270 ft	251 ft.	251 ft.	320 ft.	331 ft.	400 ft.	430 ft
Breadth, moulded	38 ft.	43½ ft.	43½ ft.	44 ft.	46½ ft.	52 ft.	56 ft.
Depth, moulded	20½ ft.	23 ft.	26 ft.	25 ft.	25½ ft.	31 ft.	38 ft
Draft, loaded	17¼ ft	20 ft	22 ft. 2 in.	21 ft. 2 ins.	21 ft. 8 ins	25 ft. 1 in.	29 ft
Type	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	Lake, s.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	2d., p.b. & f'c's'le	3d., p. & f'c's'le
Engines—Type	Tri-compound	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion
Cylinders, diar.	17½ x 23¾ x 47 ins.	20½ x 34 x 56 ins	18 x 30 x 50 ins	25 x 41 x 67 ins	25 x 41 x 68 ins	27 x 44 x 73 ins.	29½ x 50 x 80 ins
Stroke	33 ins	40 ins.	36 ins.	45 ins.	45 ins	48 ins	54 ins
Ind. h.p.	[illegible]	1,300	1,200	1,800	2,500	3,000	4,000
Boilers—Type	Single ended	Single ended	Single ended	Single ended	Single ended	Single ended	Single ended
No.	2	2	2	2	3	3	4
Diar. and length	12¾ x 10¾ ft.	15 x 11 ft	14 x 10¾ ft	15½ x 11½ ft	14 x 11½ ft	15½ x 11½ ft.	15½ x 11¾ ft
Working pressure	145 lbs	190 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs	180 lbs.
Furnaces—No.	[illegible]	6	6	6	9	9	—
Grate surface	80 sq. ft	135 sq. ft	100 sq. ft.	132 sq. ft	156 sq. ft	198 sq. ft	—
Heating surface	3,060 sq. ft	4,670 sq. ft	3,900 sq. ft	5,162 sq. ft	7,275 sq. ft	7,743 sq. ft	—
Speed	8½ knots	9 knots	9 knots	11 knots	11 knots	11 knots	12 knots
Classification	Lloyd's	Lloyd's	Brit. Corp.	Lloyd's	Lloyd's	Lloyd's	Lloyd's

Orders for Steel Cargo Steamships for Canadian Government Merchant Marine Ltd.

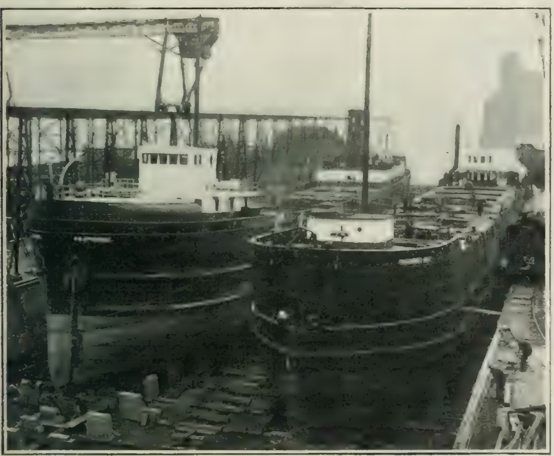
The following is a complete list of steel cargo steamships which the Dominion Marine Department has been authorized, by order in council, to place orders for, and which orders are to be carried out. The figures given in the column headed "Long tons d.w." and which are preceded by an asterisk (*) show the total deadweight capacities as determined after the ships have been completed. The other figures in that column, not preceded by an asterisk, show the approximate total deadweights, subject to modification as they may vary above or below the figures given and as may be ascertained after the ships are completed, and of course, the total prices will vary accordingly.

The following contractions are used in the column giving the type of the vessels to be built: s.d., single deck; 2.d., two deck; 3.d., three deck; lake, lake type; p., poop; b., bridge; f'c's'le, forecastle.

Contract	Contract date	Builder	Yard no.	Long tons d.w.	Price per ton d.w.	Total price	Type	Classification	Speed, knots	Approximate delivery date	Keel laid	Launched	Name
1	Mar. 4, 1918	Canadian Vickers Ltd., Montreal	66	*4,575	$207.	$ 947,025	S.d., p., b. and f'c's'le	Lloyd's	11	Dec. 31, 1918	June 11, 1918	Nov. 23, 1918	Canadian Voyageur
2	May 22, 1918	" "	67	*8,408	180.	1,513,410	2.d., p., b. and f'c's'le	"	11	Jan. 31, 1919	July 17, 1918	Dec. 3, 1918	Canadian Pioneer
3	May 18, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	61	*3,995	205.	818,975	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	May 1, 1919	Not stated	Dec. 21, 1918	Canadian Warrior
4	Mar. 15, 1918	Wallace Shipyards Ltd., North Vancouver, B.C.	100	*4,530	207.	937,710	S.d., p., b. and f'c's'le	Lloyd's	11	Mar. 31, 1919	Oct. 1, 1918	Apr. 5, 1919	Canadian Volunteer
5	Nov. 25, 1918	" "	106	4,300	217.	933,100	S.d., p., b. and f'c's'le	"	11	May 31, 1919	Nov. 15, 1918	May 31, 1919	Canadian Trooper
6	Nov. 25, 1918	" "	101	5,100	210.	1,071,000	S.d., p., b. and f'c's'le	"	11	July 31, 1919	Apr. 5, 1919		Canadian Aviator
7	Nov. 25, 1918	" "	102	5,100	210.	1,071,000	S.d., p., b. and f'c's'le	"	11	Sept. 30, 1919	May 31, 1919		Canadian Raider
10	July 6, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	62	*3,964	205.	812,620	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	May 15, 1919	June 3, 1918	May 3, 1919	Canadian Recruit
11	Oct. 17, 1918	" "	63	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 15, 1919	Jan. 16, 1919	June 28, 1919	Canadian Signaller
12	Oct. 17, 1918	" "	64	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	Feb. 10, 1919		Canadian Gunner
13	Aug. 9, 1918	Tidewater Shipbuilders Ltd., Three Rivers, Que.	5	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	Lloyd's	11	Aug. 1, 1919	Jan. 8, 1919		Canadian Settler
14	Aug. 9, 1918	" "	6	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Sept. 1, 1919	Jan. 10, 1919		Canadian Rancher
15	Jan. 24, 1919	" "	7	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 15, 1919			Canadian Fisher
16	Jan. 24, 1919	" "	8	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	May 15, 1920			Canadian Forester
17	Sept. 4, 1918	Davie Shipbuilding & Repairing Co., Lauzon, Que.	459	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 1, 1919	Mar. 11, 1919		Canadian Trapper
18	Sept. 4, 1918	" "	460	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 8, 1919	Mar. 28, 1919		Canadian Hunter
19	Sept. 4, 1918	Port Arthur Shipbuilding Co., Port Arthur, Ont.	39	*3,341	205.	684,905	Lake, s.d., p., b. and f'c's'le	"	9	June 1, 1919	Dec. 9, 1918	May 5, 1919	Canadian Trader
19a	Mar. 1, 1919	" "	41	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Sept. 30, 1919	Mar. 31, 1919		Canadian Adventurer
20	Sept. 4, 1918	" "	40	*3,357	205.	688,185	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	Dec. 10, 1918	May 31, 1919	Canadian Sailor
20a	Mar. 1, 1919	" "	42	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Oct. 31, 1919	Mar. 31, 1919		Canadian Sower
21	Sept. 13, 1918	Halifax Shipyards, Ltd., Halifax, N.S.	1	8,100	195.	1,579,500	2.d., p., b. and f'c's'le	"	10	Dec. 19, 1919	Feb. 24, 1919		Canadian Mariner
22	Sept. 13, 1918	" "	2	8,100	195.	1,579,500	2.d., p., b. and f'c's'le	"	10	Apr. 1920	Mar. 15, 1919		Canadian Explorer
23	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	73	4,300	215.	924,500	S.d., p., b. and f'c's'le	"	11	May 27, 1919	Jan. 22, 1919		Canadian Navigator
24	Oct. 11, 1918	" "	68	*8,382	188.	1,575,816	2.d., p., b. and f'c's'le	"	11	May 1, 1919	Aug. 26, 1918	Apr. 19, 1919	Canadian Ranger
25	Oct. 11, 1918	" "	69	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	June 1, 1919	Nov. 30, 1918	May 7, 1919	Canadian Seigneur
26	Oct. 11, 1918	" "	70	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	July 1, 1919	Dec. 2, 1918	Aug. 16, 1919	Canadian Miller
27	Oct. 11, 1918	" "	71	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	Aug. 1, 1919	Apr. 23, 1919		Canadian Spinner
28	Oct. 11, 1918	" "	72	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	Sept. 1, 1919	May 10, 1919		Canadian Planter
29	Jan. 24, 1918	Harbour Marine Co., Victoria, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Jan. 31, 1920	July 14, 1919		
30	Jan. 24, 1919	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Nov. 30, 1920			
31	Dec. 11, 1918	Collingwood Shipbuilding Co., Kingston, Ont.	15	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	Nov. 1, 1919	Apr. 7, 1919		Canadian Beaver
32	Mar. 1, 1919	Port Arthur Shipbuilding Co., Port Arthur, Ont.	43	4,300	215.	935,250	S.d., p., b. and f'c's'le	Lloyd's	10½	Nov. 1, 1919			
33	Mar. 1, 1919	" "	44	4,300	215.	935,250	S.d., p., b. and f'c's'le	"	10½	Nov. 15, 1919			
34	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	11	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	July 31, 1919	Apr. 26, 1919		Canadian Importer
35	Nov. 22, 1918	" "	12	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Aug. 31, 1919	May 3, 1919		Canadian Exporter
36	Nov. 22, 1918	" "	13	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Sept. 30, 1919	July 24, 1919		Canadian Inventor
37	Nov. 22, 1918	" "	14	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Oct. 31, 1919			Canadian Prospector
38	Dec. 10, 1918	Halifax Shipyards Ltd., Halifax, N.S.	3	10,500	197½	2,073,750	3.d., p., and f'c's'le	"	12	Aug. 1, 1920			
39	Dec. 10, 1918	" "	4	10,500	197½	2,073,750	3.d., p., and f'c's'le	"	12	Nov. 1, 1920			
40	Mar. 31, 1919	Nova Scotia Steel & Coal Co., New Glasgow, N.S.	5	2,800	210.	588,000	S.d., p., b. and f'c's'le	"	8½	Oct. 1919	Mar. 27, 1919		Canadian Sealer
41	Mar. 31, 1919	" "	6	2,800	210.	588,000	S.d., p., b. and f'c's'le	"	8½	Nov. 1919	Mar. 31, 1919		Canadian Miner
42	Feb. 21, 1919	Prince Rupert Dry Dock and Engineering Co., Prince Rupert, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Feb. 1920			
43	Feb. 21, 1919	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	June 1920			
44	Jan. 23, 1919	British American Shipbuilding Co., Welland, Ont.	4	4,350	215.	935,250	S.d., p., b. and f'c's'le	Brit. Corp.	10	Nov. 1919	Mar. 29, 1919		Canadian Otter
45	Jan. 23, 1919	" "	5	4,350	215.	935,250	S.d., p., b. and f'c's'le	"	10	June 1920	July 14, 1919		Canadian Squatter
46		Collingwood Shipbuilding Co., Collingwood, Ont.		3,750	180.	675,000	Lake, s.d., p. b., and f'c's'le	"	9	Apr. 1920			
47		" "		3,750	180.	675,000	Lake, s.d., p. b., and f'c's'le	"	9	Apr. 1920			
				272,802		$54,327,626							

The Passage of Large Vessels Through the Welland Canal.

For many years past it has been the practice, in the case of large vessels, which it is desired to take from the Great Lakes to the ocean, or vice versa, to cut them in two, to enable them to pass through the Welland Canal locks. Owing to the demands of the war, and the shortage of vessels, due to submarine warfare, a large number of vessels have been taken from the Great Lakes and placed in coasting and ocean service. Many of these were small enough to pass the locks without cutting in two, but a considerable number had to be divided. On account of the large number of such vessels, which the U.S. sent to the coast, it was decided to send a complete staff with outfit, to the St. Lawrence, so that the work of repairing them might proceed without interrupting the very urgent work then being carried on at Canadian shipyards there.

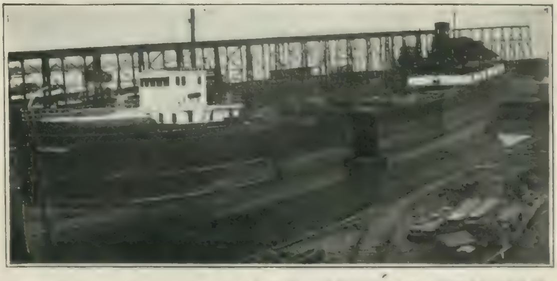


Steamship Paipoonge and Barge Thunder Bay, in Collingwood Shipbuilding Co.'s Drydock No. 2, preparatory to being cut in two to pass through the Welland and St. Lawrence Canals to the Ocean.

When the Welland Ship Canal is completed, work of this nature will be obviated, as the locks to be built will be of sufficient depth, width and height, to take the largest vessels likely to be operated on the lakes for some time.

The illustrations given on this page and the next, show the s.s. Paipoonge, owned formerly by the Canadian North West Steamship Co., Port Arthur, Ont., and the U.S. barge Thunder Bay, after being divided. These vessels were sold during 1918, for operation between South American ports, and the work of cutting them in two was completed, but the purchased defaulted in payment, and the vessels were re-sold, the purchaser in each case being H. B. Smith, President, Collingwood Shipbuilding Co., Collingwood, Ont., for the company.

The vessels are being re-joined by the Collingwood Shipbuilding Co., and will be refitted and made suitable for lake service.



Steamship Paipoonge, after being cut in two by Collingwood Shipbuilding Co., showing fore and aft sections afloat.

Inventions of Devices for Securing Greater Safety at Sea.

The war was carried on at such enormous cost to the world that it is some mitigation to learn that many of the instruments developed in warfare will be of great advantage to trade and navigation in times of peace. Interesting examples of this counterpoise were given by Dr. J. C. McLennan, Professor of Physics, University of Toronto, in an address to the Northeast Coast Institution of Engineers and Shipbuilders recently. As Scientific Adviser of the British Admiralty during the war he had a large share in the invention and development of these devices, and though naturally he could not enter into great detail regarding some of them, still he indicated sufficient to show how useful they may become to the merchant marine.

When the armistice was announced, the menace of the submarine had been completely overcome, and as far as it was then developed and used by the enemy it was helpless in face of the devices used against it. Among these was the hydrophone for sound ranging, and Prof. McLennan states that within operable ranges a ship can be given its position by sound ranging more accurately than by directional wireless or by any other known method. Explosions of mines or torpedoes at any point in the North Sea can easily be located by stations situated in Great Britain. In the war during the bombardment of the Belgian coast, it was a common thing for a monitor to proceed in a fog to a position some miles from the coast and by dropping depth charges have its position accurately determined from stations on the English coast. So accurately was this done that it was found, when the monitor's guns were trained in selected directions, objectives several miles inland could be hit with regularity, and with a minimum expenditure of ammunition. By means of sound ranging it is possible to fix the position of light vessels, buoys which indicate channels, and obstructions such as sunken vessels. Ships approaching in fog the shores of Nova Scotia, Newfoundland, or Labrador can be given their positions with accuracy for ranges up to 500 miles.

One of the simplest and most feasible methods of improving navigation appears to be by the use of the Leader gear, which consists of a cable laid on the bottom of the sea, along the course of a narrow, tortuous channel leading into a harbor or through a mine field. If an alternating electric current is passed through such a cable it is possible, by means of delicate devices installed on a ship, to obtain either aural or visual indications of the presence of such a cable, and by these indications a ship can be guided in safety in fog or darkness at speeds as high as 20 knots an hour, almost with as much precision as a tramcar by a trolley wire over a railway. Experiment has shown that it is a simple matter to apply this method in water of suitable depth for distances as great as 50 miles or longer. By a Leader gear laid in such areas as the River St. Lawrence or the entrance to Halifax harbor, Prof. McLennan says that in and out lanes of traffic can be organized which can be maintained with ease in fogs.

In case sound ranging might prove ineffective by the hydrophone, another system, the echo method, was invented. It was found that by means of beam sound waves, analagous to the working of a submarine it was possible to sweep the seas, and when an object such as a submarine came within the beam the sound waves were reflected and echo effects were produced. Prof. McLennan says that the same method can be used for [illegible] sounding as well as for locating icebergs, surface vessels, and rockbound coasts in a fog. The directional wireless can also be used to give the position of ships in the North Atlantic, when they are prevented from getting it by fogs or bad weather. The Admiralty, in consequence of these developments and of what they promise, proposes to establish a research and experiment department to increase the efficiency of the navy, and also to provide aids to navigation for the mercantile marine. The expense will be heavy, but Prof. McLennan says that if it prevents two or three wrecks per year, or lowers the time of the voyage between Great Britain and Canada on the average by one day per voyage per ship through the fog-covered areas in the neighborhood of Newfoundland sufficient will be saved in a year or two to cover the whole cost.—Toronto Globe.

Trent Valley Canal Construction.

The route of the Trent Valley Canal as now in operation and under construction lies between Trenton, on the Bay of Quinte, where direct connection is made with Lake Ontario, and Honey Harbor, on Georgian Bay, from which port the waters of the upper great lakes are at once accessible. The portion of the canal now under construction lies between Lake Couchiching and Georgian Bay.

The Railways and Canals Department report for the year ended Mar. 31, 1918, contains the following in regard to the work: The portion of the canal which lies between Trenton and Rice Lake is practically completed; the extent of the canal in operation or ready for operation may therefore be stated as about 200 miles, or between Trenton and Washago. In addition to this, other channels maintained would approximate 90 miles.

The Ontario-Rice Lake Division includes the canal which lies between Trenton and the easterly end of Rice Lake, a total distance of 56½ miles. This section is now practically completed, and will be opened for traffic early next season. (Note. This has been done.) The entire work when fully completed will have cost slightly over $5,000,000.

The Severn Division includes the portion between Lake Couchiching and Port Severn, on Georgian Bay, a total distance of 43 miles. In this distance there will be included 4 miles of canal, 5¼ miles of subaqueous channel, and 33¾ miles of deep river and lake navigation. The rise of about 139 ft. between the level of Lake Huron and that of Lake Couchiching will be overcome by 5 locks. For the regulation of the river levels, 15 dams will be required. The route of the canal will be crossed by 8 steel bridges, 5 for highway and 3 for railway traffic. Five of these bridges will be fixed spans, and the remainder swing spans. For construction purposes this division has been subdivided into 4 sections or contracts known as sections 1, 2, and 3, and the Port Severn section. Section 1 is not yet under contract, and it is not likely that tenders on it will be called for until after the close of the war. The work to be undertaken will include the reconstruction of 3 locks and 2 regulating dams, and will extend from deep water in Georgian Bay, near Island No. 181, 17 miles easterly, to a little above the Big Chute near the mouth of the Severn River. Section 2, now under contract, extends from the Big Chute to above McDonald's Rapids, 11½ miles. The work included in the contract comprises principally the construction of a dam at Pretty Channel, a dam, lock, and power-house at Swift Rapids, and the reconstruction of the Canadian Northern Ry. bridge at Ragged Rapids. The dam at Pretty Channel was completed towards the close of 1915. The dam at Swift Rapids was completed near the close of navigation in 1917. Since the completion of this dam, the elevation of the water in the river between Swift Rapids and Ragged Rapids has been raised 47½ ft. The power house at this point has been completed and all machinery installed, and it is expected that the plant will be in operation within a few days. Work on the lock has been proceeding satisfactorily. The excavation for the lock pits is about completed. The concrete work of the lock and the entrance piers is now about two-thirds completed. The upper entrance piers, breast wall and gate recess walls have been finished, and work on the side walls is well advanced. The swing span of the bridge at Washago for the crossing of the Canadian Northern Ry., was completed during the year. The girder approach at the west end has not yet been erected, and the completion of the railway diversion on either side of the bridge has been delayed for want of rails. No further work was done on the substructure of the Ragged Rapids bridge. Section 3, about 15¼ miles in length, extends from the easterly end of section 2 to deep water in Lake Couchiching. The contract for the work to be undertaken includes the construction of a lock just north of Lake Couchiching, 2 highway swing bridges, 1 railway swing bridge, and several small dams near Washago, as well as a large amount of rock and earth excavation. Owing to the conditions resulting from the war, a surrender of the contract was effected. Of the total amount of work to be performed under the contract, a little more than half has been completed. Of the work thus far carried out, the following items are among the more important: The excavation for the Couchiching lock is practically completed, and the concrete work on the upper entrance piers, breast, and recess gate walls is well advanced. The dredging of the channel in Lake Couchiching is nearly completed. The canal cut across country, from the Muskoka Road bridge to the river, is well advanced. The highway bridge at Muskoka Road is completed and now in use. The construction of the pivot pier only at the Hamlet Highway crossing of the canal has thus far been carried out. The swing bridge for the crossing of the Canadian Northern Ry. is complete, except for the fixed spans at the west.

Aft section of steamship Paipoonge afloat.

Fore section of steamship Paipoonge afloat.

Dominion Canal Statistics for the 1918 Navigation Season.

Following are extracts from the report issued by the Railways and Canals Department.

The total traffic through the canals during the 1918 navigation season was 18,883,619 tons, a decrease of 3,371,285 from 1917. The volume of traffic through the various canals was as follows:

	Tons	Increase	Decrease
Sault Ste. Marie	12,913,711	....	2,533,381
Welland	2,174,298	....	316,244
St. Lawrence	3,0301,134	....	360,010
Chambly	369,186	....	65,632
St. Peter's	59,716	....	2,538
Murray	44,735	....	12,868
Ottawa	167,170	....	47,665
Rideau	54,136	....	30,413
Trent	64,898	15,969	....
St. Andrews	4,640	....	2,534
Total	18,883,619	15,969	3,371,285

Gross Traffic Since 1905.

	Tons		Tons
1905	9,871,744	1912	47,587,245
1906	10,523,185	1913	52,053,913
1907	20,543,639	1914	37,023,237
1908	17,502,820	1915	15,198,803
1909	33,720,748	1916	23,583,491
1910	42,990,608	1917	22,238,935
1911	38,030,353	1918	18,883,619

Following is an analysis of the various commodities passing through the canals:

Canals. 1918.	Products of farm. Tons.	Manufacturers. Tons.	Products of forest. Tons.	Products of mines. Tons.	Total. Tons.
Sault Ste. Marie	1,513,446	259,983	41,808	11,098,474	12,913,711
Welland	287,986	229,829	123,979	1,532,504	2,174,298
St. Lawrence	337,862	235,014	397,678	2,060,580	3,031,134
Chambly	21,124	30,271	219,387	98,404	369,186
St. Peter's	9,790	6,793	1,940	41,193	59,716
Murray	....	7,796	....	36,939	44,735
Ottawa	6,450	19,048	84,540	57,132	167,170
Rideau	3,311	9,408	7,378	34,039	54,136
Trent	2,155	2,274	59,367	1,097	64,893
St. Andrews	7	54	4,579	....	4,640
Total	2,182,131	800,470	940,656	14,960,362	18,883,619

The percentages of the different commodities for 1917 and 1918 were as follows:

	1918 Per cent.	1917 Per cent.
Products of farm	11.56	17.27
Manufactures	4.25	3.65
Products of forest	4.94	5.26
Products of mine	79.25	73.82

The number of vessel passages and tons of freight in Canadian and U.S. vessels, and the total of Canadian and U.S. freight for 1917 and 1918, were as follows:

	Canadian Vessels. No.	Canadian Vessels. Tonnage.	U.S. Vessels. No.	U.S. Vessels. Tonnage
1917	21,588	9,831,694	6,594	10,259,772
1918	18,909	7,800,972	6,791	9,616,200

Freight Tonnage.

	Canada	United States	Total
1917	5,964,369	16,274,566	22,238,935
1918	3,369,477	15,514,142	18,883,619

During the past 10 years the wheat carried through the Sault Ste. Marie Canadian Canal each year was, as follows, in bushels:

1909	48,047,83	1914	77,467,838
1910	51,774,83	1915	48,727,911
1911	68,641,00	1916	82,807,342
1912	83,743,08	1917	60,551,243
1913	101,066,133	1918	19,987,255

In 1918 a large volume of Canadian wheat passed through the Sault Ste. Marie U.S. canal, which is also true, in a lesser degree, of previous years, the following table showing the bushels for the past 4 years:

	1915. Bushels.	1916. Bushels.	1917. Bushels.	1917. Bushels.
Through Canadian Canal	48,272,911	82,807,342	60,551,243	19,987,255
Through U.S. Canal	121,389,950	102,196,325	98,023,019	42,312,016
Total	170,117,861	185,003,667	158,574,262	62,299,271

Canadian wheat in the form of flour, had a total of 7,061,913 bush. There were 1,569,314 barrels of flour, which were calculated into wheat on the basis of 4½ bush. to the barrel. The total bushels of waterborne wheat in 1917 and 1918 would thus be:

	1917	1918
Through Canadian canal	60,551,243	19,987,255
Through U.S. canal	98,023,019	42,312,016
In the form of flour	13,230,850	7,061,913
Total	171,805,112	69,361,184

The distribution of Canadian wheat, moved through the Canadian and U.S. canals at Sault Ste. Marie from Port Arthur and Fort William, was as follows:

	1915. Bushels.	1916. Bushels.	1917. Bushels.	1917. Bushels.
To Montreal	3,512,410	1,233,982	1.280.170	728,500
To Georgian Bay ports	25,065,000	46,406,749	52,173,042	38,774,391
To other Canadian ports	33,067,613	28,029,847	31,369,487	20,638,204
To Buffalo, N.Y.	106,784,542	106,349,913	72,872,692	2,158,176
Total	167,430,564	182,020,521	157,975,391	62,299,271

There was also a large volume of wheat moved during 1918 from Port Colborne to Montreal, which might be added to the foregoing total for Fort William and Port Arthur to Montreal, Port Colborne being used as a port of transfer. It might be assumed that nearly all the wheat shown in the foregoing table as being moved from the head of the lakes to other Canadian ports, means to Port Colborne for transfer to Montreal.

Water carriers obtained exceptionally high rates on wheat during 1918, the rates for the different routes for the past 4 years being as follows:

	1915.	1916.	1917.	1918.
Port Arthur—Fort William to Montreal—				
Per ton, per mile	0.132c	0.205c	0.265c	0.309c
Per bushel	4.99c	7.55c	9.78c	11.39c
Per ton	$1.66	$2.52	$3.26	$3.80
Port Arthur—Fort William to Georgian Bay—				
Per ton per mile	0.282c	0.264c	0.270c	0.277c
Per bushel	3.54c	4.10c	4.25c	4.32c
Per ton	$1.18	$1.37	$1.42	$1.44
Port Arthur—Fort William to other Canadian ports—				
Per ton per mile	0.124c	0.169c	0.185c	0.205c
Per bushel	2.84c	3.68c	4.18c	4.48c
Per ton	94.80	$1.22	$1.39	$1.49
Port Arthur—Fort William to Buffalo—				
Per ton per mile	0.159c	0.159c	0.196c	0.158c
Per bushel	3.97c	4.27c	5.00c	4.11c
Per ton	$1.32	$1.42	$1.67	$1.37

The rates from Duluth, Minn., were substantially the same as from Fort William and Port Arthur. In order that the bearing of these rates may be properly understood in their lations to gross earnings, allowance should be made for the following charges paid by vessel owners on all cargoes of wheat moved between Fort William and Montreal:

Clearing house at Fort William	.01 to .03 a bush.
Trimmers at Fort William	.06 " "
Elevation at Montreal	.30 " "
Shovelling at Montreal	.20 " "
Total	.59 a bush.

To Port Colborne the average deductions would amout to 0.44c and to Buffalo 0.41c, and to Georgian Bay ports 00.38c.

In addition to the wheat passing through the Sault Ste. Marie canals, other grains were moved in 1917 and 1918 as follows:

	Bushels 1917	Bushels 1918
Oats	37,014,644	10,120,625
Barley	5,149,725	3,470,358
Flax seed	5,073,760	1,588,052
Total	47,238,129	15,179,035

Details of all traffic passing through the Sault Ste. Marie canals are published monthly in Canadian Railway and Marine World, the complete summary for the 1918 season being given in our Jan., 1919 issue.

Collection of Water Transportation Statistics.

The Dominion Statistician at Ottawa is making an enquiry, through the Dominion Bureau of Statistics, into water transportation matters, to secure the following information:—

A return for every vessel registered by the Dominion Government, showing construction, size, value, rig, route, freight and passengers carried, etc.

A return of the business operations of every Canadian ship company or owner, covering vessels operated, assets and liabilities, revenues, operating costs, profit and loss accounts, accidents, etc. This enquiry to be supplementary or complementary to the preceding and to be compiled in close co-ordination.

A report from each port, listing by name each craft entering, or clearing, and showing rig, country of registry and tonnage. These returns to be checked against the preceding, and to show definitely the vessels, not only of Canadian, but also of foreign registry, engaged in Canadian traffic. At times of urgency to be collected monthly. A card catalogue to enable instant information to be given as to vessels engaged in Canadian traffic and the class of service in which each is engaged.

The total vessels, tonnages, etc., touching at Canadian ports to be reported to the bureau annually by the Customs Department under the Statistics Act, sec. 22. These statistics, published heretofore as part of the Customs Department's trade statistics, to be merged in the general report on water carriers and navigation.

Canal statistics to be enlarged, placed on the same basis as other sections, and worked into the general treatment.

Monthly traffic returns from leading water carriers to be collected as part of the scheme of railway statistics.

Air Tool Devices for Shipbuilding.

The three convenient air tool devices illustrated herewith were developed by W. A. Mason, foreman air tool repair shop, Wyandotte plant, American Shipbuilding Co., Detroit, Mich.

Repairing Vise for Air Drills.—Figs. 1, 2 and 3 show a special vise or holder for air drills while repairs are being made. It consists mainly of a round vertical standard or shaft, with attached base plate for bolting to the work bench, and a double clamping block or head mounted on the standard and carrying a horizontal bearing sleeve. A shouldered mandrel is held in the sleeve and provided with a threaded split collar on the end opposite the shoulder, to prevent end play and to give any desired rotary tension. The opposite end of the mandrel is fitted with a threaded stud which is to be screwed into the dead handle side of the air drill. The universal features of the vise, with clamping aramgements for all adjustments, makes it easy to hold the air drill in any position desired and to make changes from one position to another with the least possible loss of time.

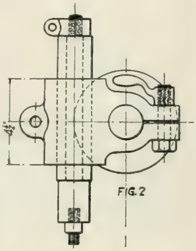


FIG. 2

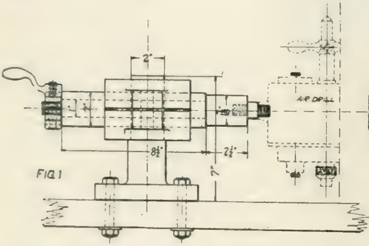


FIG. 1

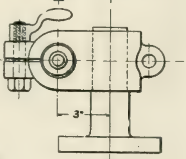


FIG. 3

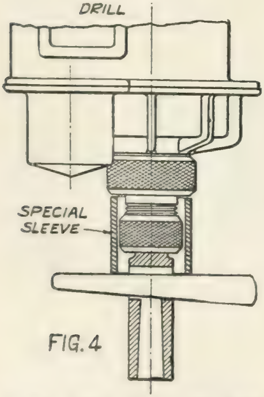


FIG. 4

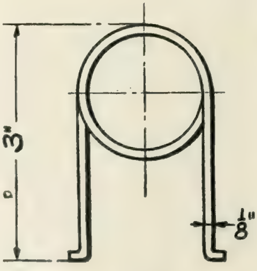


FIG. 5

Air Drill Socket Extractor.—Fig. 4 illustrates a very simple method of removing a taper shank drill socket from certain classes of air drills which are not provided with a more convenient extracting arrangement. A hardened tool steel sleeve constitutes the special device used for this purpose, and is made large enough to slip loosely over the protection nut of the drill spindle so that it can rest on shoulder against the face of the packing nut. The length of the sleeve is such as to partially overlap the drift key slot in the drill socket. A key driven into the slot and bearing against the sleeve will force the socket out of the drill spindle.

Air Drill Valve Extractor.—Fig. 5 shows a device for extracting valves from air drills, it being made of no. 11 B. & S. gauge spring steel wire. When used the bent points or hooks are inserted into the main parts of the valve and a piston or drift plug is inserted from the opposite end until it rests against the heels of the hooks, which act as driving lugs for the removal of the piston by tapping lightly on the plug. This obviates damage to valve and block resulting from the usual practice of using cold chisel against the valve for its removal.

The First Steamboat on the Red River of the North.

The Red River of the North was first opened to navigation in 1858. The discovery of gold in British Columbia in that year made the people of St. Paul, Minn., then only a village of a few thousand, wild with excitement. Suffering as they were from the financial depression of 1857 they strained every nerve to find some way across the great plains to the gold-laden waters of the Fraser River in B.C.

Many routes were discussed at meetings called by the St. Paul Chamber of Commerce, but a way down the Red River to Fort Garry and thence, westward by the Assiniboine seemed the most promising. Even this route offered almost insurmountable difficulties. Fort Abercrombie and Pembina were the only two settlements of note on the Red River south of Fort Garry, the Hudson's Bay Co.'s post on the Assiniboine River. A stage line was in operation as far as St. Cloud, but a road would have to be constructed from there to some point on the Red River from which a steamboat could be operated to Fort Garry.

As no one knew whether the Red River was navigable, Alex. Ramsey and John Irvine were sent to make an investigation. Making their way up the Minnesota River and over the Kittson trail they arrived at Fort Abercrombie, a structure of "log cabins on the bottomland of the river." From there they travelled on horseback down the east side of the river to a claim which Mr. Irvine had staked out opposite the mouth of the Sheyenne. As far up as that point, they decided, the river ought to be navigable for three or four months of the year.

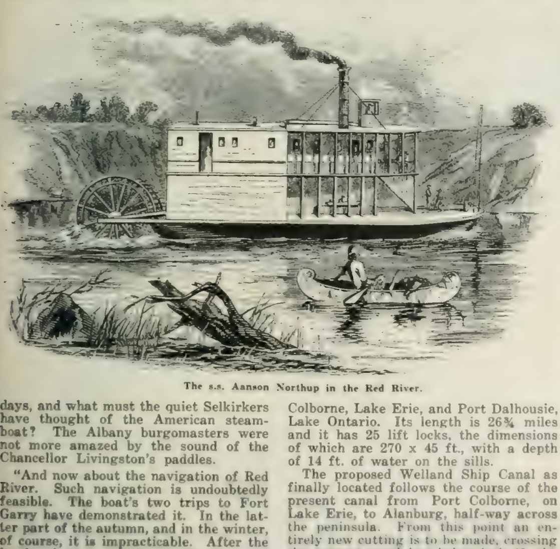
As a result of Mr. Ramsey's report, the St. Paul Chamber of Commerce made a contract with Anson Northrup to build the first steamboat on the Red River for $2,000. The timbers for his craft were hewn at Crow Wing on the Mississippi. The second hand machinery which had been brought from Maine several years before, with the timbers, lumber, cabins and furniture, was loaded upon 34 wagons at Crow Wing. In the bitter winter of 1858 a party of 60 resolute men and 34 teams trudged 150 miles through the snows of an unknown country, unusually hilly and heavily timbered and without the semblance of a road, to Irvine's claim on the Red River.

There the Anson Northrup was built. The impression that it was not exactly a boating palace may be gained from a description given by Mr. Ramsey concerning the appearance of the boat the next year: "The hull was new, but it was made of pine; the machinery was eight years old; the furniture was very limited; the boiler was of the locomotive kind, and the head was cracked clear across and leaked so badly that it was not possible to get up a sufficient head of steam to be called seaworthy or bear inspection."

The Anson Northrup made its maiden trip in the summer of 1859. Many passengers were taken from Fort Abercrombie to Fort Garry, where they were received with great enthusiasm. It was afterward sold to Norman Kittson, and, in his hands, saw many years of service on the Red River..

The foregoing particulars, gathered from the Minnesota Historical Society's records, by W. W. Wemet, were published recently in the Courier-News, Fargo, N.D. A somewhat different account appeared in Harper's Magazine for Aug., 1860, in an article "To Red River and Beyond," as follows:—

"Late in the winter of 1858-59, Anson Northup, having run his boat up the Crow Wing River, a tributary of the Mississippi, the previous autumn, took it to pieces, packed the cabin, machinery, and timber for building the hull, on sleighs, which, with great difficulty, were drawn by horses and oxen across to Otter Tail Lake, and thence westward to the mouth of the Cheyenne, on the Red River. Assisted by the St. Paul Chamber of Commerce, but mainly depending on his own private resources, and by hard work and perseverance, the boat was rebuilt on the banks of the Red River, and launched successfully on May 19, and, as the breaking bottle drenched the planks, was christened the Anson Northup. In the high water of early spring she made her trial-trip down to Fort Garry and back. She had to lie by every night, of course, and must have been greatly delayed by the necessity of stopping to cut timber for firing. In spite of these delays, she made the return trip in eight days, and what must the quiet Selkirkers have thought of the American steamboat? The Albany burgomasters were not more amazed by the sound of the Chancellor Livingston's paddles.



The s.s. Aanson Northup in the Red River.

"And now about the navigation of Red River. Such navigation is undoubtedly feasible. The boat's two trips to Fort Garry have demonstrated it. In the latter part of the autumn, and in the winter, of course, it is impracticable. After the ice breaks up, which usually happens about May 1, the water is very high, and the river is navigable to as large steamboats as can make all the turns in the winding river, from Fort Abercrombie to the mouth at Lake Winnipeg, nearly 500 miles. After Aug. 1, the water has fallen sufficiently to reveal serious obstructions in the channel from Fort Abercrombie to the mouth of the Cheyenne River, its largest tributary but one, entering Red River 50 or 60 miles below the fort. But from this point to its mouth, it is easily navigable in the lowest stages of water, until the ice forms in early November. The success of the boat works a revolution in the Hudson's Bay Co.'s business. Hereafter the annual outfit and returns will pass through the United States, instead of by the difficult and circuitous passage of Hudson Bay to York and Moose Factories."

It will be noticed that in the article reproduced from the Fargo-Courier-News, the name of the builder of the first Red River steamboat is given as Anson Northrup, while the Harper's Magazine article has it as Anson Northup.

The accompanying illustration of the steamboat Anson Northup is reproduced from Harper's Magazine for Aug., 1860, which is in Canadian Railway and Marine World editor's private library.

Welland Ship Canal Construction.

The Railways and Canals Department report for the year ended March 31, 1918, issued recently, contains the following: This important work has for its object greater and better accommodation for a larger class of vessels than those that can be used on the present Welland Canal.

The present canal lies between Port Colborne, Lake Erie, and Port Dalhousie, Lake Ontario. Its length is 26¾ miles and it has 25 lift locks, the dimensions of which are 270 x 45 ft., with a depth of 14 ft. of water on the sills.

The proposed Welland Ship Canal as finally located follows the course of the present canal from Port Colborne, on Lake Erie, to Alanburg, half-way across the peninsula. From this point an entirely new cutting is to be made, crossing the present canal just below lock 25, the water level of the two canals at this point being the same, viz., 568 ft. above sea level. The new canal again crosses the present one below lock 11, the water of both canals at this point being at an elevation of 382 ft. above sea level.

The proposed canal enters Lake Ontario at the mouth of the Ten Mile Creek about three miles east of Port Dalhousie. The total length of canal from lake to lake is 25 miles; and the difference in level between the two lakes, 325½ ft., is to be overcome by 7 lift locks, each having a lift of 46½ ft. The locks are to be 800 ft. long by 80 ft. wide in the clear and with 30 ft. of water over the miter sills at extreme low stages in the lakes. The width of the canal at the bottom will be 200 ft. and, for the present, the canal reaches will be excavated to a depth of 25 ft. only, but all structures will be sunk to the 30-ft. depth, so that the canal can be deepened at any future date by dredging out the reaches.

A new western breakwater will be built at Port Colborne to ensure quiet water in the harbor during storms.

The outer entrance piers in Lake Ontario will be placed about 1½ miles from shore, where the depth of water is 30 ft.; a wide channel will be dredged out from these piers and an embankment formed on either side of it about 500 ft. wide. The lock walls will be 82 ft. high above the top of the gate sills.

The work is divided into 9 sections, of which section 1, approximately 3 miles, at the Lake Ontario end of the canal, was placed under contract on Aug. 1, 1913; section 2, approximately 4 1-3 miles, was placed under contract Dec. 31, 1913; section 3, approximately 2 miles, was placed under contract on Oct. 4, 1913; section 5 was placed under contract on Dec. 22, 1913.

During the fiscal year 1917-18, $1,235,046.59 was expended, making the total expenditure to March 31, 1918, $14,928,969.58.

[**Editor's Note**—Owing to the war, work on the various contracts was suspended in Jan., 1917, and was resumed early this year by the same contractors working on a cost plus percentage basis.]

Accidents in the St. Lawrence River and Gulf.

A Quebec press dispatch reports the following accidents:

The steam barge Captain Dan, E. Gamache, master, struck a wharf while entering Quebec harbor, Aug. 22, and sank before she could be beached. The cook was drowned, but the rest of the crew were rescued from a capsized boat.

The steamship Admiral Hastings, which left Montreal Aug. 16 for England with cargo, went aground on Bagot Bluff, south point on Anticosti Island, early on Aug. 23. The salvage tug Lord Strathcona left Quebec the same day with a schooner to raise the vessel. The latter reports she is hard aground and cannot get out by her own power.

The steamship Verdulia, which left Quebec Aug. 20 for England with cargo, struck an iceberg off Belle Isle on Aug. 23. She immediately sounded her S.O.S., but later reported she was apparently slightly damaged and could proceed on her eastward voyage. She passed Belle Isle's wireless station at 2 p.m., Aug. 23.

The steamship Glen Allen of the Kirkwood Line of Montreal, scraped her bottom on the rocks outside the channel, a few miles west of the Quebec bridge, on Aug. 22 and was being examined at Quebec to decide whether she need go into dry dock.

Dominion Government Highway Board — In connection with the projected highway improvement scheme, which is being undertaken by the Railways and Canals Department and for which parliament has voted $20,000,000, it is announced that an honorary advisory board is to be appointed, those suggested being: C. A. Magrath, Chairman, Canadian Section, International Joint Waterways Commission; R. Home Smith, President, Algoma Central and Hudson Bay Ry., and J. P. Mullarkey, railway contractor, Montreal.

General Shipbuilding Matters Throughout Canada.

B.C. Marine Railway Co., Victoria, B.C., is building a wooden steamship hull for the Union Steamship Co. of British Columbia. The dimensions are, length, 145 ft.; beam, 27 ft.; draft, 7½ ft. The machinery from the s.s. Washington, which was purchased recently is to be installed in the new hull, which, when completed next spring, is intended for excursion service on the Selma Park and Buccaneer Bay run.

Canadian Vickers Ltd., Montreal, advised us recently that it expected to launch a steamship of approximately 8,300 tons d.w., its builder's yard no. 76, for French interests, about Aug. 25.

Wooden Steamships for French Government, at Foundation Co.'s fitting out yard, Victoria, B.C.
For full description see Canadian Railway and Marine World, Dec., 1918, pg. 570.

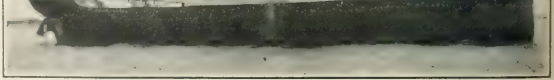
Cholberg Ship Co., Victoria, B.C.—The auxiliary powered schooner Washington, the second of this type to be built for the Porsgrund Damp and Seil Co., Porsgrund, Norway, which, was expected to be launched at the end of July, was not launched until Aug. 7. The company is reported to have received an order from the Universal Shipping and Trading Co., Seattle, Wash., for the conversion of 3 wooden steamship hulls, purchased from the U.S. Shipping Board, into barquentines.

The Dominion Shipbuilding Co., Toronto, launched the steel cargo steamship Skolma, Aug. 7. This ship is similar in all particulars to the s.s. Hessa, the launching of which was announced in our last issue. She is of the single deck type, with poop, bridge and forecastle, steel texas on bridge, with wing deck house, chart room and pilot house, and is built on the transverse system with hull divided into compartments by 4 watertight bulkheads and 1 screen bulkhead. She has cargo capacity for 151,466 cu. ft. of grain, with carrying capacity of approximately 3,550 tons. She has a double bottom, fore and aft, for 779 tons of water ballast, and the water tank capacity is 5,053 imp. gals. There are 4 hatches each 22 x 18 ft. and she is classed 100 A1 at Lloyd's for ocean service. The propelling machinery consists of inverted triple expansion engines, with cylinders 20, 33 and 54 in. diar. by 40 in. stroke, 165 n.h.p., 1,200 i.h.p., at 87.5 r.p.m., and supplied with steam by 2 Scotch marine boilers, each 11 x 14½ ft. with 2,730 sq. ft. heating surface to each boiler, and working pressure of 180 lb. a sq. in. The average speed will be 10.2 knots on a fuel consumption of 201 tons in 24 hours. Her dimensions are, length overall, 261 ft.; length, b.p., 251 ft.; breadth moulded, 43½ ft.; depth moulded, 24 ft 2½ in., approximate tonnage, 2,300 gross, 1,400 net.

J. Duffy & Co., Southville, N.S.—The first vessel to be built by this company was launched at the end of July, and named J. Duffy. She is a schooner, built of native lumber, and with accommodation for a crew of 24. Her dimensions are, length overall, 150 ft., beam, 27¾ ft.; depth, 11¼ ft.; 115 tons register.

Foundation Co., Victoria, B.C.—Trial trips took place during July of 5 of the wooden steamships built by this company for the French Government. These were the Metz, Strasbourg, Trois Rivieres, Frontenac and Victoria. Up to the end of July, 11 of these ships had been launched out of an order for 20. They are of approximately 3,000 tons d.w. capacity and are equipped with vertical, triple expansion, twin screw engines of 550 h.p., and supplied with steam by 2 Scotch boilers, having 3,500 sq. ft. heating surface. Their dimensions are, length over all, 293 ft.; breadth moulded, 46½ ft.; depth moulded, 23½ ft.; draft, 21¾ ft.

Wm. Lyall Shipbuilding Co., Vancouver, B.C.—It was announced early in August, by W. S. D. Cook, General Manager, that the yards would have to be closed down about the end of September, unless more contracts were secured, and at that time, he stated, there were no more contracts in sight. This company is one of several, which were formed during the war, to build wooden vessels, to meet an emergency, and which built 6 standard wooden steamship hulls for the Imperial Munitions Board, on behalf of the British Government. The company is just about completing the construction of 8 wooden steamships of 1,500 tons d.w. capacity each, for the French Government.



Steel cargo steamship Canadian Sailor, 3,357 tons d.w., built for Canadian Government Merchant Marine Ltd., by Port Arthur Shipbuilding Co., Port Arthur, Ont.

New Westminster Construction & Engineering Co., New Westminster, B.C.—The award in the arbitration between this company and the Imperial Munitions Board regarding the use, by the board, of the company's yard at Poplar Island, was announced Aug. 3. The judgment found that the board was indebted to the company to the extent of about $1,400, and that the company did not agree to buy the shipbuilding plant for $97,000. It was also found that the board was entitled to $20,000 for the use of machinery and $1,700 insurance, the company being allowed $23,000 due for arrears in certain payments and taxes.

Port Arthur Shipbuilding Co., Port Arthur, Ont.—The new wage agreement with the employes, which effective as from Aug. 1, provides that the wage for a 50 hour week, including the 5% increase, granted Apr. 1, is granted for a 48 hour week, and that if, for the present, the 50 hour week be continued, overtime is to be paid for the additional 2 hours.

G. Wagstaff, Port Greville, N.S., launched the tern schooner Jennie V. Merriam, 454 tons register, July 29. She is classed in Bureau Veritas for 13 years, and is equipped with electric light and stockless anchors. She is owned by Capt. C. S. Merriam, and loaded a cargo of lumber for England at Parrsboro, N.S. A duplicate of this ship is on the stocks and is expected to be launched shortly.

Yarrows Ltd., Victoria, B.C., is reported to have been requested to tender for the construction of steel freight steamships suitable for the fruit trade between the West Indies and New York, for the Di Giorgio Co. of New York, which purchased the C. P. R. s.s. Princess May recently for such purpose. The company has also received a contract for the alterations to the s.s. Princess May, which it is reported will cost approximately $75,000. She will be entirely refitted and remodelled to make her suitable for the fruit trade. The existing oil burning equipment will be removed and a more up to date one installed.

The World's Shipping Statistics.

The first uncensored Lloyd's return of the world's shipping since they were suspended by the war gives the following comparisons, according to countries, for the years 1914 and 1919:

	1914	1919
United Kingdom	18,892,000	16,345,000
British Dominions	1,632,000	1,863,000
	20,524,000	18,208,000
United States (seagoing)	2,027,000	9,773,000
United States (lakes)	2,260,000	2,160,000
	4,287,000	11,933,000
France	1,922,000	1,962,000
Holland	1,472,000	1,574,000
Italy	1,430,000	1,238,000
Grand total	29,635,000	34,935,000

The above figures are incomplete, as they do not take into account the distribution among the allied countries of 1,768 German steamships not otherwise dealt with at the signing of the armistice.

Mail Subsidies and Steamship Subventions for 1918-1919 and 1919-1920.

In addition to the estimates of which particulars were given in Canadian Railway and Marine World for May, pg. 279, the supplementary estimates for the year ended Mar. 31, 1919, submitted to the House of Commons during the recent session, included the following items:—

Ocean and mail service between Canada and Great Britain, further amount required	$100,000.00
Steam service between St. Catherines Bay and Tadoussac	886.67

The supplementary estimates for the year ended Mar. 31, 1920, contained the following items:—

Between Baddeck and Iona, further amount required	$ 1,000
Between Froude's Point and Lockeport, N.S., further amount required	400
Between Grand Manan and the mainland, further amount required	2,500
Between Mulgrave and Canso, further amount required	3,000
Between Mulgrave and Guysborough, calling at intermediate ports, further amount required	2,000
Between Pictou and Montague, calling at Murray Harbour and Georgetown, further amount required	1,000
During the season 1919, between Sydney and Whycocomagh, further amount required	1,000
Between Montreal, Quebec, Prince Edward Island and Newfoundland	17,500
Between Halifax, La Have and La Have River ports, in lieu of vote [illegible] in main estimates, for steam service between Halifax, Mahone, Tancook Island and La Have River ports	4,000
Between Pictou, New Glasgow, Antigonish County ports, and Mulgrave, further amount required	500
Between Newcastle, Neguac, and Escuminac, calling at all intermediate points on Miramichi River and Miramichi Bay, further amount required	500
Ferry service between Campment d'Ours Island and the mainland on Georgian Bay	2,000
	$ 35,400

Buoy and Lighthouse Steamship—The estimates for the year ending Mar. 31, 1920, passed by the House of Commons recently, contained an item of $150,000, for a steamship for buoy and lighthouse service in the maritime provinces. We are advised that it is not intended to use this appropriation.

The Great Lakes Dredging Co. Ltd. and the Thunder Bay Contracting Co. Ltd., have been amalgamated under the Ontario Companies Act, as The Great Lakes Dredging and Contracting Co. Ltd., with $2,000,000 authorized capital, and office at Ottawa, to carry on the business of a drydock, dredging, towing, freighting, wrecking and salvaging company, and to own and operate the necessary plant, steam and other vessels for such purposes. The provisional directors are: Senator M. J. O'Brien, L. J. Martin, J. J. Murray, Renfrew; J. A. O'Brien and W. O. Matthews, Ottawa.

Vessels Registered in Canada During June, 1919.

In compiling the following lists of vessels registered, steamboats and motor boats, operated by engines of less than 10 n.h.p., are eliminated, as also are sailing vessels of less than 100 tons register.

STEAM.

No.	Name	Port of Registry	Where and when built		Length	Breadth	Depth	Gross Tons	Reg. Tons	Engines, Etc. N.h.p.		Owners or managing owners
112121	Amphitrite	Lunenburg, N.S.	Mahone Bay, N.S.	1903	110.0	26.6	11.8	252	114	24	Sc.	Larder Brothers Wrecking Co. Ltd., Halifax, N.S.
141365	Canadian Recruit	Montreal	Collingwood, Ont.	1919	251.0	43.6	23.6	2,409	1,451	124	Sc.	Minister of Marine and Fisheries Ottawa.
141424	Canadian Volunteer	Vancouver, B.C.	North Vancouver, B.C.	1919	320.0	44.2	22.9	3,188	1,910	226	Sc.	" " "
141378	Captain Dan (a)	Montreal	Buffalo, N.Y.	1882	230.6	35.3	17.3	1,167	711	83	Sc.	A. Hutchinson, Montreal.
141374	Fred Mercur	Montreal	Buffalo, N.Y.	1882	237.4	35.6	17.4	1,298	781	99	Sc.	" "
140995	General Morrison	Toronto	Toronto	1919	251.0	43.6	21.2	2,490	1,519	146	Sc.	Dominion Shipbuilding Co. Ltd., Toronto.
141252	Glenholme	Yarmouth, N.S.	Yarmouth, N.S.	1919	102.5	30.5	9.7	238	126	24	Sc.	St. John Steamship Co., Ltd., St. John, N.B.
138767	H. A. Walker	Halifax, N.S.	Lauzon, Que.	1917	81.0	19.5	10.5	105	62	24	Sc.	J. B. Patten, Grand Bank, Nfld.
141285	Jutland	La Have, N.S.	West La Have, N.S.	1918	134.7	25.8	12.6	334	136	13	Sc.	Jutland Ltd., Riverport, N.S.
140994	Mary H. Boyce	Toronto	Saginaw, Mich.	1888	181.0	34.0	13.7	864	478	64	Sc.	Ontario Transportation & Pulp Co., Ltd., Thorold, Ont.

(a) Formerly Heckla.

SAILING.

No.	Name	Port of Registry	Rig	Where and when built		Length	Breadth	Depth	Gross Tons	Reg. Tons	Owner or Managing Owner.
141268	Acadian Queen	Parrsboro, N.S.	Schr.	Economy, N.S.	1919	150.0	35.5	12.8	479	440	H. D. McLean and H. C. Mackay, Economy, N.S.
141371	Alexander MacLaurin	Montreal	Barge	Sorel, Que.	1919	130.9	27.1	9.4	302	279	St. Maurice Paper Co. Ltd., Montreal
133969	Alma R.	Digby, N.S.	Schr.	Meteghan River, N.S.	1918	142.0	34.4	12.9	482	429	Alma R. Co., St. John, N.B.
141267	Cape Blomidon	Parrsboro, N.S.	"	Canning, N.S.	1919	144.9	34.1	13.0	453	408	H. MacAloney, Parrsboro, N.S.
141402	Catherine M. Moulton	Lunenburg, N.S.	"	Conquerall Ban, N.S.	1919	119.2	26.0	11.4	194	155	J. T. Moulton, Burgeo, Nfld.
141288	Charles and Vernon	La Have, N.S.	"	Bridgewater, N.S.	1919	136.2	32.0	11.8	347	296	D. Getson, M.O., La Have, N.S.
141348	Coal Barge No. 3	Ottawa	Barge	Sorel, Que.	1903	92.7	29.1	10.8	228	207	Minister of Marine and Fisheries, Ottawa.
141349	Coal Barge No. 5	"	"	" "	1909	125.2	30.0	10.7	375	338	" " "
141287	Con Rein	La Have, N.S.	Schr.	East La Have, N.S.	1919	120.5	20.6	11.6	337	299	Con Rein Ltd., East La Have, N.S.
141372	Edwin S. Coleman	Montreal	Lighter	Sorel, Que.	1919	130.0	27.1	9.5	300	278	St. Maurice Paper Co. Ltd., Montreal
141074	Frances Parsons	Windsor, N.S.	Schr.	Cheverie, N.S.	1919	112.8	31.0	11.1	270	237	G. M. Parsons, Cheverie, N.S.
141084	General Smuts	Shelburne, N.S.	"	Shelburne, N.S.	1918	107.1	30.2	10.2	193	159	G. C. Harris, Grand Bank, Nfld.
141088	Hawker	" "	"	" "	1919	103.1	25.4	10.7	129	129	McKay Shipbuilding Co., Shelburne, N.S.
141087	Helen Mather	" "	"	" "	1919	140.8	32.9	13.4	421	363	The Schooner "Helen Mather," Ltd., Halifax, N.S.
138768	Marine	Halifax, N.S.	"	Weymouth, N.S.	1919	147.0	34.8	14.0	511	473	T. H. Bealey, Halifax, N.S.
140876	Myrtle Piercy	Liverpool, N.S.	"	Liverpool, N.S.	1914	104.7	26.1	10.2	178	119	S. Piercey, Grand Bank, Nfld.
141286	Ruby L. Pentz	Halifax, N.S.	"	Shelburne, U.S.	1919	[illegible]	26.4	11.0	169	133	J. F. Conrad, M.O., La Have, N.S.
141350	Stone Lifter No. 4	Ottawa	Scow	Sorel, Que.	1910	100.0	35.0	10.2	264	188	Minister of Marine and Fisheries, Ottawa.
141351	Stone Lifter No. 5	"	"	[illegible]	1911	100.0	36.0	[illegible]	[illegible]	[illegible]	

Cargo Steamship Building in Canada for British Government.

Steamships Launched and Under Construction.—Since the information given in our last issue respecting launchings of steamships under construction in Canada for the British Government, was published, the s.s. War Halton has been launched by Polson Iron Works, Ltd., Toronto. There now remain 2 steel steamships to be launched to complete the orders for 43 steel vessels placed by the Imperial Munitions Board, at an approximate cost of $40,000,000. There were also 46 wooden steamships ordered at an approximate cost of $24,500,000, all of which have been delivered. The approximate d.w. tons of the steel steamships is 211,300 and of the wooden steamships 128,000, total approximate d.w. tonnage 339,300. Of the 2 steel steamships remaining to be launched, the War Chariot, approximately 8,800 tons d.w., is being built by J. Coughlan & Sons, Vancouver, B.C., and the War Fury, approximately 3,400 tons d.w., by the Midland Shipbuilding Co., Midland, Ont.

Sale of Surplus Supplies, Etc.—The Imperial Munitions Board offered for sale by tender recently a quantity of surplus shipbuilding supplies and equipment lying at Quebec and Montreal.

Vessel Register Transfers from Canada to Great Britain—A number of the steamships built in Canada for the British Government, and registered at different ports in the Dominion, have been transferred to the British register. These are War Atlin, 2,338 tons; War Casco, 2,319 tons; War Charger, 5,703 tons; War Tanoo, 2,326 tons, registered at Vancouver, B.C.; War Camchin, 2,339 tons; War Masset, 2,340 tons; War Nanoose, 2,285 tons; War Skeena, 2,342 tons; War Stikine, 2,335 tons, registered at Victoria, B.C.; War Ewen, 2.344 tons; War Kitimat, 2,336 tons; War Sumas, 2,305 tons; War Tyee, 2,302 tons, registered at New Westminster, B.C.; all gross tons, a total of 15 vessels and tonnage of 38,279 tons.

Vessel Sales—Since the conclusion of the war, several of the steamships built in Canada under orders from the Imperial Munitions Board for the British Government, have been sold to allied governments. The s.s. War Camp, built by J. Coughlan & Son, Vancouver, B.C., is reported to have been sold to South American interests and is stated to be now running out of Buenos Aires under the name of Sierra Quemaada. The s.s. War Skeena, built by Cameron-Genoa Shipbuilders, Victoria, B.C., is reported to have been taken over by the French Government under the name of Roumanier.

Canadian Allis-Chalmers, Ltd., Bridgeburg, Ont.—The s.s. War Vixen, the launching of which was announced in our last issue, was the second of the two vessels being built by this company for the British Government under order of the Imperial Munitions Board. The christening was performed by Mrs. Walter Nicholls, daughter in law of the company's President, Senator Nicholls. The first ship, the s.s. War Magic, is being held at the yard until the completion of the War Vixen so that the two may proceed to sea together. These vessels have an approximate d.w. tonnage of 3,500 and are classified 100 A1 at Lloyd's. They have the following dimensions, length overall 261 ft.; breadth moulded [illegible] depth moulded 23 ft. They are equipped with triple expansion engines of 1,400 h.p., are supplied with steam by 2 Scotch boilers, 12 x 14 ft., at 180 lb.

Polson Iron Works, Ltd., Toronto—The last of the steel cargo steamships to be built by this company for the British Government under orders of the Imperial Munitions Board, was launched Aug. 16 and named War Halton. She has the following dimensions, length overall, 261 ft.; length, b.p., 251 ft.; beam, 43½ ft.; depth moulded, 22½ ft. She is equipped with triple expansion, surface condensing engine of approximately 1,256 h.p. The other five vessels were launched as follows: War Taurus, Sept. 19, 1918; War Hydra, Oct. 15, 1918; War Hamilton, Dec. 22, 1918; War Timiskaming, Feb. 8, 1919, and War Algoma, July 23, 1919.

Atlantic and Pacific Ocean.

The Dominion Government has presented pieces of silver plate to several officers and men of the s.s. Lord Erne, of Belfast, Ireland in acknowledgement of the rescue of the shipwrecked crew of the s.s. Percesien, of Quebec, which was lost in the Atlantic Ocean, Feb. 9, 1918, during extremely rough weather.

Canadian Pacific Ocean Services Ltd., has commenced a direct steamship service between Canada and Singapore and the Federated Malay States, calling at intermediate ports in Japan, China and the Phillipine Islands. The s.s. Methven, a recently built steamship of about 10,000 tons carrying capacity, is being used on the route.

The Nippon Yusen Kaishi, is, it is announced, placing orders for additional passenger steamships of 25,000 tons each for service between China, Japan and North America. The first of these vessels is said to be under construction in Great Britain, costing about $400 a ton, and she is expected to be ready for service within a year. They will have a speed of approximately 20 knots an hour, and it is expected will make the run between Yokohoma and Victoria in 9 days.

Furness Withy & Co. are reported to have acquired the shipping interests of Wm. Thomson and Co., St. John, N.B., formerly owners of the Battle Line. Wm. Thomson & Co. have conducted a large brokerage business in Canada for many years, and at one time were said to have under charter half the vessel tonnage loading at St. John. The business was established at St. John in 1841, and the company owned a number of sailing vessels and steamships, the latter being named after battles of ancient Greece. The sailing vessels were disposed of several years ago, and the company's interest in the Battle Line was sold during the war.

The Canadian Pacific Ocean Services' s.s. Empress of France, formerly s.s. Alsatian, is scheduled to sail from Liverpool, Eng., Sept. 26, for Quebec. She was released recently from Admiralty requisition and has been refitted and overhauled ready for her Atlantic service. She was built at Glasgow, Scotland, in 1913 for the Allan Line Steamship Co. and is a sister ship of the s.s. Calgarian, which was torpedoed and lost during the war. Her dimensions are, length, 571.4 dt.; breadth, 72.4 ft.; depth 26 ft.; tonnage, 18,481 gross, 10,747 net. She is screw driven by engines of 20,000 h.p. She has accommodation for 200 first class, 500 second class and 1,000 third class passengers.

Maritime Provinces and Newfoundland.

The schooner Josephine Swanton, which was wrecked on Tryon shoal, in Northumberland Strait, P.E.I., recently, has drifted off into deep water and now lies in 7 fathoms with a least depth of 27 ft. over the wreck.

The Sydney Foundry and Machine Co. has applied to the Dominion Government for the grant of a water lot at Anderson's Point, Sydney, N.S., for the construction of a dry dock, for which, it is stated, the Dominion Government has granted a subsidy.

The St. John Steamship Co. has placed the s.s. Glenholme in service on the St. John River. She was built at Yarmouth, N.S., early this year. Her dimensions are, length, 102.5 ft.; breadth, 30.5 ft.; depth, 9.7 ft.8; tonnage, 233 gross; 126 net. She is screw driven by engine of 24 n.h.p. Capt. Moore is master, with J. S. McCulloch as chief engineer.

In connection with the harbor improvement work at Courtenay Bay, St. John, N.B., what is said to be the largest cofferdam in Canada was commenced Aug. 7, by the Bedford Construction Co., for the removal of 150,000 yds, of rock at the entrance to the drydock. It is reported that it will be 1,500 ft. long, and will contain about 400,000 ft. b.m. of lumber.

The s.s. Rosalind which arrived at St. John's, Nfld., July 24, to take up her service for the Red Cross Line, was formerly known as Lady Gwendolen, and was built at Glasgow, Scotland, in 1911, for the British and Irish Steam Packet Co. Ltd., Dublin, Ireland. In the early stages of the war she was used for carrying food supplies to Russia and when the revolution broke out she was at Archangel, where she was badly damaged. When the British took position of that port the ship was handed over to the

Vessels Added to and Deducted From the Canadian Register During June, 1919.

	Steam.			Sailing.		
		—Tonnage—			—Tonnage—	
	No.	Gross.	Registered.	No.	Gross.	Registered
Added.						
Built in Canada	29	9,201	5,498	20	5,945	5,198
Purchased from foreigners	4	3,375	2,003	....	....	....
Transferred from British possessions	....	....	....	....	....	....
New registers	5	329	185	....	....	....
Totals	38	12,905	7,686	20	5,945	5,198
Deducted.						
Wrecked or otherwise lost	5	1,712	1,091	6	1,348	1,169
Broken up or unfit for use	17	3,269	2,014	17	1,147	1,116
Sold to foreigners	2	1,042	652	3	1,044	981
Transferred to United Kingdom	15	38,279	24,070	....	....	....
Transferred to British possessions	....	....	....	3	943	856
New registers	2	2,111	1,360	5	181	178
Tonnage alterations, without re-registry	....	41	46	....	....	....
Totals	41	46,454	29,233	34	4,663	4,295

Dundee and Perth Shipping Co. and was engaged as a cargo vessel and operated between Dundee and London. She has accommodation for 350 passengers, and is fitted with all modern equipment. Her dimensions are, length, 300.2 ft.; breadth, 39.7 ft.; depth, 17.5 ft.; tonnage, 2,163 gross; 1,336 net. She is screw driven by engine of 362 h.p.

Province of Quebec Marine.

The Princess May Steamship Co. Ltd., has been incorporated under the Dominion Joint Stock Companies Act, as a private company, with office at Quebec, and its business to be carried on with $125,000 capital.

A green spar buoy has been established to mark the wreck of the schooner Enterprise, which sank May 14, about 2 miles south of Entry Island, off Magdalen Islands, in the Gulf of St. Lawrence. As soon as the masts of the wreck have been removed the buoy will be discontinued.

La Cie. Generale du Port de Chicoutimi has deposited plans with the Minister of Public Works, for a wharf to be built at the Baie du Ha Ha, Saguenay River. The site is numbered 97M, 98R, and 98S on the official cadastre of St. Alexis de la Grande-Baie, and measures 830 ft. wide, 1,400 ft. long on the north side and 1,950 ft. on the south side.

Ontario and the Great Lakes.

The Toronto Ferry Co. is contemplating building a ferry steamboat, which it expects to have ready for service early in 1920.

The wreck of the steam tug Jim and Tom, which was sunk on the western side of the east pier at Port Dover, Nov. 28, 1918, has been removed.

The dredging operations on the north side of St. Thomas channel in the River St. Lawrence were completed Aug. 7, and the plant and machinery moved to the south half of the channel.

The Marine Department has arranged to overhaul the Colchester lighthouse, Lake Erie, and in addition, will build several cribs there. The work will, it is said, cost about $20,000.

The Minister of Public Works is reported to have announced Aug. 3, that $50,000 will be included in the supplementary estimates for improvements in Port Dover harbor.

Canada Steamship Lines' s.s. T. P. Phelan, ran aground on Fraser Shoal, east of Cardinal, in the St. Lawrence River, at the end of July, while eastbound with 70,000 bush. of wheat for the British Government.

It is suggested that the question of granting a franchise for a ferry service across the Detroit River, from Windsor, to the Detroit and Windsor Ferry Co., be submitted to a vote of the ratepayers at an early date.

The U.S. s.s. Aztec, of Buffalo, when being locked through lock 17 of the Cornwall canal, Aug. 15, backed into the gates of the rear lock, partially opening it, and causing a rush of water from the upper lever to carry out both sets of gates. A boy of 7 years, who was playing on the bank was washed away and drowned.

The harbor headline on the north and south sides of the McKellar River at Fort William, beyond which no wharves or other structures shall be built, has been amended, after careful checking of the measurements during last winter.

The U.S. Lake Survey reports the levels of the Great Lakes in feet above mean sea level for July as follows:—Superior, 602.58; Michigan and Huron, 581.34; St. Clair, 576.24; Erie, 573.45; Ontario, 247.75. Compared with the average July levels for the past 10 years, Superior was 0.18 ft. above; Michigan and Huron 0.45 ft. above; Erie 0.67 ft. above, and Ontario 0.96 ft. above.

The steam tug D. S. Pratt, owned by Canadian Dredging Co., Midland, Ont., the steam tug Lasalle, and the scow D79, owned by the Great Lakes Transportation Co., Midland, Ont., have had their names changed to Strathmore, Strathbell and Strathbuoy, respectively. They are being operated by the Dominion Towing and Wrecking Co., Fort William, Ont., which is owned by the same interests as the other companies mentioned.

The attempts to raise the s.s. Keystorm, formerly owned by the Keystone Transportation Co., Montreal, and which sank in the St. Lawrence River, below Alexandria Bay, several years ago, were continued during the summer, but were abandoned early in August, for the year, owing to the failure of the wooden pontoons used on the work. It is stated that special steel pontoons are to be built, and that the work will not be resumed until these are ready.

The Northern Navigation Co.'s s.s. Huronic, grounded on Angus Island, about 40 miles from Port Arthur, Aug. 15, whilst en route from Port Arthur to Duluth. She was not considered in any danger, but all passengers were transferred to the company's s.s. Hamonic and returned to Port Arthur. The Huronic was released the same day with the aid of the tugs Bowman and Sarnia, and was accompanied to the Port Arthur Shipbuilding Co.'s plant, where she was drydocked for examination and repairs. An outside examination showed that several plates in the bow were buckled, and that the bottom was ripped to no. 2 hatch.

Vessel masters are requested to check the speed of their vessels in passing through the St. Clair Flats Canal, Lake St. Clair, reducing to about 8 miles an hour when weather is suitable for such speed. It is not suggested that vessels should be checked in storm, or when conditions to any extent render control uncertain, but only when through the variety of conditions encountered, speed be reduced in reasonable accord therewith, and solely for the purpose of preventing as far as possible further deterioration of the revetment, and of the channel side of the east dike of the canal. This revetment has deteriorated markedly in the last two years and several sections have collapsed, the timber work swinging into the channel. This condition exposes anchorages adjacent to the collapsed portions to undue strain and the backfilling to the effects of the wash created by passing vessels at high speed.

The Webster Steamship Co.'s s.s. Muriel W., struck one of the sunken cribs off Putnam's pier at Port Weller, at the entrance to the new Welland Ship Canal, Aug. 4, during a heavy fog, and sank in 30 ft. of water. She is believed to be a total loss. She was built at Milwaukee, Wis., in 1886 and practically rebuilt in 1912, her original name being Veronica, and her owners the Standard Navigation Co., Buffalo, N.Y. The hull was of oak and she was built with diagonal strapping on the frames, steel arches, bow sheathed for ice, steel boiler house. Her dimensions were, length b.p., 202 ft.; breadth moulded, 34½ ft.; depth moulded, 19 ft.; tonnage, 1,093 gross; 880 net. She was equipped with fore and aft compound engine, with cylinders 22 and 40 in. diar. by 40 in. stroke, 625 i.h.p. at 75 r.p.m., and supplied with steam by a single firebox boiler, 9 ft. 2 in. by 16 ft. at 100 lbs. working pressure.

British Columbia and Pacific Coast.

The Pacific Salvage Co., which bought the Dominion Government's sloop Algerine recently, is having it remodelled and refitted as a salvage vessel by Yarrows, Ltd., Victoria, B.C.

The U.S. s.s. Admiral Knight of Seattle, Wash., a wooden steamship of 600 tons, was destroyed by fire on the B.C. coast, July 27, while bound for Alaska. All the crew were saved.

The C.P.R. s.s. Princess Ena, while northbound through the Seymour Narrows, Aug. 6, struck Ripple Rock, a submerged reef in the center of the narrows. She proceeded to Plumpers Bay, where

Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marie Canals during June, 1919:

ARTICLES.		Can. Canal.	U.S. Canal.	Total.
Eastbound.				
Lumber	m. ft. b. m.	39,731	1,243	40,974
Flour	Barrels	611,020	420,510	1,031,630
Wheat	Bushels	3,138,698	3,263,353	6,402,051
Grain, other than wheat	Bushels	3,606,387	3,088,514	6,694,901
Copper	Short tons	7,114	910	8,024
Iron Ore	Short tons	7,788,279	216,618	8,004,897
Pig Iron	Short tons	......	75	75
Stone	Short tons	340	4,830	5,170
General Merchandise	Short tons	4,476	3,276	7,752
Passengers	Number	496	3,338	3,834
Westbound.				
Coal, soft	Short tons	2,211,284	55,700	2,266,984
Coal, hard	Short tons	227,200	......	227,200
Iron Ore	Short tons	20,732	......	20,732
Mfd. Iron and Steel	Short tons	9,404	2,348	11,752
Salt	Short tons	8,825	1,155	9,980
Oil	Short tons	56,840	......	56,840
Stone	Short tons	13,429	......	13,429
General Merchandise	Short tons	32,033	25,487	57,520
Passengers	Number	1,029	3,303	4,332
Summary.				
Vessel passages	Number	2,154	656	2,810
Registered tonnage	Net	7,040,813	943,932	7,984,745
Freight				
Eastbound	Short tons	8,117,450	437,529	8,554,979
Westbound	Short tons	2,579,747	84,690	2,664,437
Total Freight	Short tons	10,697,197	522,219	11,219,416

[illegible] to await assistance and was [illegible] taken to Victoria for examination and repairs.

The Canadian Robert Dollar Co. is reported to have purchased the s.s. War Melody, 1,800 tons d.w., which was built by Harland & Wolff, Ltd., Belfast, Ireland, for the British Government. The vessel is intended for the Pacific service out of Vancouver.

The lighthouse maintained on the outer edge of the sandheads, at the entrance to the Fraser River in the Strait of Georgia, will be removed from its station about Sept. 15 for repairs. During its absence the station will be marked by a gas and whistling buoy painted red and showing an occulting red light.

J. W. Troup, Manager, British Columbia Coast Service, C.P.R., is reported to have stated that the company is considering the building of additional car barges, and steamships for the passenger trade, as, owing to the loss of the s.s. Princess Sophia, and the sale of the s.s. Princess May, there is an insufficiency of ships for the business offering.

The Grand Trunk Pacific Coast Steamship Co., placed its autumn and winter schedule in effect Aug. 27, the s.s. Prince Albert being placed on the Prince Rupert-Masset Inlet route and the s.s. Prince John on the Stewart-Masset and South Queen Charlotte Islands route, the former on a fortnightly schedule, and the latter making trips to Stewart and fortnightly for the ports mentioned.

The Union Steamship Co. of British Columbia, is having a steamship built by by B.C. Marine Railway Co., to the following dimensions, length, 145 ft.; beam, 27 ft.; draft, 7½ ft. The engines of the s.s. Washington, purchased recently by the Union Steamship Co. will be installed in the new hull, and it is expected that she will be complete and ready for operation about April, 1920, when she will be placed on the run to Buccaneer Bay.

The C.P.R. s.s. Princess Margaret had considerable experience during the war. It was stated in the British House of Commons, Aug. 15, that she was chartered in the early days of the war, and was refitted for mine laying work. She was purchased subsequently by the British Government for £495,500. She was utilized chiefly in the neighborhood of the Baltic Sea, and latterly was used for transporting Russian counter-revolutionary troops.

The C.P.R. s.s. Princess May, is reported to have been sold to the Di Giorgio Co., for the fruit trade between New York and Havana. A contract is stated to have been awarded to Yarrows Ltd., Victoria, B.C., for general overhauling and remodelling, before she leaves for the Atlantic early in September. She was built at Newcastle-upon-Tyne, Eng., in 1888, for the Chinese service, and was then named Hating, and was acquired subsequently by the C.P.R. for its British Columbia coast service. Her dimensions are, length, 249 ft.; breadth, [illegible] ft.; depth, 17.7 ft.; tonnage, 1,717 [illegible] 92 net. She is screw driven by engine of 450 h.p. Capt. F. C. Stratford is reported to have been appointed to command her.

The litigation between Grant Smith & Co. and Macdonnell, contractors, Victoria, B.C., and the Seattle Construction and Drydock Co., in connection with the sinking of a floating drydock, leased from the latter company by the contractors [illegible] vernment piers at [illegible] Point, was concluded recently by the dismissal of the appeal and cross appeal against the judgment of the British Columbia courts, by the Imperial Privy Council. The contractors leased the drydock from the company for the building of reinforced concrete caissons, and the dock collapsed and sank under the weight of two of these caissons. The owners sued the contractors for damages in 1915, and there was a counterclaim on the ground that the dock was defective. Judgment was given in favor of the owners for $80,000, and on an appeal this amount was reduced to $35,000.

Mainly About Marine People.

Capt. C. W. Baird, Windsor, N.S., has been appointed harbor master there.

Hon. C. C. Ballantyne, Minister of Marine, who, after recovering from an operation at the Royal Victoria Hospital, Montreal, returned to Ottawa, at the beginning of July, for a few days, and left there July 12, for St. Andrews, N.B., to thoroughly recuperate, left St. Andrews Aug. 5, and had to re-enter the hospital in Montreal, Aug. 7, having torn some muscles in his back. It was his intention to visit the Pacific coast, on official business, early in September, but his trip has had to be postponed for some weeks.

J. P. Carey, formerly chief clerk, Furness Withy and Co., Halifax, N.S., has been appointed local manager for that company at St. John's, Nfld. On leaving Halifax he was presented with a travelling bag by the local outside staff, and with a silver tea service and silver cigarette case by the local office staff.

Thomas Hoar, harbor master, Bowmanville, Ont., was struck by lightning and killed Aug. 17, while lighting the lamps at the lighthouse.

Capt. R. McDonald, harbor master, North Sydney, N.S., died suddenly there, Aug. 8, aged 74. He entered marine service in early boyhood, and was a sailing master from 1877. He retired from active sea life about 10 years ago.

T. R. Percy, who has been appointed General Agent, Passenger Department, Canadian Pacific Ocean Services Ltd., Yokohama, Japan, was presented with a travelling bag and suit case, Aug. 1, by his associates in the C.P.R. Passenger Department, Montreal, on his leaving to take up his new duties.

Chas. E. Stephens, of C. Stephens Co. Ltd., wholesale grocers, Collingwood, Ont., who died there Aug. 18, aged 73, was one of the incorporators of the North Shore Navigation Co., which operated steamships on the Upper Lakes until its absorption by the Northern Navigation Co., of which he was a director, and also Secretary, for several years.

Contracts Let for Marine Public Works.

The Dominion Public Works Department has let the following contracts recently:

Kincardine, Ont.—Dredging: Contractors: C. S. Boone Dredging and Construction Co., Toronto. Approximate amount, $9,576.

St. Michel de Bellechasse, Que.—Wharf repairs. Contractors: J. B. Gallibois, St. Pierre, Montmany County, Que., at $32,422.56 (unit prices).

Port Hope, Ont.—Repairs to pier. Contractor: R. Brewder, Cobourg, Ont., at $11,565.46 (unit prices).

Midland, Ont.—Renewals to Governments wharves 1 and 2. Contractor: W. H. McArdle, of Midland, at $3,291.30 (unit prices).

Quebec, Que., King's wharf—Repairs to Marine storage building. Contractor, L. H. Peters, Ltd., Quebec, at $9,060.

Thessalon, Ont.—Reconstruction of wharf. Contractor, A. G. Tweedie, Sault Ste. Marie, Ont., at $9,428.75.

Comox, B. C.—Repairs to wharf. Contractors, Fraser River Pile Driving Co., New Westminster, B. C., at $17,358.04.

Souris, P. E. I.—Delivery and placing of stone on portions of seaward side of breakwater. Contractors, Phillips & Mutch, Charlottetown, P. E. I., at $53,750.

Half-Moon Bay, Comox-Atlin, B.C.—Construction of wharf. Contractor: Fraser River Pile Driving Co., New Westminster, B.C., at $5,775.

Ste. Anne de Beaupre, Que.—Wharf repairs and reconstruction. Contractor: Onesime Poliquin, Portneuf, Que., at $26,201.50 (unit prices).

Toronto Harbor, Ont.—Eastern entrance—Reconstruction of portion of east pier superstructure. Contractors: C. S. Boone Dredging and Construction Co., Toronto, at $31,095.70 (unit prices).

Berthier en Bas, Que.—Repairs to wharf. Contractor: Nazaire Letourneau, Montmagny, Que., at $17,556.80 (unit prices).

Three Rivers, Que.—Dredging in St. Maurice River. Contractors: Simpson Bros. Co., Montreal, approximate amount, $30,480.

Sidney, Roberts Bay and Saanichton, B.C.—Repairs to wharves. Contractors: McDonald, Watson & Wither, Victoria, B.C., at $10,948.82 (Sidney $6,393.50, Roberts Bay $3,377.24 and Saanichton $1,178.08).

North Arm of Fraser River, B.C.—Dredging. Contractors: Pacific Construction Co., Vancouver, approximate amount $152,000.

Canadian Cargo Space Requisitioned, London, Eng., cablegram, Aug. 20 to Montreal Gazette:—The amount of Canadian cargo space at present controlled by the Ministry of Shipping, 70%, will be reduced to 60% in September. This will be a disappointment to the Canadian shipper, who had been hoping for a reduction to 50%. Heavy buying by the British Food Control in Canada is the chief reason for the commandeering of so much space. The Food Control sent a large purchasing staff to Canada some weeks ago, and they are already at work buying supplies in the Dominion.

The Anderson Co. of Canada has sold drifters 45 and 47, owner formerly by the British Government to George Latil, Percheries Modernes, of Cette, France. These vessels were sold at New York and were two of a number which were returning to Halifax, N.S., from Bermuda. They cleared from New York for France, July 31, and arrived safely at their destination.

Morison, Pollexfen and Blair of Canada, Ltd. has been incorporated, with $50,000 authorized capital, and office at Montreal, to carry on a general brokerage business, and to own and operate steam and other vessels and manage regular steamship services. Morison Pollexfen and Blair have been established in this line of business in Liverpool, Eng., for a great many years.

Demountable Wooden Ships to Be Built in British Columbia

Some particulars of this project were given in Canadian Railway and Marine World for July and August. The following is reproduced from the Victoria B. C. Times: In many respects the demountable ship, designed by John Arbuthnot of Victoria, to deliver lumber to off-shore markets at the minimum cost, resembles the galleon of the fifteenth century. A model of this unique design of lumber carrier has been built here by the promoters and is attracting a great deal of interest. The promoters are going ahead with the construction of several demountable ships and before very long the first craft of this type will be clearing the shores of British Columbia with, or composed of, 5,000,000 ft. of lumber for the United Kingdom. According to the plans of the syndicate each ship will contain anywhere up to 5,000,000 ft. of lumber. The great raft will probably draw about 18 ft. of water, which will give it a freeboard of about 8 ft. on deck. The lumber will be bolted together with iron bolts, hollow space will be left aft for fuel and supplies and for the placing of the crew's quarters.

The engine to supply the power to propel the craft will be bolted down to the deck instead of being in an engine room. Instead of being a direct drive, as in ordinary marine reciprocating engines, the engine will be an indirect drive, the power being transmitted to the propeller by means of geared shafts. A rudder will be mounted, and it is estimated by naval experts that ample power and steerage way is provided for. Lloyd's Registry has given the new craft a rating and a very favorable one. The Lloyd's rate is said to be 15 per cent., which is only slightly greater than the rate charged by Lloyd's for the inload on steamships and A1 sailing craft.

On arrival in the United Kingdom the demountable ship will have its engine removed and shipped back to British Columbia as freight. Everything else on board, including the sails, masts and rigging, and also the collection of iron rods which held the craft together, will find a market at the point of destination or will be sent back for the fitting of other ships.

The demountable ship can be built quickly and dismantled even more quickly. This unique vessel, by reducing transportation costs and automatically solving the tonnage problem, is expected to revolutionize the overseas lumber trade.

Wreck Commissioner's Enquiries and Judgments.

S.S. Chebucto's Damages to Pier.

Held at Halifax, N.S., July 30, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capts. N. Hall and Jos. Blois as nautical assessors into the causes which led to the Dartmouth Ferry Commission's s.s. Chebucto damaging a pier at Halifax, N.S., June 8, to avoid a collision with a motor boat. The court found that the damage caused to the pier could not have been avoided under the circumstances, being caused directly through the presence of the motor boat in close proximity to the Chebucto, and the entrance to her landing place, and it therefore exonerated the master, Capt. M. Murphy of the Chebucto from all blame. The master of the motor boat, J. A. Crouse, through his lack of watchfulness, caused the s.s. Chebucto to deviate from her course to avoid a collision, and he was severely reprimanded and cautioned to be more careful in future, and to avoid being a menace to navigation through indifferent lookout.

Grounding of the s.s. Lake Frolona.

Held at Quebec Aug. 19, by Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capt. C. Lapierre and Commander C. J. Stuart, R.N.R., as nautical assessors, into the causes of the grounding of the s.s. Lake Frolona, Aug. 5, near buoy 71Q in the River St. Lawrence, where she suffered serious damage. The court found that the pilot of the s.s. Frolono, N. Arcand, in a momentary delusion as to buoy 71Q, being out of position, was responsible for the casualty, and çonsequently for the extensive damages done to the vessel. Owing to his long and successful career as a pilot, 39 years, and this being his first accident, and to 26 years of steady service with the Dominion Coal Co. without any untoward incident, and also owing to his straightforward evidence, the court exercised leniency and suspended his license for one month only, from Aug. 19 to Sept. 18, inclusive. The court exonerated the master and officer of the Lake Frolòna from all blame for the casualty, both being at their posts at the time.

The United States Shipping Board is reported to have sold 100 steamships built on the Great Lakes during the war, to the Anderson Overseas Corporation, New York, for approximately $80,000,000. It is stated that the vessels are intended for French and Italian ownership. It was reported recently that authority has been given for the sale, in London, Eng., of 20 wooden steamships at $300,000 each to a British buyer, who, it is said, has obtained an option for an additional 100 steamships of the same type.

British Government Shipbuilding Orders Cancelled—According to a statement made in the British House of Commons recently, orders have been cancelled for 326 vessels, resulting in a net saving of £42,000,000. When the armistice was signed, 302 warships and 806 auxiliary vessels were on order, and at present 84 warships and 110 auxiliary vessels are being completed, mainly to replace others.

The U.S. Shipping Board, up to Aug. 14, has sold 185 of its steamships, 712,727 d.w. tons, built during the war, for $127,187,740. The number of steel vessels sold was 122, which realized $99,645,060, and 63 wooden vessels which brought $27,546,680.

Commercial Wireless Service Between Canada and Bermuda.

The Naval Service Department established on Aug. 10, a commercial wireless service between the Canadian medium power radiotelegraph station at Barrington Passage, N.S., and the British Government station at Bermuda. These stations were erected during the war for naval purposes, but with the cessation of hostilities are now available for commercial work. The establishment of this service is particularly welcomed by commercial interests as the Halifax Bermuda cable has been interrupted since June 21.

The total rates charged via the radio circuit are the same as those charged by the cable company, viz: from Nova Scotia, New Brunswick, Quebec and Ontario, 36c a word; from Manitoba, Saskatchewan, Alberta and British Columbia, 42c a word.

Communication between the Barrington Passage radiotelegraph station and Halifax is maintained by a private line. Messages for transmission via the radio circuit should be routed via Halifax.

Barrington and Bermuda are only two of a number of radio stations which were built throughout the empire during the war for naval purposes, and which might, with the cessation of hostilities, become available for commercial purposes, and it may be that the inauguration of this service with Bermuda is the forerunner of the establishment of a number of similar services throughout the empire.

Telegraph, Telephone and Cable Matters.

The Commercial Cable Co.'s Manila-Shanghai cable has been repaired, and communication with China and Siberia by that route has been re-established.

W. Clark, cashier, Great North Western Telegraph Co., Calgary, Alta., was arrested there, Aug. 11, on a charge of theft, a shortage of about $3,000 being alleged.

Wireless telegraph operators engaged on the Great Lakes are reported to have asked for the appointment of a conciliation board to deal with alleged grievances as to discrimination against employes in the matter of seniority.

The Marconi Wireless Telegraph Co. of Canada, Ltd. is applying to the Dominion Parliament for authority to reduce its capital stock from $5,000,000 to $3,750,000, by reducing the par value of the outstanding shares from $5 to $2.50 each, and by issuing an additional 500,000 shares at $2.50 each.

W. M. Archibald, who died at Nanaimo, B.C., at the end of July, aged 81, was until about six years ago, agent, C.P.R. Telegraphs there. He is said to have handled the first cable message sent across the Atlantic, which was from Queen Victoria to the then President of the United States.

The Naval Service Department is reported to have a number of vacancies for trained civilian wireless operators. They are wanted mostly for service on the Pacific coast, but there are also vacancies in the wireless stations and direction-finding stations on Nova Scotia coast. A number of returned soldiers who have served in the wireless sections of the army during the war have been accepted for these positions.

The telegraph companies operating in Canada are applying to the Board of Railway Commissioners for authority to increase their tolls. The application points out that the tolls now in force were established Mar. 30, 1916, under general order 163, and suggests that an increase of 25% be granted. It is claimed that the revenue is, at present, totally inadequate to maintain an efficient service, in view of the abnormal increases in the cost of labor and materials, which have increased by about 60% and 85% respectively, in addition to heavy increases in taxes and rentals. Telegraph employes had an application before the Canadian Railway War Board's Board of Adjustment No. 1, for an increase of wages recently, which was partially granted.

For Sale and Classified Advertising

Under this heading Canadian Railway and Marine World will place advertisements for Positions Wanted, positions Vacant, Equipment for Sale, Tenders Wanted, Dividend, Annual Meeting, Legal Notices, etc.

ADVERTISING RATES.

Rates for advertisements set in uniform style in six point under

Positions Wanted and Positions Vacant, 8c per word.
Equipment for Sale advertisements, 4c per word.

Allow five words where replies are to be sent to a box number. Minimum order—$1.

Rates under other headings and for display advertisements on application.

Try Us with Your Next Order for

Railway and Marine

STEEL CASTINGS

Joliette Steel Co., Ltd.

JOLIETTE,
MONTREAL, TORONTO

Rails, Cars, Locomotives

and Contractors' Equipment

IMMEDIATE SHIPMENT

John J. Gartshore

58 Front Street West
TORONTO

CANADIAN PACIFIC RAILWAY COMPANY.

Dividend Notice.

At a meeting of the Board of Directors held today, the following dividends were declared:

On the Preference Stock, two per cent. for the half-year ended 30th June last;

On the Common Stock, two and one-half per cent. for the quarter ended 30th June last, being at the rate of seven per cent. per annum from revenue and three per cent. per annum from Special Income Account.

Both dividends are payable 1st October next, to Shareholders of record at 3 p.m on 2nd September next.

By order of the Board.

ERNEST ALEXANDER.
Secretary.

Montreal, 11th August, 1919.

A Port Arthur, Ont., press dispatch says that the Great Lakes Wireless Association, has been formed among the operators on land and ship stations operated by the Marconi Wireless Telegraph Co. of Canada, under the Naval Service Department. The operators, the majority of whom are being paid $45 and $50 a month on ships, and the same with a living allowance of $25 on land stations, have forwarded a request to the company for $75 a month, with a $10 increase yearly, $30 a month living allowance and $15 a month living allowance for officers in charge of land stations. Station officers usually obtain house, fuel and light.

In dealing with the City of Montreal's application for an order directing the C.P.R. Telegraphs, and the Great North Western Telegraph Co. to place their wires underground along certain streets, the Chief Railway Commissioner, Board of Railway Commissioners, said on Aug. 13: "I am of the opinion that in all cases where city development has reached such a stage as the streets in question, to render it reasonable and advisable that the improvement should be made and all city wires placed underground, the board should make an order requiring the underground construction to be made and that the cost of this underground construction should be placed upon the company, in cases where it does the necessary work, or, in cases when it is done by the municipality and ducts rented from the municipality, on such terms or rental as may be agreed upon between the parties."

Among the Express Companies.

The Canadian Northern Express Co. [illegible]ed an office at Prairie River, [illegible]

Mrs. Richard Helme, wife of the Superintendent, Western Division, Dominion Ex. Co., Vancouver, B.C., died there Aug. 13.

The Board of Railway Commissioners passed order [illegible], Aug. 11, approving express classification for Canada No. 4, C.R.C., no. E.T. 14, applicable to all express companies subject to the board's jurisdiction.

The Board of Railway Commissioners issued order 28,619, July 31, approving supplement 13, as finally revised and submitted by the Express Association of Canada, for express companies operating in Canada.

Trade and Supply Notes.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers distinctly to understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

Davis-Bournonville Co., Jersey City, N.J., has issued a bulletin describing the Pyrograph, a boiler shop cutting machine, for trimming and beveling boiler sheets to the correct flange height and calking angle in one operation, with the oxy-acetylene torch.

Independent Pneumatic Tool Co., 60 West Jackson Blvd., Chicago, and 334 St. James St., Montreal, has issued bulletin 99, describing and illustrating hose couplings.

Transportation Conventions in 1919

September.—Master Car and Locomotive Painters' Association of the United States and Canada, Chicago, Ill.

Sept. 16-19.—Traveling Engineers' Association Chicago, Ill.

Sept. 16-18.—Roadmasters' and Maintenance of Way Association, Chicago, Ill.

Oct. 6-10.—American Electric Railway Association, Atlantic City, N.J.

Oct. 21-23.—American Railway Bridge and Building Association, Cleveland, Ohio.

Oct. 21-23.—Maintenance of Way and Master Painters' Association, St. Louis, Me.

Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries unless otherwise stated:

Belleville Railway Men's Educational Club. Meets each Tuesday, 7.30 p.m. F. A. Pingston, Belleville, Ont.

Canadian Car Service Bureau—W. J. Collins, Manager, 401 St. Nicholas Building, Montreal.

Canadian Electric Railway Association—Acton Burrows, 70 Bond Street, Toronto.

Canadian Freight Association (Eastern lines)—G. C. Ransom, Canadian Express Building, Montreal.

Canadian Freight Association (Western lines)—W. E. Campbell, 305 Boyd Block, Winnipeg.

Canadian Railway Club—J. Powell, St. Lambert, Que. Meetings at Montreal 2nd Tuesday, each month, 8.30 p.m., except June, July and August.

Canadian Railway War Board—W. M. Neal, Montreal.

Dominion Marine Association—F. King, Counsel, Kingston, Ont.

Canadian Ticket Agents' Association—E. de la Hooke, London, Ont.

Eastern Canadian Passenger Association—G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Montreal—R. W. H. Smith, 9 Beaver Hall Square, Montreal.

Engineers' Club of Toronto—R. B. Wolsey, 94 King Street West, Toronto.

Engineering Institute of Canada—F. S. Keith, 176 Mansfield St., Montreal.

Express Traffic Association of Canada—C. N. Ham, Montreal.

Great Lakes and St. Lawrence River Rate Committee—James Morrison, Montreal.

Hydro-Electric Railway Association of Ontario—T. J. Hannigan, Guelph, Ont.

International Water Lines Passenger Association—M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee—James Morrison, Montreal.

Quebec Transportation Club—A. F. Dion, Quebec.

Shipping Federation of Canada—Thos. Robb, Manager, 42 St. Sacrament Street, Montreal.

Toronto Transportation Club—W. A. Gray, 148 Yonge Street, Toronto.

Transportation Club of Vancouver—H. W. Schofield, 556 Church Street, Vancouver, B.C.

Canadian Railway and Marine World

October, 1919

Delayed Action Mines as Affecting the Railways on the British Western Front.

By Lieut.-Col. Blair Ripley, C.B.E., D.S.O., M.E.I.C., Formerly Officer Commanding First Battalion Canadian Railway Troops.

Our first introduction to delayed action mines was at Peronne in the spring of 1917, but it was not till the summer of 1918 that the really "classy" article was met with. No delayed action mines were encountered previous to 1917, for the reason that there was no call for them. However, at this time, the Boche had retired at several points to his Hindenburg line, and carefully planned and set his mines before retiring. What were called "booby traps," were left behind in billets and "dug outs." Souvenirs of various kinds were placed in positions, with connections concealed, and so that when lifted, a trigger would be pulled, or a trap sprung, exploding charges of various kinds and sizes, intended to cause casualties among our men. After our first losses from this cause, warnings were sent out to everybody and consequently from that time on everyone was on the look out. Sometimes the opening of a door in a billet or dug out produced a terrific explosion, in a similar way, by pulling a cord, which released a spring or other trap, causing the exploding of the charge carefully set for the occasion. Usually when retreating the most attractive billets or dug outs were mined and often those just vacated by the German staff proved the least desirable for habitation by our own troops. They were generally looked upon with suspicion, and not reoccupied without most careful investigations by experts to take care of any "booby traps" that might be found.

The worst booby trap that was brought to the writer's notice could have been conceived by none other than the mind of the miserable Boche, with whom the British played the game as far as methods of warfare were concerned. The body of a dead German was left on a stretcher, beside the doorway, on a narrow street quite near the west end of the railway bridge we were building across the Somme Canal at Peronne during September, 1918. When a party of Australian soldiers attempted to remove the body for burial, the explosion of the charge to which it was attached caused several casualties. The writer did not see the explosion take place, but was satisfied with the authenticity of reports concerning the affair, it being his business to pass the spot for several days in succession and coming in contact with those working on the spot. He did see the corpse on the stretcher and several times over expressed the hope that it would be soon removed. There were many diabolic inventions, but what seemed so to us at first were quite commonplace towards the end of the war.

In his retirement in the spring of 1917 the Boche was not content with blowing up the bridges on the railways in the ordinary way, but trickery had to be resorted to in this also. At first when a bridge was partly "blown" we used what was left of the bridge, when possible, in the construction of the new. It was soon found that this was risky, and parties of tunnellers or miners experienced in the laying of charges were sent ahead to examine all structures and to remove mines when encountered. Even then we had "blow ups" after we had finished our work. At this time, however, the Boche did not appear to have any refined device for exploding the mines or charges such as he developed afterwards, but it was the shock or weight of the passing train or other such cause that set off the charge.

When possible he carried off much track material as he retired, rails, ties and everything in some cases, especially just out of Peronne, but where this was not possible every rail would be blown, by using charges at every second rail joint, and frogs and switches were his specialty. He never passed them over.

The really "classy mines" as mentioned at the outset were not developed until the summer and autumn of 1918, but when they came it was with a vengeance. The speed with which the enemy retreated from Villers Brettoneaux, which is a few miles east of Amiens, will be judged by the fact that we did not meet with a single delayed mine till Roisel was reached. This mine however did not "go up" till we had actually completed our line into Caudry, and the line had been under operation for some time into Cambrai. Caudry is about 12 miles east from Cambrai, on the line to Le Cateau, and the mine in question had apparently been "set" or timed for about 30 to 35 days. It was located at the main road crossing in Roisel and had escaped detection. A very large crater resulted, and there were many casualties. Indeed so great was the damage done that the trains were held up for over two days.

In this mine, as in all others which were afterwards encountered, a very ingenious device in the way of a time fuse was used. This consisted of a percussion cap of large calibre, encased in a brass holder which also contained a plunger firing pin, operated by a stiff brass spring. The plunger was tied back against the spring in the position for striking, by a small wire encased in a tube with a stopper. A specially prepared acid was admitted to the tube, and when the acid had eaten the wire tieing back the plunger, of course the spring was released, the plunger struck, and off went the charge. We found several packages of these ingenious time fuses and each contained a selection of vials of acid of varying strengths, and specially marked, so that the right one could be used to produce the explosion after the proper lapse of days and to suit the situation. These fuses were afterwards specially made, so that they would screw into the nose of a shell, and also so as to resemble the regular nose fuse of the shell. When the Boche found it necessary to abandon a portion, or all, of one of his ammunition dumps, it was quite a simple operation to remove a regular shell fuse from one of the shells and to insert one of the ingeniously timed delay action fuses and all who would happen to be about the dump when the fuse was "ripe" would, or would not, live to tell the tale, as the case might be.

Later on, old ammunition, shells, and bombs were used in "mining" instead of the regular lines of explosive. It was a very easy way of getting rid of shells he could not take along with him in his retreat. A shell or two, of course of large calibre, buried into a culvert would destroy it, and in the railway embankments it was quite easy to dig the necessary number of wells or pits and to roll into them the proper number of shells or bombs of the proper size, one of which, in each case, fitted with the delayed action fuse, properly timed, would gain his ends in delaying our advance, as the advance could not be kept up without the railways. During the last month of the war all the mines we encountered were of this type. The bombs used were called "pigs," being much the shape of a long pig, about 3 or 4 ft. long and 18 or 20 in. in diameter. We have seen as many as eight of these taken from one charge. A charge of this size would blow a hole in an embankment, that would require from 1,200 to 1,500 yards of material to refill, and there were in the high embankments just east of Le Cateau about 20 of such mines in a distance of three miles, no road crossings being overlooked of course. The blowing of the road crossing meant the tieing up of both the roadway and the railway—one stone killed two birds for the Hun.

Probably the two most outstanding cases of delayed mining we had to contend with were at Wombaix and Caudry. The former was in a deep cutting, and we had not detected it. Trains had been passing over the spot every day for about two weeks and the mine had been placed about two weeks before we built the line. It went up while one of our construction trains of track material was passing over the spot and some cars of rails which happened to be over the charge when it went up, went up also, cars and rails being pretty much scattered about the place. The front and rear ends of the train were untouched.

Caudry's main street passed under the track by a subway of steel and brick superstructure and brick abutments. It had been examined for mines and pronounced safe. It seemed quite untouched and our suspicions were aroused, so that it was examined carefully a second time. No traces of mining or disturbances of any kind being found, it was decided to operate our trains across the street, concluding that for once the Boche had overlooked something. Two weeks later, one morning at 9 o'clock it "went up." The superstructure was carried up the track a short distance and deposited down one side of the embankment. There was not sufficient left of the two abutments to tell that there had ever been any. Several civilians were killed. What had happened in this case was that the Boche had tunnelled out from the cellar of a near by building, placed his charges and concealed his work by boarding up the cellar walls. The civilians remarked afterwards that for a long time the Boche would permit no one to go in sight of the building. This of course was when the tunnelling was going on and the exacavated material was being got rid of. The delay to train operation was 30 hours, which amply justified the expense and painstaking in setting the mine.

In a large material yard at Sassignies, which contained several thousand tons of track material, which it was necessary to leave behind in his great retreat, the "pigs" were again used to great advantage in the destruction of the material. A few "pigs" placed under a pile of rails, a pile of frogs and switches, or a pile of ties, generally twisted the material out of shape, or otherwise destroyed it, as well as scattered it all over the neighborhood. Fortunately no "pigs" remained "alive" when we got there. They had all "gone up."

The enemy were certainly masters of the art as far as destruction goes and we have doubtless learned many a lesson from the many devices they used. In blowing up rails in the track, latterly they used a very simple but effective device for fuse lighting, and one which rendered possible the blowing up of miles of track in a single day. The explosive was placed at every second rail joint, as before stated. Ordinary caps and rubber covered fuse, similar to that in Cánada were used, but instead of using matches or a torch for lighting the fuse, they employed a little copper cap that clipped over the end of the fuse. The copper cap, of course, had a mechanical lighting device inside it, and all that was necessary was to pull the string to start the fuse burning. In this way, once the charges were set, a man walking along the track could easily light and blow up at least 6 or 8 miles of track a day.

During the last days of the war, desperate days for the enemy, he attained even greater refinement in his work of destruction. Not being content with the blowing up of bridges as he had done it in the past, he very carefully conceived a most effective means of delaying us in the reconstruction of them. The most striking example of this was at Maubeuge. Before blowing up a very impôrtant bridge over the river there, they placed a train of cars on the bridge. The ruined cars, bridge, car wheels, axles, etc., literally filled the stream, and prevented us driving piles, which would have been the more speedy method of rebuilding the bridge.

During the two months preceding the signing of the armistice a great many mines were taken out before they had gone their time and thus before they had done their damage. The enemy were very careful to conceal all traces of their mining, but some heavy rains told the tale, and surface settlements in the roadbed showed disturbances that indicated where they had sunk shafts or driven tunnels for the placing of the charges. Tunnelling companies and miners were set to work to remove them. This was a [illegible] hazardous occupation and one that could not exactly be relished, but still in was done.

After the signing of the armistice, the Germans indicated the positions of some mines to us and as these had gone too close to their time to permit us to dig them out with any possible degree of safety, they were "sprung" by surface charges exploded immediately over them, this process in itself being sufficiently hazardous for those engaged in the operation. The "springing" proved successful, the acid having eaten so far into the wire holding back the plunger in the fuses that the shock of the surface charges finished it.

There were other minor devices in the way of mechanical devices, infernal machines, etc., used by the enemy in connection with their mines and delayed action mines, but with the exception of the "surfaces" or "road mine" the principle features are covered above. The "road mine" was made up of an explosive encased in a metallic container, about the size of an ordinary bake pan, and which was set into the surface of the road or highway, to be exploded by being struck with a horse's hoof, wagon or automobile, or anything passing along the road. They made a nasty little crater in the road, rendering traffic more difficult and caused some destruction, and loss of life, to the first traffic on the road after they were set, but we did not see a great deal of damage done by them.

Enough has no doubt been said to show that the Boches were past masters when it came to the art of destruction. We will take off our hats to him, when it comes to the doing of such work. He, however, has taken his hat off to us, the allies, as the winners of the war, many times since the signing of the armistice.

Birthdays of Transportation Men in October

Many happy returns of the day to:

A. Aitken, Assistant Superintendent, Toronto Terminals, C.P.R., Toronto, born at Decewsville, Ont., Oct. 12, 1872.

E. W. Beatty, K.C., President, C.P.R., Montreal, born at Thorold, Ont., Oct. 16, 1877.

Major Graham A. Bell, C.M.G., Deputy Minister of Railways and Canals, Ottawa, Ont., born at Perth, Ont., Oct. 13, 1874.

L. S. Brown, General Superintendent, Maritime District, Canadian National Rys., Moncton, N.B., born at Nelson, N. B., Oct. 19, 1864.

John Burns, Works Manager, Angus shops, C.P.R., Montreal, born there, Oct. 14, 1877.

F. F. Busteed, formerly Engineer in charge of C.P.R. revision and second tracking, west of Calgary, Kamloops, B.C., born at Battery Point, Que., Oct. 10, 1858.

J. M. S. Carroll, Sales Manager, Canadian Consolidated Rubber Co., Montreal, born at Ballarat, Australia, Oct, 22. 1875.

C. E. Cartwright, ex-Division Engineer, C.P.R., Vancouver, B.C., born at Toronto, Oct. 13, 1864.

A. F. Dion, Traffic Manager, Quebec Harbor Commission, Quebec, born at L'Islet, Que., Oct. 1, 1871.

H. A. Dixon, Chief Engineer, Western Lines, Canadian National Rys., Winnipeg, born at Sand Hill, Ont., Oct. 7, 1878.

J. W. Doyle, General Manager, Cape Breton Ry., St. Peters, N.S., born at Summerside, P.E.I., Oct. 12, 1872.

L. V. Druce, Division Freight Agent, Grand Trunk Pacific Ry., Edmonton, Alta., born at London, Eng., Oct. 20, 1873.

R. G. Edwards, Assistant Superintendent, Windsor Division, Ontario District, C.P.R., London, Ont., born at Maitland, Ont., Oct. 10, 1883.

A. C. Egan, Assistant to Comptroller, Canadian National Rys., Toronto, born at Winnipeg, Oct. 6, 1883.

C. E. Friend, Comptroller, Canadian National Rys., Winnipeg, born at Brighton, Eng., Oct. 12, 1871.

W. P. Fitzsimmons, Commissioner of Industries, G.T.R., Montreal, born at Detroit, Mich., Oct. 27, 1868.

C. N. Ham, Secretary, Express Traffic Association of Canada, Montreal, born at Winnipeg, Oct. 21, 1884.

G. Hodge, Assistant to Vice President, C.P.R., Montreal, born there, Oct. 2, 1874.

J. H. Hughes, Assistant Superintendent, Ottawa Division, Quebec District, C.P.R., Ottawa, Ont., born at Charlottetown, P.E.I., Oct. 7, 1865.

H. Irwin, Consulting Right of Way and Lease Agent, C.P.R., Montreal, born at Newgrove, County Down, Ireland, Oct. 27, 1847.

W. B. Johnson, Master Mechanic, Halifax Division, Maritime District, Canadian National Rys., Truro, N.S., born there, Oct. 8, 1872.

W. B. Lanigan, Freight Traffic Manager, C.P.R., Montreal, born at Three Rivers, Que., Oct. 12, 1861.

O. M. Lavoie, Superintendent, Laurentian Division, Quebec District, C.P.R., Montreal, born at St. Cyril de Wendover, Que., Oct. 16, 1884.

A. E. McMaster, Treasurer, Whalen Pulp & Paper Mills Ltd., Vancouver, B.C., born at Perth, Ont., Oct. 22, 1885.

Sir William Mackenzie, President, Toronto Ry., Toronto, born at Kirkfield, Ont., Oct. 30, 1849.

C. Malcolm, chief clerk, Auditor of Stores and Mechanical Accounts, Alberta District, C.P.R., Calgary, Alta., born at Tatamagouche, N.S., Oct. 18, 1881.

W. T. Marlow, General Freight Agent, Canadian Pacific Ocean Services, Ltd., Montreal, born at Limerick, Ireland, Oct. 25, 1872.

R. Marpole, General Executive Assistant, C.P.R., Vancouver, B.C., born in Montgomeryshire, Wales, Oct. 9, 1850.

C. R. Moore, Assistant to Vice President in charge of operation, G.T.R., Montreal, born at Hamilton, Ont., Oct. 12, 1867.

Hugh Paton, President, Shedden Forwarding Co., Montreal, born at Johnstone, Renfrew, Scotland, Oct. 5, 1852.

J. W. Porter, Chief Engineer, Hudson Bay Ry., Pas, Man., born at Aberdeen, Scotland, Oct. 15, 1877.

T. F. Rahilly, ex-Superintendent, Algoma Eastern Ry., now of Marquette, Mich,. born at Diorite, Mich., Oct. 6, 1892.

H. G. Reid, General Master Mechanic, Western Lines, Canadian National Rys., Winnipeg, born at Pembroke, Ont., Oct. 27, 1863.

W. S. Rollo, agent, G.T.R., St. Johns, Que., born at Dundee, Scotland, Oct. 8, 1852.

O. J. Rowe, Local Freight Agent, Grand Trunk Pacific Ry., Edmonton, Alta., born at Binghamton, N.Y., Oct. 11, 1879.

J. K. Savage, Assistant General Superintendent, Ontario District, C.P.R., Toronto, born at Forreston, Ill., Oct. 5, 1876.

Lord Shaughnessy, K.C.V.O., Chairman, C.P.R., Montreal, born at Milwaukee, Wis., Oct. 6, 1853.

T. Duff Smith, Fuel Agent, Grand

Trunk Pacific Ry., Winnipeg, born at Barking, Essex, Eng., Oct. 2, 1868.

K. Stewart, Assistant Superintendent, New Glasgow Division, Maritime District, Canadian National Rys., New Glasgow, N.S., born at Little River, N.S., Oct. 21, 1868.

C. E. Stockdill, Assistant to Vice President, Western Lines, C.P.R., Winnipeg, born at London, Ont., Oct. 25, 1881.

D. A. Story, ex-Freight Traffic Manager, Canadian Government Railways, Moncton, N.B., born at Halifax, N.S., Oct. 26, 1853.

E. N. Todd, General Foreign Freight Agent, Eastern Lines, C.P.R., Montreal, born at Huntingdon, Que., Oct. 17, 1879.

J. H. Valleau, Secretary-Treasurer, Thousand Islands Ry. and Oshawa Ry., Gananoque, Ont., born at Selby, Ont., Oct. 14, 1889.

J. A. Vallerand, Superintendent and General Freight and Passenger Agent, Roberval - Saguenay Ry., Chicoutimi, Que., born at Quebec, Que., Oct. 21, 1878.

R. Walton, Division Master Mechanic, Farnham Division, Quebec District, C.P. R., Farnham, Que., born at Peterborough, Ont., Oct. 16, 1880.

D. C. Coleman's Address at Calgary Industrial Congress.

D. C. Coleman, Vice President, Western Lines, C.P.R., gave the following address at the Industrial Congress held at Calgary, Alta., recently: "The balance of the world has just narrowly escaped subjugation by one nation of only seventy million people. The frightful struggle necessary to thwart the designs of this comparatively small minority was not due to any inherent mental or moral superiority in the German race as compared with others or to its martial qualities or its admittedly fine military organization, but to the development of industry on scientific lines and to the close association of the best brains of the country in the regions of finance and commerce. If the German had kept his too ready sword in its scabbard and had turned his head away from alluring visions of political power, it is altogether probable that within a few years he would have attained a dominating position in the trade and commerce of the world. When we remember how ruthless and cruel he has proved himself to be, it is fortunate for us that he chose to risk his all on an attempted rush through a bloody short cut to power and threw away the advantages which he had legitimately won by his ant-like industry, his genius for stealing the best ideas of other people and applying them to practical purposes, and his primary in the field of scientific research. In the United States and Canada we complacently thought that having no ruling caste, our best talents were devoted to business, and we flattered ourselves that we had a genius for organization; but we were too self-centered, our vision never bridged the seas, and in industry as in politics, we trusted to happy bursts of inspiration rather than to hard thinking or to wearying and consuming research. With the German, business was a study and an obsession, with us it was a game—a game which we played with the utmost spirit and with ambition and necessity holding our coats on the sidelines—but still a game.

"Having wrecked the German's dream of world-empire, it would be well for us, while the bully is still nursing his bruised and broken head, to reflect on the factors and elements in his national life which made him so formidable, and which indeed carried him to the very threshold of victory. Having found and studied these, we should, without subscribing to or adopting his abhorrent principle of an infallible and omnipotent state, endeavor to work into the fabric and spirit of our own political and industrial organization some of the passion for successful achievement which made the Germans a nation of workers, united in the resolve that in all branches of activity they should lead the world. This very necessary examination and other similar investigation and the application of the lessons drawn therefrom serve as a justification for this congress, and the consideration of the best way in which to develop our own resources should be influenced very greatly by the experience of other countries, where such development has been attended by conspicuous success.

"That the period of reconstruction through which we are passing is a difficult and trying one, we are all prepared to admit. The experience of the past does not help us in every particular. It has always been hard for mankind to settle down to a rational way of doing things after the convulsions brought about by a great war. At such times the quack with a panacea for all social and economic ills invariably has an innings, for the excited and the overwrought are easily persuaded to try fantastic remedies. And who among us is not just now suffering from the effects of overstrain Our special danger is when fitful and irregular gusts of passion and prejudice are reflected in legislation and executive action. In former times, when governments were less immediately responsive to public clamor, there was time for deliberation and a proper weighing of issues before a decision was taken. This fact is not advanced as an argument against our present more democratic system of government, which marks a great advance on any other system or process which man has devised, but it does indicate a real danger. The voice of the people may be the voice of God, but if so it is the voice of all the people, not that of a strident and clamorous faction, and that voice must express the considered view of the people. The wild ravings of a man in a delirium of pain should not and are not accepted as conveying his settled and normal aspirations and opinions, and in the same way the desires and aspirations of a people cannot always be deduced from the cries of a faction, temporarily unsettled by the acute pains caused by a sudden change from war to peace, and worked on and exploited by charlatans and adventurers. Under a democratic system of government, such as we have, those in authority are required to keep in step with public opinion, but they should not be forced to compromise with their principles in order that they may conform to every passing current of passion and prejudice, and they should be given time and opportunity to master problems as they arise, and thus be in a position to suggest to us a permanent and consistent policy.

D'Alton C. Coleman.
Vice President, Western Lines, Canadian Pacific Railway.

"The cry in this country and in other democratic countries seems to be for a government which is continually doing something, and that something must be striking and novel and preferably in the direction of restriction and paternalism. There is a pathetic belief that a profusion of legislation and government interference with normal processes in business and social life and with personal liberty in some way or other leads us along the road to freedom and happiness. Such intervention, if the truth be known, takes us in an altogether different direction. The opinion may be ventured that many of the difficulties we are now encountering are the direct result of fussy and unnecessary interference by governments with commercial enterprises and with the normal action of the law of supply and demand. A certain amount of interference was probably necessary during a state of war, and was brought about by the war, but some of it can be attributed to a panicky weakening in the face of clamor for drastic action to remedy some evil which seemed to call for correction. What is needed is free and open competition with proper protection of the public against combinations which are designed to stifle that competition. A government monopoly is not usually the best remedy. We may judge what government monopoly means, by the results of government control and operation of railways in the United States. These results have been a greatly increased cost of the transportation which is sold to the public, accompanied by an inconsiderate discourteous and much inferior service.

"We know that every man who speaks up against farther experiments in the direction of government control and ownership is at once dubbed a reactionary. But is he a reactionary? No. The reactionary is the man who would place us under the heel of a bureaucracy the man who favors state socialism. In claiming to be a reformer he is as inconsistent as the Bolshevist agitator who [illegible] infuriate labor against the so-called tyranny of capital, and then browbeats and stifles the voice of the conservative majority in our trades unions. It is the man who stands for the fullest exercise of the right of the individual to develop and prosper and reap the fruits of his labor and his brains who is the true liberal, the real supporter of advancement and progress. The whole history of civilization up to the present is the record of the struggle of the individual to secure a fair opportunity to improve his condition. As civilization progressed he refused to allow tribal chiefs and despotic kings and privileged ruling classes to fix the limits to which the ordinary individual could rise. In democratic countries, he has won for himself equality of opportunity—opportunity to improve his condition and to win a proper relative reward for his work, and to secure proper recognition of his character, qualities and abilities. The Bolshevist who prates about a redivision of the wealth of the world is simply trying to drag man back to a primitive condition, where a few Lenines and Trotskys will possess arbitrary power, and where the balance of the community will inevitably relapse into serfdom.

"It may seem a far cry from government control of industry to Bolshevism, but state socialism is only a milestone on the road to Bolshevism, and any further step in that direction we are entitled to view with suspicion. Instead of harassing our public men to rush through measures for the fettering of private enterprise and initiative, and reproaching them with indifference and inactivity, if they do not do so, we will secure much more prompt relief from our present economic troubles by relaxing burdensome regulations, and by encouraging private enterprise to resume business on the line of free competition, with the assurance that if the game is played fairly and if wealth assumes its fair share of taxation, there will be no further retrogression in the direction of socialism and bureaucratic control.

"The best economic and social policy for Canada and for the United States is one that will provide for equal opportunity for every man, no matter in what condition born, and which will guarantee him the peaceful enjoyment of the rewards of courage, foresight, prudence, temperance and hard work. It was suggested herein that we could afford to learn from the German some lessons in thrift, pertinacity, and the application of scientific methods to industry, but it would be a sad thing if after crushing the system of politics and government for which he stood, we should embrace his pernicious idea that the state must be supreme, and that the individual can only prosper and develop along rigid preordained lines, and can only enjoy such a measure of comfort and happiness as may be allowed to him by those permanently or temporarily in control of the machinery of the state."

Why Is a Hot Box?

By E. J. McVeigh, General Storekeeper, G.T.R., Montreal.

The expression "hot box" is the one generally used to describe that condition which results from the journal of a car truck becoming heated. This heating of the journal has a wide effect. It first sets fire to the waste and oil in the journal box, then it warms up the temper of the brakemen, this is transmitted to the conductor, and from him to the locomotive men. The next to hear of it is the dispatcher and he becomes "hot." Then the trainmaster comes in on the game and he heats up the superintendent and the car department. If there is sufficient fire it gets up to the president at times and great is the "passing of the buck" all along the line. The only one vitally interested who keeps cool seems to be the car knocker, who puts in the new brass and dope which costs the railway anywhere from $5 to $8. He seems to be a fatalist and regards the matter as an act of God, against which it would be futile for him to rage, or get hot.

I used the expression "passing of the buck" in this connection, and as I am afraid some readers may not know what I mean by that, I will explain that it is merely that regular routine of your daily life wherein you attempt to get from under, and put it on the other fellow, regardless of the merits of the case. In dealing with hot boxes, the "buck" is a lively animal, as he has a wide field to cover, but one thing we do know and that is that we are farther away from a solution of the problem today than we were 25 years ago.

Some young men of a serious turn of mind will no doubt resent me treating this matter in a semi humorous manner. Well, you see we get that habit of late years. The boy at the front, went out after the Hun with a joke, but he knew how deadly the thing was just the same. We at home joke about the high cost of living and other serious things, while [illegible] before last underwear and see that old suit turned wrong side [illegible] because we can't pay $70 for a new suit, and pay for a bond at the same time. I really am not disposed to treat the hot box in a light manner. It is far too important for that. It [illegible] danger to life and limb of the railway man and the travelling public. Nor am I disposed to give that lively animal the "buck" any more exercise than I can help in dealing with this matter.

There is no effect without a cause, and behind everything is a fundamental principal. The cause in the case of the hot box is 99% neglect—the effect is bad. The first thought in the minds of some of you is to protest that word neglect, but wait awhile and see how it turns out. In dealing with hot boxes you will find the "buck" turn up under many aliases—a few of them are: bad oil, bad waste, bad brass, rough journal, rough truck, truck out of square, overload, etc. Each and everyone of these spells "neglect" by someone.

A car truck mechanically correct requires very little lubrication to keep it running with cool journals. By mechanically correct, we mean that the truck has been properly constructed to do the work it was intended it should do. The journals on which it rides are of a size to carry the load they will be called on to carry, the saddle, or wedge, of proper shape, and the journal bearing of a quality of metal that will reduce friction to a minimum.

If we start out with such a condition, and maintain it, the question of lubrication is so simple that it is practically non-existent, or it would be if the conditions surrounding the working of a car truck were not so diversified. Now let us glance at a concrete example. We will take a train load of grain from the west, or the lake ports. The cars are, when loaded, in fair condition, not perfect, but fair. Some of them have new journals and wheels, some of them have old. Some new brasses and some part worn. This train starts out with a locomotive that leaves it at the end of 125 miles. The locomotive is carefully looked over by the locomotive man and then placed in the locomotive house where other men look it over and do any repairs necessary, and it starts out on its next 125 mile run in pretty good order. At least it has had a good deal of attention paid to it.

What about the cars? They are run on to a siding and two car men start down the line to inspect the boxes. How do they do it? They pull off the box cover, glance at the end of the packing in sight, see that there is no smoke, close the lid and go on. The locomotive man when going around his locomotive places his hand on the big end, the little end, the slide bars and many other parts to note how cool or warm they may be. He knows they are not hot, but he wants to know if they are thinking of becoming hot. Does the car man do this? He does not, and the cars start out on another 125 mile run. How many hot journals are there at the end of that run? We don't know, maybe one or six. These receive attention of a kind at this stop, and on they go again.

Before they reach the end of the next run some of those that were hot have had several brasses applied to them with more or less success. Some of them are in bad shape and must be stopped for new wheels, the journals have been cut, and some that did not give trouble at the first or second stop are giving trouble now, and so it goes on to the end of the run. Now, if these journals had all been tested with the hand at the first stop, and those showing an inclination to heat given a little attention, and the same thing done as often as the locomotive man tested his locomotive, do you believe there would have been so many hot boxes on that train?

Did any of you readers ever use a horse and buggy, and suddenly find one of the wheels sliding, and jump out and grab the nut with your fingers, and let it go again quick, because it was hot, and after it had cooled off and you removed the wheel you found plenty of oil on the journals, with the exception of a spot about half an inch wide? I have, and it made me realize that it is not necessary for a journal to be all dry to make it run hot. It is the back end of the car journal that needs attention, but how seldom it gets it until too late.

Do you agree that the hot boxes on the train we have tried to describe were due to neglect, and was that a fair skeleton description of the average train? Well, then was it not neglect to give the necessary attention that was the cause of 99% of the hot boxes. Why this neglect? Here is one reason; the railways haul freight as so low a figure that they feel they cannot afford to have the number of men necessary to give the cars the proper attention. What you can't do yourself you must trust in providence for, and providence does not look after box cars.

There are many other phases of this question apart from the above, and there is one that is most difficult to deal with. This is the car left at a way station, or siding, in winter until the dope is completely frozen, but the car is thrown on to a train and must get along as best it can. However, the better attention at divisional points hinted at above would help greatly in these cases. We cannot, I believe, totally eliminate the hot box on freight cars, but we can reduce the number 75% by spending the money to do it.

The foregoing few words will, I hope, introduce the subject of hot boxes on freight cars, but we still have the question of the same trouble on our passenger equipment. Some time ago I had the pleasure of looking into this matter, and after taking the statements of trainmen, trainmasters, superintendents, car men and others into account, and also watching the "passing of the buck" along the line, I came to the conclusion that here again we come down to that word neglect.

In a Canadian winter, our cars do have a hard time of it. Shoved into a yard with snow and ice often scraping the journal boxes, with the inside heated to 100 degrees and the outside frozen solid, they cannot be in good condition to give satisfactory service. The only answer to that problem is to have the cars placed in a building as locomotives are placed in locomotive houses. Such a building should be heated to about 60 degrees and no heat applied to inside of cars. Two hours after cars are placed in such a building all snow and ice falls away from trucks and running gear, leaving the car clean for proper inspection. The dope remains in the best possible condition, and the car goes out for its run in as good shape as we can make it. I have seen cars handled in this way, and I know that the results were good. Many people will say that it is impossible to house all of our passenger equipment, or not actually impossible, but that the cost would be prohibitive. I fully appreciate the fact that the cost would be great, that is the initial cost, but it is a question if it would not be quite as wise an investment as the locomotive house. It would not be necessary to place every passenger car, mail car and baggage car inside of a building. Many of the spare cars could be left outside as now, but I believe that we should have buildings to accommodate all cars on our regular trains, with room for a reasonable number of spare cars that should be available in case of accidents. The cost of such buildings would be considerable, but against this cost, what would we save? I believe that this building could be heated with less fuel than is now used for keeping the interior of cars warm while standing out of doors, and that the number of hot boxes could be greatly reduced, or practically eliminated. It is hard to tell just what a hot box costs, but we know that they cost considerable money. I also have statements from car men to the effect that in one year they have expended sufficient money in repiping cars that have been frozen to pay for a building to protect them. This may be exaggerating, but if the saving in this direction in five years would pay for the building, I believe it would be a good investment.

There is another phase of this question that in my opinion has not received the attention that it deserves, and that is the extent to which we are using, by wear, our journal bearings. I have made several tests of this, and have found that the quantity of brass actually used up by wear is very small indeed. We are practically running on white metal. This does not apply to any particular road, but to many roads, as I have reports from different places on the continent all bearing out what I have said. Now, what is the trouble here? I think we can all remember when journal bearings were very much more worn in service than they are today. I can remember journal bearings that had never given trouble and were finally removed because they were worn so thin that there was fear of them breaking or being worn clean through, allowing the journal to come in contact with the wedge. Such a condition, so far as I know, is practically unknown today. It may be stated that in the days when journal bearings were so worn, our cars and loads were lighter, and this is true, but in those days our journal and journal bearings were smaller. In other words, they were designed to carry the loads of that day. The journals and journal bearings in use today are supposed to be designed to carry the loads of today. They are not doing it in a satisfactory manner. Is this another case of neglect, that is, have we neglected to provide journals and bearings large enough to carry the loads?

I believe that these matters are of vital importance and they deserve all of the attention we can give them, and that any man who has an idea on the subject should feel at liberty to advance that idea. He may be wrong, as I may be in some of my ideas, but by advancing his proposition or idea he may bring out a better one, and that is what we want.

The foregoing paper was read before the Canadian Railway Club recently.

Deliveries on Public and Private Sidings in Montreal and Toronto Terminals.

The G.T.R. has adopted the same regulations as those applying on the C.P.R. at Toronto and Montreal, covering carload traffic received at these two points. As is generally known, the railways in Toronto and Montreal have divided their delivery facilities into what are known as "sub terminals." For example, in Montreal there is Outremont, Place Viger, etc., and in Toronto, Parkdale, West Toronto, etc. All carload shipments consigned to Toronto, are accordingly taken to Simcoe St., and all shipments consigned to Montreal, to Place Viger on the C.P.R., and Bonaventure on the G.T.R. The new arrangement which has been in vogue on the C.P.R. for some time requires that carload shipments must be consigned direct to the sub terminal, where delivery is desired. For example, a shipment from John Jones, Kingston, to William Smith, located at the Don, should be shown on the bill of lading as "William Smith, Don," followed by the words "Toronto, Ontario," in brackets.

The following circular has been issued by the G.T.R. in connection with the matter:

"Effective Nov. 18, the general system of billing carload traffic to Montreal or Toronto, as the case may be, will be discontinued and agents must ascertain from shippers the specific Montreal or Toronto terminal or sub-station within which delivery is required and see that bills of lading and waybills are issued accordingly, "Montreal" or "Toronto" being shown in brackets beneath the sub-station both at the heading and in the body of the waybill. Waybills should be made in accordance with example given below:

Local Freight Waybill.

From Kingston, Ont	To Don, Toronto	Date Nov. 12, 1918	Waybill no. 1	
Consignor, connecting line reference original car and waybill shipment	Marks consignee and destination	No. of packages	Articles and classification Conditions (O.R., C.R., Rel., Gtd., etc.)	Weight
Jno. Jones	W. Smith, Don (Toronto)	1	Car oats	60 000

"Traffic must not be billed to any specific siding but to the sub-station. If consignees having more than one warehouse or receiving yard within the same sub-station, or in different sub-stations, notify the railway company of change of delivery required prior to arrival of the freight at the sub-station to which it is originally billed, no additional charge will be made, otherwise, if a change is desired from the original billed delivery, switching charges as provided in tariff S-108, C.R.C. no. E-3292 supplements thereto or reissues thereof will be assessed.

"Traffic placed for delivery at one sub-station and ordered to another sub-station, will be subject to current switching charges as per tariff S. 108 C.R.C. no. E 3292, supplements thereto or reissues thereof."

If shipments are billed merely to "Toronto" or "Montreal," they will be taken to the terminal which is considered by the railways as Toronto or Montreal, and any deliveries to any sub terminals will be charged for in addition to the rate. The Canadian Manufacturers' Association has, therefore, suggested that all interested manufacturers in these two cities should give instructions to all those from whom they receive shipments, so that the goods will be properly billed, and thus avoid additional expense.

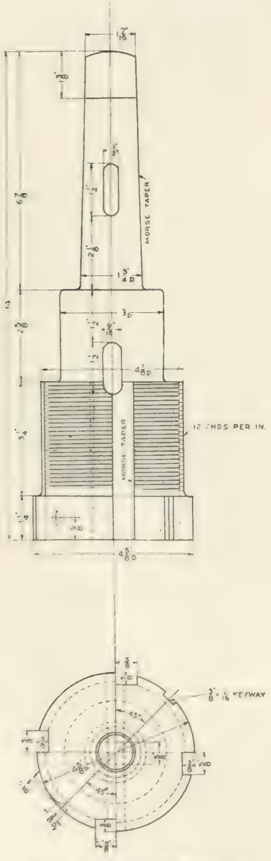
C.P.R. Social Clubs.—During the past few years a number of social and athletic clubs have been organized at various points on the C.P.R. Western Lines for the benefit of employes. To consolidate the interests of these clubs, and bring about some uniformity of aims, etc., a convention was held recently in Winnipeg, at which delegates representing clubs having a total membership of over 4,000 were present. It was decided to form a central organization with headquarters at Winnipeg, the first officers elected were: President, J. Benditt, President of the Winnipeg club; Secretary, R. W. Beatty. It was decided that the presidents of the existing clubs form the central executive committee. Plans were discussed for the extension of the movement to other centers; the standardization of the clubs' efforts and activities; the establishment of sporting competitions, and other measures calculated to increase interest in, and to promote the welfare of the club movement. It was agreed to hold an annual convention of the clubs, different centers to be visited as agreed upon.

Railway Mechanical Methods and Devices.

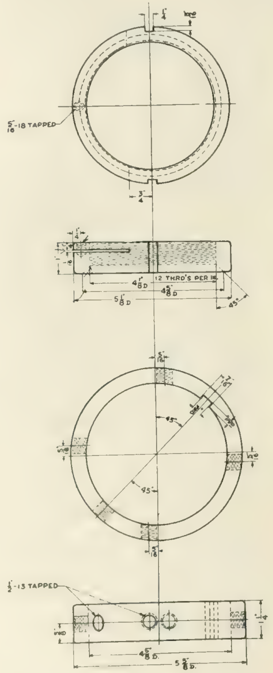
Boring Tool for Superheater Flue Holes.

The accompanying drawings show a tool for the removal of material from superheater flue holes in flue sheets. The tool consists of a body B, and adjusting collar C, a retaining collar D and cutting tools E, also an adjusting screw and 5 set screws, which are not shown in the drawing.

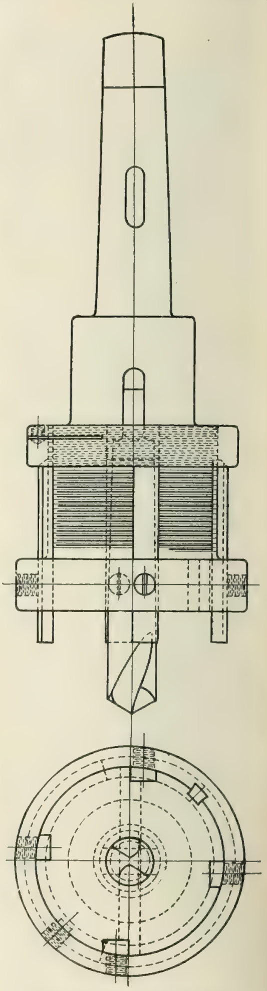
The main features of the body B are, a shank of standard Morse taper; the threading, which is made to fit the adjusting collar C, a hole bored longitudinally, also to a standard Morse taper; and 4 slots to receive the cutting tools. The adjusting collar C has a slot at S. The purpose of this slot is to produce a binding action upon the threads, by the use of an adjusting screw at T, so that the collar may be held in place at the proper adjustment of the cutting tools. There is also a recess at R to receive the ends of the cutting tools and help to bind them to the body of the tool. The retaining collar D is bored to a slip-fit for the largest diameter of the body B. As shown in the drawing, it is held in place by a key and a set screw. The cutting tools are made to the dimensions shown in the drawing. The angle shown at F is quite essential to the successful operation of the tool. This angle is made nine degrees. Two opposite tools have the high part of the cutting edge on the outside, while the other two have the high part on the inside. This not only reduces the strain on the tools, but also lessens the driving power required. The cutting tools are made of high speed tool steel, and the body and all other parts are made of machinery steel.



Boring tool for superheater flue holes.



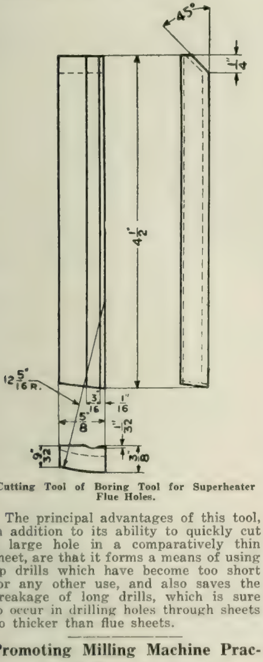
Boring tool for superheater flue holes.



Boring tool for superheater flue holes.

The complete tool is shown assembled at A. Its operation is simple. When the cutting tools are new, the adjusting collar is placed at the extreme shank end of the threading, and held in place by the binding screw. The cutting tools are then inserted in their respective slots and the retaining collar is placed on the end of the tool as shown. The set screws are then tightened, thus clamping the cutting tools, and the collar is clamped to the body of the tool by another set screw. A short drill is then inserted in the end of the tool and it is ready for use. This short drill first drills a pilot hole, and then acts as a guide for the cutters.

As the cutting tools wear, all that is necessary to keep the tool in good working order is to loosen the 4 set screws holding them, loosen the binding screw, and turn the adjusting collar the proper amount. When the various screws have been tightened, the tool is again ready for use. Reference to the threading will show that this adjusting may be continued until the cutting tools are practically used up.



Cutting Tool of Boring Tool for Superheater Flue Holes.

The principal advantages of this tool, in addition to its ability to quickly cut a large hole in a comparatively thin sheet, are that it forms a means of using up drills which have become too short for any other use, and also saves the breakage of long drills, which is sure to occur in drilling holes through sheets no thicker than flue sheets.

Promoting Milling Machine Practice in Railway Shops.

From a general view point it does not appear that milling machine practice in some railway shops has been given the attention or consideration that this particular method of machining would merit, for while there are some progressive shop men who have gone into the details of this class of work and made use of advanced tools and ideas concerning their application as evidenced by the results obtained, there are many places where the field for improvement along this line is large.

The average railway shop of fair size has in its machine tool equipment one or more of the horizontal knee type milling machines, usually found located in the tool room, and used for fluting reamers and taps or machining the shanks of such tools, also cutting shaft keyways and other miscellaneous jobs. In the main shops of large roads will also be found the larger horizontal mills commonly used for surfacing and fluting locomotive rods, machining shoes and wedges, eccentrics, etc., while the heavier vertical type machine is engaged on profiling and other irregular surface work or perhaps milling port openings in valve chamber bushings.

Some of the jobs above mentioned in connection with the different types of machines are no doubt being done by this method for the reason that it may have proved to be the best and most economical way, however, there is nearly always a chance to increase production or cut down the cost of same and it will no doubt be interesting for some to check up along this line with a view of getting more satisfactory and economical results or making a try at bettering the time on some job now being done in another way.

There is no question that modern high duty machines are conducive to more and perhaps better work, but they would be of little use if not equipped with proper cutting tools, and, in the case of milling machines, regardless of the typé, design or age it is essential that good cutters be used in order to obtain the best results therefrom.

The modern type of milling cutters as now used, in most up to date shops, differ considerably from those generally in use but a few years ago, both in devantages of these new type cutters over the old style until a comparison has been made of the work each will do. The wide spacing permits of larger and stronger teeth and better clearance and escape for good large chips, consequently of greater feeds, also lessens amount of grinding necessary and tendency to heat the cutter and work while in operation. It was noticeable that very soon after the introduction of these coarse tooth type cutters the leading manufacturers accepted the advanced design and are now showing them in their catalogues. In many of these new design cutters considerable attention has been given to the matter of spiral and for the various classes of work care should be taken to secure the proper lead, pitch and form of teeth for such cutters.

In the last few years nearly all milling cutters for rapid heavy duty work have been made of high speed steel, the sign and material. The old style carbon steel cutter with many teeth, narrowly spaced, had to give way to the high speed cutter having few wide spaced teeth. It is hard to realize the ad-small sizes being cut from solid stock and the large ones usually built with bodies of cheaper material and high speed inserted teeth. There is no question that high speed steel is the proper material for such tools and will continue to be used by exacting mechanics even at the present high price. The necessity for economy in this line, however, has caused wonderful development in the design and construction of inserted tooth cutters to fully meet requirements and which are equal in performance to those made from solid material.

One of the greatest factors for efficiency in milling is proper lubrication of the cutters. Without some good means of cooling, it is impossible to get near the maximum amount of work out of any design of cutters for the limit of speed is reached when the cutter burns, therefore, in order to prevent destruction and get the most out of the cutters it is necessary that they be kept cool. This is accomplished by the proper application of lubricants and it has been demonstrated that the nature of the lubricant is of minor importance so long as a sufficient quantity is provided. One of the prominent milling machine manufacturers after making exhaustive experiments along this line has developed a very complete system of cutter lubrication, which is featured in connection with its make of machines, special appliances being furnished for the equipment when required. This system provides for a liberal stream of fluid, which is forced upon the cutter through a hood, keeping the cutter cool and also serving to wash away the chips which adds to the life of the cutter.

The possibilities of milling with helical cutters are very great and many shops are employing this method for cutting blocks from solid in steel or iron, where formerly the job was done by drilling holes to release the block and then finishing to size on the slotter or shaper. Where proper equipment is used for such work, the time is greatly in favor of the milling process and the increasing amount of work being done in this manner bears evidence of the fact. One particularly small job of this character which may be interesting is the milling of keyways in piston rods or cross heads instead of drilling, chipping and filing them. This job may be done on a knee type milling machine, but there are some good small portable devices which were recently brought out by the use of which a considerable saving may be effected. A high speed three tooth helical cutter is used and if driven to capacity will cut keyways in piston rods in from 12 to 30 minutes each, depending upon the size and nature of the material. These rod keyways when drilled and chipped by hand usually take from three to five times as long as when done by milling process.

There are other well known operations in railway shop work which it is believed could be handled with more economy and satisfaction if a little preliminary time was given to the study and working out of the proper equipment and way to do the job. If you are interested, though doubtful, about some particular operation, which you think may be done by milling process, send in the blue print or sample of work to a good manufacturer for a guaranteed time and cost estimate of the job. This may save a lot of experimenting and they will be glad to tell you what it will cost and how it can be done.

It is always well to remember the following as essential to good results on the milling machine: Keep your machine in good condition at all times. Use arbors of as large diameter as possible to prevent chattering and springing away from the work. If a rigid intermediate support can be used with bearing close to the cutter, it will be helpful on heavy duty work. Use high speed coarse tooth cutters of design to suit your work and make them produce by keeping cool with lubrication when cutting steel. Increase the feed in proportion to the speed of the cutter to the limit of finish required. Good cutters will produce more work and stay sharp longer when used under these conditions.—C. H. Schaffer.

Steel Rail Requirements—C. M. Schwabb, of the Bethlehem Steel Corporation, is reported to have stated that United States railways will need approximately 5,000,000 tons of steel rails within a year.

Canada's Great National Asset.

By D. B. Hanna, President, Canadian National Railways.

I don't suppose many people in Canada are inclined yet to regard the Canadian National Railways as a great national asset. The general opinion—even, I am sorry to say, among those who make our laws and among newspaper men who mould public opinion—the general opinion seems to be that the railways are a liability that the country has had foisted upon it. The importance of impressing upon the people of Canada the true value from a national standpoint and the almost unlimited potentialities of the national roads cannot be overestimated. Canada must acquire a new angle of vision; the measure of our future depends upon it.

I want first to point out one way in which our ownership of a transcontinental railway can be turned to account at the present moment. We all know and all deplore, that there is not enough of the national spirit in Canada. The man in the Maritimes does not understand and, in fact, does not know very much about the people in the other provinces. In Ontario there is not much community of spirit with the people we call "Blue-noses" and even less with the hustling, wideawake citizens of the west. In the west there is a growing impatience with everything eastern. In fact, the westerner thinks in terms of the west; the Ontario man thinks in terms of Ontario; the Maritimer thinks in terms of the Maritimes. There are too few men broad visioned enough to think in terms of the Dominion of Canada.

This is bad business. Let's consider it purely and simply from a business standpoint and see what it means to us. We find the western grain grower demanding the sweeping away of tariffs, deaf to the argument that, by doing so the industrial life of the eastern provinces would be jeopardized. We find the easterner on the other hand ready and eager to tack on the ultimate fraction of protective duty, quite indifferent to the west, which he regards much as a market for his goods.

I have found the same sharp conflict between east and west in the matter of freight rates. The grain grower comes to me and complains bitterly about the way the freight rates hit him. "I get the worst of it coming and going," he declares. "When I ship my wheat to the east the charge for moving it comes off what I realize. But when I buy goods from the east, the wily manufacturer has it fixed so that the cost of the long haul is tacked on to the price I pay. I get soaked both ways."

When the manufacturer in the east comes to me he has almost the identical tale of woe. "I'm paying the cost of the long haul to the west," he asserts. "When you put up your rates, you take it out of me, every last cent. The westerner gets his price for his wheat and then you bring it on down to us and assess us for the haulage—", etc.

The truth, as always, is somewhere in the middle ground. Truth is seldom found at either extreme of an argument, but there are so few men unfortunately who can find the middle ground. If we had more men who thought in terms of the Dominion of Canada instead of in terms of Saskatchewan or Ontario, it would be much easier to shape the destinies of our broad Dominion along the lines that would give the broadest future. And right there is where the value of a national transcontinental enters. It can be used as a means of teaching Canadians to think in terms of Canada. At any rate it can be made the means of instilling the national viewpoint into the men who go to Ottawa to make laws for the Dominion.

I do not suppose that anyone will contradict me when I say that the sectional or provincial viewpoint is found at Ottawa quite as openly as anywhere. The average western member goes to Ottawa filled with the spirit of the west and convinced of the hundred per cent. justice of western conventions. The Ontario member goes to Ottawa to represent Ontario and he takes with him the viewpoint in regard to the west that prevails in the section he has been elected from.

I would like to see the members of parliament take the time to travel all over Canada. I know plenty of members from the east who have never been beyond the Great Lakes and there are western members to whom Montreal and Quebec and Halifax are geographical terms only. It would be in the interests of the country if all members took time between sessions to get around and see the whole of this man-sized country of ours. Let it be understood that it is part of their duty to find out what people are saying out beyond the Rockies and what they are thinking on the banks of the Bay of Fundy. Our legislators would become better fitted to legislate for a country that bristles with sectional interests and problems. There would be plenty of the time between sessions. In fact I am inclined to think that the sessions would be shorter if this plan were adopted. The broad plan that spells prosperity for the country as a whole can be more easily arrived at when the body of the House of Commons thinks in terms of Canada as a whole.

David Blythe Hanna,
President Canadian National Railways.

Canada has a splendid transcontinental system of railways all her own, so that the facilities for travel are provided. Would it not be a wise plan to see that the men we put in charge of this huge business of Canada Incorporated get a working knowledge of the whole plant? I am suggesting a course in travel as a duty for the member of parliament. Really there should be nothing optional about it as far as he is concerned. Let me suggest the same course for the private business man as well. Everyone should get acquainted with Canada. This seems to be the only way that we can slough our provincialism. No amount of talk or reading will enable the man who sticks within a radius of his Ontario home to see with the eyes of the west; and vice versa. As a result, I believe that soon the west would begin to take an interest in the welfare of the industrial east; and the east would see the problems of the west, even to the extent of boosting the cause of indusdustrialism there. The time has come when the west must proceed with the cooperation of the east, to develop its industrial possibilities. I am heartily in accord with the movement begun in Alberta to determine the resources of that province and to push for the establishment of industries.

"But," remarked a man to me the other day, "if you favor the establishing of factories out west, you'll hurt your own business. You'll lose your long hauls from the east."

"Long hauls are what railways are supposed to want," I told him, "but we also need to have vision. Look at a future with an enormously developed west as a result of industrial growth—and the importance of the freightage on the long hauls of today assumes lesser importance. Build the west—and you build up the future of the railways."

So much for that point. Before proceeding with what is a still more important factor of the relationship of the national railways to the future of Canada, I want to draw a moral from the history of railroading in Canada. When Mackenzie and Mann decided to build the first link of what became later the Canadian Northern System, their enterprise was considered a mad one. They decided to build a short line northwest from Gladstone, Man., to a point where Dauphin now stands. This part of Manitoba was settled sparsely. There were some hardy pioneers who had gone in despite the lack of transportation and a few settlers of the type known as "sherriff-proof," that is, men who had sought a retreat from debt. The wiseacres shook their heads when the doughty contractors, who later became so well known, decided to build through this country. "It's no good," they said. "It will never fill up. That section's off to a bad start. Anyway it's too far north and too cold."

It took nearly a year to build the 123 miles of road that had been projected. I was engaged to operate the road when it was completed and on Jan. 3, 1897, we started the first train north. The wiseacres were so far wrong that the first year we had a revenue of $60,000 and our operating expenses were $30,000 which was pretty good for a road doomed to failure! Of course, it was not an easy task to make the road pay, despite the fact that settlers poured into the country rapidly. We had to watch every item and every man on the staff worked morning, noon and night. We lived on the line.

I remember one occasion when I had boarded an accommodation to get north. It consisted of a long string of freight cars, with a couple of passenger cars in the rear and we carried, as I remember it, a large number of settlers going north. A heifer strayed on to the track and our locomotive lifted it nearly into the ditch. The accident worried me a little, because I knew the owner would promptly put in a claim for damages; and claims were a serious matter in those days. Then it occurred to me that the butcher for a construction camp at the end of the line was on board. So, while the train slowed up to a stop, I picked him out. "See here, Jim," I said, "this is a chance for fresh beef for the camp." The butcher dug up a cleaver from his belongings and, while we held the train, he skinned and quartered the victim of the accident and hung the meat in an empty box car. The beef was turned over to the camp commissariat and the hide was sold. After the irate owner's perfectly just claim had been met, we were $4 to the good on the transaction. That is a sample of the way we had to handle things to make both ends meet in the pioneering stages of the road.

Construction never ceased for a moment. We were pushing out more and more into territory that had been accepted as doubtful or impossible. This northern section was too cold or too remote or too wild to be suitable for settlement; so everyone said. But settlement kept pace with the steel or ran far ahead. People were frantic for land and they followed in droves in the wake of our construction gangs. Towns sprang up at suitable points and business generally became quickly established. It was our invariable experience that, as soon as a new link was completed and in operation, it carried enough business from the start to pay operating charges.

Mackenzie and Mann always had the big plan at the back of their minds, the grand idea of a new transcontinental. Each new bit of road built was but a link in the big plan. Gradually, as the system extended, the big plan began to show signs of coherency. They kept driving ahead toward the magnificent goal and in time every man on the system acquired a belief in the big plan and a zest for its accomplishment. If at any time the company had seen fit to forego the main objective and be content with the system as then completed, a commercial success would have been theirs. They persisted, however, until the fixed charges became too heavy to sustain through the war slump. The point I desire to make is that this line, which was persistently built out through territory that had been regarded as inaccessible and in the teeth of public indifference, opened up a tremendous new country and laid the foundations for what might be termed the greater Northwest.

No man deserves more credit for the opening up of Western Canada than the late A. D. Davidson. He became convinced that a tremendous future was ahead of the country of the Qu'Appelle Valley and in 1902, he staked everything by buying from the government part of the Qu'Appelle, Long Lake and Saskatchewan Ry. land grant to the extent of 800,000 acres at a price in the neighborhood of $2.50 an acre. Then he entered upon a campaign to attract United States settlers. Qu'Appelle at that time was considered to be next door to the north pole. Davidson was regarded as a dreamer and men freely predicted that he would be ruined. More than that, he was regarded as almost a menace. "If he takes Americans up to that frozen land, he'll give Canada a bad name," men said openly. Senator Perley from Saskatchewan made a speech at Ottawa in which he asserted that wheat could not be successfully grown north of Qu'Appelle.

There was no stopping Davidson, however. He went across the line and organized a train load of U.S. bankers. This party he took in a special train over the Prince Albert Branch as far as what is now the Town of Davidson. They went in the middle of the growing season and the visitors were thunderstruck. They saw rich, rolling country, well watered and open for cultivation, as far as the eye could see. They got down and scooped up the soil and found it rich. The sun beat down upon them as warmly as it did in the more settled sections they had come from and with as much promise of refining quality. In fact they saw lying before them an ideal wheat country. So this train load of Joshuas went back and reported that it was indeed a promised land—that Davidson was right and nearly all the rest of Canada was wrong. In 1902 the Western Canada Immigration Association was formed to launch a publicity campaign in the U.S. and, as a result, the huge wave of immigration from across the line started.

I am telling of these incidents to demonstrate that the opening up of new country is invariably contingent on the taking of huge risks and that the public is always sceptical. More important still the opening up has depended upon the building of a line of steel. Transportation is needed to effect permanent settlement on a large scale. Consider this in relation to the fact that Canada now owns a system of railways that stretch from Halifax and the Sydneys to Vancouver. If this system is considered as the means of opening up new territory, of developing new stretches of empire, then it becomes of tremendous importance indeed. No longer will we need to depend upon the daring and initiative of private individuals to blaze the trail to new fields; the country as a whole, which has always reaped the benefit of the pioneer efforts of our railway builders, can assume the risk and plan its own campaigns of extension.

There are already fields open for exploitation. The Peace River country has been established as a suitable field for agricultural settlement. To build a road through that northern section would be the prelude to a settlement as prosperous and successful as the Qu'Appelle. The value of the government roads from the middle prairie points to the Pacific as feeders for the Panama route can be developed. I am merely noting a few outstanding and obvious directions in which the aggrandizement of Canadian interests can be accomplished by the development of the national railways. Great things can be accomplished if the Dominion of Canada is disposed to regard railroading in the same light as the private railway builders have done in the past as a risk that must be taken to assure a big future.—Maclean's Magazine.

A Railway's Responsibility for Goods.

The question of how far a railway company is responsible for the loss of goods came before a Quebec court in a case in which Justice Maclennan gave judgment. Sept. 3. The action was brought by Greenshields Limited, Montreal, against the Canadian Northern Ry., to recover $1,564.43, the value of 6 cases of goods stolen from the C.N.R. carter's sleigh while it was standing in the yard at Greenshield's warehouse in Jan., 1918. After the cases had been loaded the carter went into the warehouse for some purpose in connection with the shipment, and when he came out he found the sleigh load of cases had been driven off. The sleigh and horses were recovered subsequently, but the goods were never traced. The railway company contended that as the bill of lading had not been signed it was not liable, and that the goods had been stolen from the plaintiff's-yard, where protection should have been provided by the shipper. The court held that the company's carter, by leaving the goods unguarded, facilitated the theft; that the carter had authority to sign the bill of lading on completion of the loading of the goods on the sleigh; and that the delivery of goods to him was delivery to the company. Judgment was therefore given for the amount claimed and costs.

Grain Inspected at Western Points.

The following figures compiled by the Dominion Bureau of Statistics, shows the number of cars of grain inspected on railways at Winnipeg and other points in the Western Division for August, and for 12 months ended Aug. 31, 1919 and 1918, respectively:

	Aug. 1919 Bush.	12 mons. to Aug. 31, 1919 Bush.	12 mons. to Aug. 31, 1918 Bush.
C.P.R.	2,343	70,203	91,827
C.N.R.	2,041	51,182	55,134
G.T.P.R.	286	15,311	23,405
G.N.R. (Duluth)	15	1,025	714
Total	4,685	137,721	171,080

Hamilton, Ont., Railway Yards—The Hamilton, Ont., City Council passed a resolution on Sept. 9, approving of its special railway committee's recommendation that the Hydro Electric Power Commission of Ontario be asked to survey, lay out, construct, build and operate a railway, and to acquire lands and yards, sidings and other facilities for railway traffic east of the city, and provide yards for the accommodation of the Toronto, Hamilton and Buffalo Ry. in lieu of the present Kinnear yards. In the [illegible] of the discussion it was stated that the proposal should take precedence over the Hydro Electric Power Commission of Ontario's general electric railway building, that the lands necessary for carrying it out should be acquired while the main line was being built, and that it was estimated that the suggested plans would not entail an expenditure of more than [illegible] in addition to the amounts provided for in the bylaw passed in January.

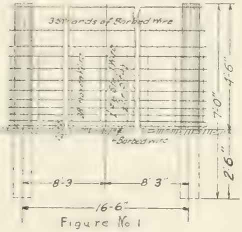
The Delaware & Hudson Co.'s mines resumed operation Sept. 15, it being reported that the 14,000 strikers had decided to await the Anthracite Conciliation Board's decision on their complaints' referring particularly to alleged excessive dockage, unnecessary laying off of men for alleged dirty coal, and use of mechanical loaders.

Fences, Anchoring of Fences, Gates and Cattle Guards.

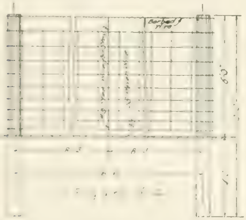
Following is the report of the committee on fences, anchoring of fences, gates and cattle guards, as adopted at the Roadmasters' and Maintenance of Way Association's last annual meeting:

Posts—Wooden posts, especially cedar, seem to be as yet the most favored, but the increasing scarcity of timber will eventually eliminate that kind of post. Round and split posts are being used, but the round post is preferable because the split post exposes the heart and thereby causes decay, and the dry-rot formed will easily catch on fire.

Iron posts are on the market and used to some extent, but it seems to be the opinion that they will rust off quickly at the ground surface. To overcome that difficulty some chemical solution is being applied, but its effect cannot as yet be determined. The iron posts are too small for use in a right of way fence, especially in the heavy cattle countries.



Concrete posts are being manufactured and used considerably. The initial price of the concrete posts and the cost of installation is somewhat higher than that of the wooden post, but considering its lasting qualities, it is undoubtedly the most economical. A well reinforced concrete post should last forever, as fire, water and climate do not affect it. The round post is preferable, as the corners of the square post will chip off and weaken the post. Railways may make their own posts by installing plants at points where sand and gravel are available.

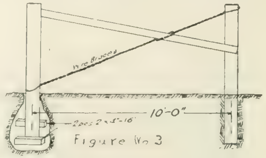


For general right of way fencing, the posts should be not less than 7 ft. and longer where necessary to suit the location. It has been suggested—in fact, some railways are using—an 8 ft. post at corners and gate openings, but it seems that a 7 ft. post is ample length, even for that purpose, when properly anchored and braced.

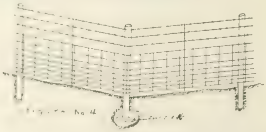
The 7 ft. post should be set in the ground 2½ ft. In swamp or wet ground the post should be tapered at the lower end and driven into the ground with a wooden mallet instead of the digging of holes by auger or digger.

The posts should be placed 16½ ft. or one rod apart, except at corners and gate openings, where they should be placed 10 ft. apart. Through large towns and other places where appearance is to be considered and also to keep off trespassers, a 10 ft. post is recommended, placing it 4 ft. in the ground and 10 ft. apart.

There are some steel posts manufactured, which it is claimed give satisfactory service. One type of post is made of heat-treated spring steel, in angle form, with a beveled point, which makes it easy to drive into the ground without the use of a driving cap. In connection with this post there is a triangular anchor plate that is driven into the ground, so that the post offers resistance to side thrusts. The post is punched so that ordinary size staples can be used. The installation of these posts is very cheap, as from 300 to 500 can be driven by one man in a day, and the decreased cost of installation will overcome the additional cost of the post. There is also a circular galvanized steel post, to which the fencing is fastened by clips. This post has been used to some extent by railways but more so in fencing parks and institutions and factories. The installation of this post is somewhat less than that of wooden or concrete posts, as it is driven in the ground by the use of a cap. Several steel posts can be shipped in the space occupied by one wooden or concrete post.



Wire—A combination barb and woven wire fence is recommended.



1—A barb wire at the ground, followed by a 28 in. woven wire and with 3 strands of barb wire at the top. (See fig. 1).

2—A barb wire at the ground followed by a 50 in. woven wire and one strand of barb wire at the top.

For use at station grounds when posts are set 6 ft. above ground, 58 in. woven wire with one strand of barb wire at the top. (See fig. 2).

When posts are set one rod apart, a stay of heavy wire should be placed in the middle of the panel.

The Anchoring of Fences is one of the vital factors in their permanence. The methods of anchoring vary considerably, but when wooden posts are used, the following is recommended:

The posts at corners and gate openings should have as anchors 2 pieces of 2 x 4 x 16 in. of pine lumber securely fastened to the post, one of the anchors at the lower end of the post and the other 12 in. higher.

In addition to the anchors, the posts at corners and gate openings should have a wooden brace 4 x 4 in. gained into the corner post 12 in. from the top and into the second post 24 in. from the ground and well spiked to the posts. As counterbrace, use 2 strands of no. 8 wire and twist until it becomes a hard and taut cable. (See fig. 3).

At sudden or abrupt changes of the ground along the fence line where post is liable to pull out, 2 anchors 2 x 4 x 16 in. should be fastened to the lowest point of the post. (See fig. 4).

Instead of using wooden anchors at corners and gate post, and whenever practicable, it is recommended that these posts should be placed in concrete 24 in. square and 8 in. below lowest part of the post. (See fig. 5).

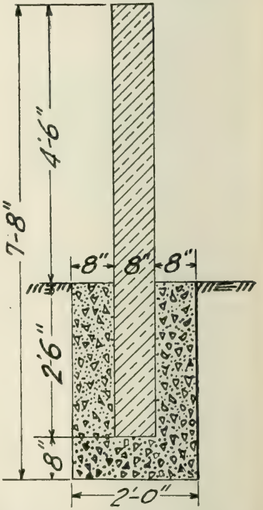


Fig. 5. Cross section showing concrete anchorage.

Gates—One of the section force's daily troubles is to keep farm gates closed and remind the farmers of same, and quite frequently the farmers refuse to keep the gates closed, due to the fact that the railway does not furnish a suitable gate. It has been shown that by furnishing light, swinging, gates the gates are kept closed more readily than with the heavy, sliding gates. The committee recommends a light, swinging, gate for use at private crossings, whenever possible, and, where ground formation allows it, that the gates should be hung so they would swing away from the track.

Cattle Guards—There are no cattle guards made that will turn cattle, and the stock will pass over the guard, also from data gathered it can be shown that it costs more to maintain cattle guards than to pay stock claims directly due to the absence of guards, but considering the necessity at present of conserving all resources of the country, especially the foodstuffs, the committee does not wish to recommend to entirely abolish the use of cattle guards. There are several makes of surface guards, but as none of them will turn cattle, the committee failed to agree on any certain kind to recommend.

Cross and Wing Fences—Some railways are using boards 1 x 6 in. for their cross fences at highways and are spacing them 6 in. apart. The committee recommends the use of the same material in the cross and wing fences as there is in the line fence and thereby lessen the cost in material and conserve the lumber.

Maintenance of Fences—It is the intention of the railways and the maintenance officials to keep the fences in good condition at all times, but due to shortage of laborers and other work it is given the last consideration and frequently we find at the end of a working season that no repairs have been made to the fences, and material allotted for this purpose is carried over to another season. With the postponement of the work from one season to another it is natural that the fences will be in such condition that they require rebuilding, which is more expensive than if they had been properly maintained at all times.

Due to soil formation and water, the work in keeping the fences in condition is more difficult in one section than in another. The average section foreman and laborer take very little interest in the condition of the fences and, in fact, do not know how to properly repair them.

It is the committee's opinion that in order to properly keep the fences in repair, a small fencing crew, consisting of foreman and 4 or more men, should be kept on each roadmaster's or supervisor's subdivision. By this arrangement better work will be obtained and more accomplished, as the men constantly engaged in the work will be more efficient; also it will not be necessary to distribute the fence material to the various sections.

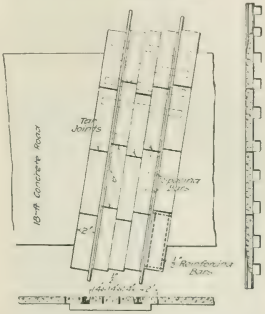
Safety—The committee recommends that laws should be enacted, prohibiting the destroying of railway fences and the opening of paths across the tracks.

A press report states that tourist and other travel on the C.P.R. transcontinental trains has increased very largely during this year, and that C.E.E. Ussher, Passenger Traffic Manager, on his present periodical trip over the company's western lines, is investigating with a view of making recommendations for the still further improvement of the company's train and hotel services.

J. D. McArthur, President, Edmonton, Dunvegan and British Columbia Ry. and its two subsidiary lines, on his return to Winnipeg recently from Edmonton, Alta., is reported to have said that during this year, 10,000 people had entered the areas served by these three railways for settlement purposes. The estimate of the grain crop in the district is from 5,000,000 to 6,000,000 bush., of which about 3,000,000 bush. will be brought out over these three railways.

Sectional, Removable Concrete-Slab Railway Crossing.

Sectional, concrete-slab railway crossings are proposed for Wayne County, Michigan road system. The general design and layout of these crossings are shown in the accompanying illustration. Each of the sections used between the rails is 6 x 1.4 ft., with a thickness equal to the height of rail. Sections outside the rail are 2 ft. wide. Reinforcement consisting of ½ in. bars is used as shown, and tar joints bind the sections together. Those inside and next the rail have projecting spacing bars which come in contact with the web of the rail, leaving clearance for the wheel flanges.



Surveys of the various railway crossings in Wayne County have been made, and the board of county road commissioners, has suggested to the engineering departments of the various roads that they be permitted to install this slab construction at county expense, the county also to maintain it after installation. It is believed that this will make a much smoother and more serviceable crossing than the old planked crossing, and, at the same time, leave the crossing equally accessible for repairs.

Freight and Passenger Traffic Notes.

St. John and Quebec Ry. trains, will, according to a press report, be operated through to St. John, N.B., regularly at an early date.

The Canadian National Rys. started on Oct. 5 a daily transcontinental passenger service, between Toronto, Winnipeg, Vancouver and Victoria, B.C.

The Halifax, N.S., Board of Trade's Council passed a resolution recently asking the Canadian National Rys. to reestablish a fast freight service between Halifax and Montreal.

Residents between Halifax and Yarmouth, N.S., have asked the Canadian National Ry.'s officials to operate a second train each way daily between Shelburne and Yarmouth on the Halifax and South Western Ry.

The C.P.R. is reported to be preparing to handle 90 train loads of Chinese coolies, who are returning from France across Canada and on to China. They were taken over in the early days of the war for service behind the lines.

The Quebec and Saguenay Ry., has, we are officially advised, been operating a daily train service from Quebec to Murray Bay, since July 1. The train leaves the Quebec Ry., Light and Power Co.'s station in Quebec, at 8 a.m., and returns to the same point at 8 p.m.

A Charlottetown, P.E.I., press report, Sept. 17, states that no. 1 train standard gauge, running from Charlottetown to Borden, will be made up of baggage, mail, express and first and second class passenger cars. The baggage, mail and express cars will be taken across to the mainland on the car ferry, and will be run through to Moncton, N.B.

The Grand Trunk Ry. is now operating sleeping and dining cars on a through service between Toronto and Philadelphia, Pa., over its own line, the Lehigh Valley Rd., and the Philadelphia and Reading Rd. The trains leave Toronto 5.45 p.m. daily, arriving in Philadelphia 10.25 a.m., and leaves Philadelphia 6.30 p.m., arriving in Toronto 9.40 a.m.

In reference to a large number of requests made to railway companies for reduced rates, to enable persons to go to places being visited by the Prince of Wales during his Canadian tour, it has been decided that, owing to the pressure upon the railways for equipment required to handle returning soldiers, repatriates, tourist traffic, and movement of returning harvesters from Western Canada, it would not be wise to grant general reduced rates at this time, and thereby add to the number to be carried. If, however, satisfactory arrangements for repayment, the usual military requisitions, at regular military fares, will be accepted for movement of members of the Great War Veterans' Association.

A new plan for handling freight between Truro, N.S., and eastern points, is reported to have been put in operation on the Canadian National Rys. Maritime District. Heretofore there has been one through freight train daily, each way between Truro and Mulgrave, all other freights and freight specials. Under the proposed new arrangement, traffic in both directions will originate in Truro and Mulgrave, cutting Stellarton out as a starting point for all freight, with the exception of that billed to points on the short line. The new plan will necessitate the removing of the train crews now residing in Stellarton to one or other of the terminal points of Truro or Mulgrave. It is claimed the new plan will effect a considerable saving in the cost of handling freight.

The Railway and Marine News, Seattle, Wash., says: "Every convention and a majority of the tourists coming to the Pacific northwest this summer, travelled one way over the Canadian railways. Both the Canadian Pacific and the Canadian National ably conducted an advertising campaign in the populous centers of the eastern United States. At the same time the U.S. Railroad Administration was still debating as to the advisability of advertising at all and when it did decide upon a policy it was too late in the season and the media were not well selected. Even in such a feature as this the Railroad Administration fell down and while the tourist travel to the Pacific coast has been heaviest in years, yet the fact remains that the great proportion of it was one way through Canada and the Dominion, following four years of active participation in the great war, has received untold benefits by the army of well to do tourists stopping at its famous hotels and resorts."

The Prince of Wales' Canadian Tour by Rail and Water.

After Canadian Railway and Marine World for September went to press, a slight change was made in the Prince's itinerary as published in that issue. The visits to Cobalt and Timmins, in northern Ontario, were cancelled, and instead of leaving Ottawa Sept. 1 for North Bay, the Prince went to Montreal by the C.P.R. for a flying visit. After leaving Montreal, the royal train was stopped at Dixie, where the Prince played a game of golf with W. R. Baker, C.V.O., ex-Secretary, C.P.R., and then proceeded direct to North Bay after which the schedule as published in our last issue was pretty closely adhered to. At Port Arthur the Prince officiated at the launching of the s.s. Canadian Adventurer by the Port Arthur Shipbuilding Co.

A. B. Calder,
Assistant General Passenger Agent, C.P.R., who is representing E. W. Beatty, K.C., President, C.P.R., on the Prince of Wales' tour through Canada.

Canadian Pacific Ry. officials accompanying the royal train—As stated previously in Canadian Railway and Marine World, A. B. Calder, Assistant General Passenger Agent, represents E. W. Beatty, President, C.P.R., on the special train provided by that company for the Prince's use during his entire Canadian railway tour. On the company's lines, in addition to Mr. Calder, the general superintendent of each district travels on the train over his district, the superintendent of each division travels on it over his division, and the division master mechanic rides on the locomotive cab over his division. The itinerary of the various C.P.R. officials is as follows:

J. M. Woodman, General Superintendent, Quebec District, Aug. 24-25, Quebec to Smiths Falls; Aug. 28, Smiths Falls to Ottawa; Sept. 2, Ottawa to Montreal; Sept. 2-3, Montreal to Chalk River; Oct. 27, Vaudreuil to Montreal; Oct. 31, Montreal to Ottawa.

Allan Purvis, General Superintendent, Ontario District, Aug. 25, Smiths Falls to North Toronto; Aug. 27-28, North Toronto to Smith Falls; Oct. 18, MacTier to Hamilton; Oct. 24, Windsor to North Toronto.

J. J. Scully, General Superintendent, Algoma District, Sept. 3-4, Chalk River to North Bay and Sault Ste. Marie; Sept. 8, Nipigon to Fort William; Oct. 11-12, Fort William to Biscotasing, Oct. 17-18, Biscotasing to MacTier.

A. E. Stevens, General Superintendent, Manitoba District, Sept. 8-9, Fort William to Winnipeg; Sept. 10, Winnipeg to Bredenbury; Oct. 10, Broadway to Winnipeg; Oct. 11, Winnipeg to Fort William.

W. A. Mather, General Superintendent, Saskatchewan District, Sept. 10-11, Bredenbury to Hardisty; Oct. 3-4, Swift Current to Regina; Oct. 9-10, Qu'Appelle to Broadview.

J. M. Cameron, General Superintendent, Alberta District, Sept. 11-12, Hardisty to Edmonton; Sept. 13, Edmonton to Calgary; Sept. 15-16, Calgary to High River, and return; Sept. 17, Calgary to Lake Louise; Sept. 18, Lake Louise to Field; Oct. 1-3, Crowsnest to Medicine Hat and Swift Current.

F. W. Peters, General Superintendent, British Columbia District, Sept. 20-28, Field to Vancouver; Sept. 29, New Westminster to Penticton; Sept. 30-Oct. 1, Midway to Nelson, Oct. 1-2, Kootenay Landing to Crowsnest.

O. M. Lavoie, Superintendent Montreal, Aug. 24, Quebec to Montreal.

T. A. Wilson, Superintendent, Smiths Falls, Ont., Aug. 24-25, Smiths Falls to Montreal; Oct. 31, Montreal to Ottawa.

H. J. Humphrey, Superintendent, Toronto, Aug. 25, Smiths Falls to North Toronto; Aug. 27-28, North Toronto to Smiths Falls.

H. B. Spencer, Superintendent, Ottawa, Aug. 28, Smiths Falls to Ottawa; Sept. 2, Ottawa to Montreal.

W. R. Boucher, Superintendent, Sudbury, Ont., Sept. 3-4, Chalk River to North Bay and Sault Ste. Marie! Oct. 17-18, Cartier to MacTier.

S. W. Crabbe, Superintendent, Schreiber, Ont., Sept. 8, Nipigon to Fort William; Oct. 11-12, Fort William to White River.

J. J. Horn, Superintendent, Kenora, Ont.; Sept. 8-9, Fort William to Winnipeg; Oct. 11, Winnipeg to Fort William.

T. R. Flett, Superintendent, Winnipeg, Sept. 10, Winnipeg to Minnedosa; Oct. 10, Brandon to Winnipeg.

R. Armstrong, Superintendent, Brandon, Man., Sept. 10-11, Minnedosa to Bredenbury; Oct. 10, Broadview to Brandon.

J. M. McKay, Superintendent, Saskatoon, Sask., Sept. 10-11, Bredenbury to Hardisty.

J. A. MacGregor, Superintendent, Edmonton, Alta., Sept. 11-12, Hardisty to Edmonton; Sept. 13, Edmonton to Red Deer.

G. J. Fox, Superintendent, Calgary, Alta., Sept. 13, Red Deer to Calgary; Sept. 17-18, Calgary to Field.

C. D. MacKintosh, Superintendent, Lethbridge, Alta., Sept. 15-16, Calgary to High River and return; Oct. 1-3, Crowsnest to Medicine Hat.

T. C. MacNabb, Superintendent, Revelstoke, B.C., Sept. 20-21, Field to Kamloops.

J. L. Jamieson, Superintendent, Vancouver, B.C., Sept. 21-22, Kamloops to Vancouver; Sept. 29, New Westminster to Spence's Bridge.

W. O. Miller, Superintendent, Nelson, B.C., Sept. 30-Oct. 1, Midway to Nelson.

C. S. Maharg, Superintendent, Cranbrook, B.C., Oct. 1-2, Kootenay Landing to Crowsnest.

J. M. MacArthur, Superintendent, Medicine Hat, Alta., Oct. 3, Medicine Hat to Swift Current.

A. Halkett, Superintendent, Moose Jaw, Sask., Oct. 3-4, Swift Current to Moose Jaw.

J. H. Chown, Superintendent, Regina, Sask., Oct. 4, Moose Jaw to Regina; Oct. 9-10, Qu'Appelle to Broadview.

W. C. Guthrie, Superintendent, Chapleau, Ont., Oct. 12, White River to Biscotasing; Oct. 17-18, Biscotasing to Cartier.

F. M. Rutter, Superintendent, Toronto, Oct. 18, MacTier to West Toronto.

R. W. Scott, Superintendent, Toronto, Oct. 18, West Toronto to Toronto.

A. Williams, Superintendent, London, Ont., Oct. 24, Windsor to North Toronto.

R. McAdam, Division Master Mechanic, Montreal, Aug. 24, Quebec to Montreal.

A. A. Sheppard, Division Master Mechanic, Smiths Falls, Ont., Aug. 25, Montreal to Smiths Falls; Sept. 2-3, Montreal to Chalk River; Oct. 27, Vaudreuil to Montreal; Oct. 31, Montreal to Ottawa.

A. J. Hills,
Assistant to President, Canadian National Rys., who represented the management, on the Prince of Wales' trip over the C.N.R. from Oba to Orient Bay, Ont., and during the Prince's fishing of the Nipigon River.

C. A. Wheeler, Master Mechanic, Quebec District, Aug. 24-25, Quebec to Smiths Falls; Aug. 28, Smiths Falls to Ottawa; Sept. 1, Ottawa to Montreal; Sept. 2-3, Montreal to Chalk River; Oct. 27, Vaudreuil to Montreal; Oct. 31, Montreal to Ottawa.

W. Borbridge, Master Mechanic, Ottawa, Aug. 28, Smiths Falls to Ottawa; Sept. 2, Ottawa to Montreal.

F. Ronaldson, Master Mechanic, Toronto, Aug. 25, Smiths Falls to North Toronto.

A. H. Binns, District Master Mechanic, Toronto, Aug. 25, Smiths Falls to North Toronto; Aug. 27, North Toronto to Smiths Falls.

T. Hambley, Master Mechanic, North Bay, Ont., Sept. 3-4, Chalk River to Sault Ste. Marie.

E. Freeman, Division Master Mechanic, Schreiber, Ont., Sept. 8, Nipigon to Fort William; Oct. 11-12, Fort William to White River.

W. Workman, Division Master Mechanic, Kenora, Ont., Sept. 8-9, Fort William to Winnipeg; Oct. 11, Winnipeg to Fort William.

J. C. Ironsides, Division Master Mechanic, Winnipeg, Sept. 10, Winnipeg to Minnedosa; Oct. 10, Brandon to Winnipeg.

A. West, Division Master Mechanic, Brandon, Man., Sept. 10-11, Minnedosa to Bredenbury; Oct. 10, Broadview to Brandon.

R. A. Jones, Division Master Mechanic, Saskatoon, Sask., Sept. 11, Bredenbury to Hardisty.

G. Moth, Division Master Mechanic, Edmonton, Alta., Sept. 11 to 13, Hardisty to Edmonton and Red Deer.

E. Lemieux, Division Master Mechanic, Calgary, Alta.; Sept. 13-18, Red Deer to Calgary, Calgary to High River and return, Calgary to Field.

G. H. Nowell, Division Master Mechanic, Revelstoke, B.C., Sept. 20-21, Field to Kamloops.

W. Evans, Division Master Mechanic, Vancouver, B.C., Sept. 21-22, Kamloops to Vancouver; Sept. 29, New Westminster to Spence's Bridge.

A. A. Brown, Division Master Mechanic, Nelson, B.C., Sept. 20-Oct. 1, Midway to Proctor; Oct. 1, Proctor to Kootenay Landing.

A. Smith, Division Master Mechanic, Cranbrook, B.C., Oct. 1-2, Kootenay Landing to Crowsnest.

G. Twist, Division Master Mechanic, Lethbridge, Alta., Oct. 3, Medicine Hat to Swift Current.

A. Peers, Division Master Mechanic, Moose Jaw, Sask., Oct. 3-4, Swift Current to Moose Jaw.

W. McPherson, Division Master Mechanic, Regina, Sask., Oct. 4, Moose Jaw to Broadview.

J. H. Brookes, Division Master Mechanic, Chapleau, Ont., Oct. 12, White River to Biscotasing; Oct. 17-18, Biscotasing to Cartier.

J. S. Allen, Division Master Mechanic, Sudbury, Ont., Oct. 17-18, Cartier to MacTier.

A. Maynes, Division Master Mechanic, Toronto, Oct. 18, MacTier to West Toronto.

C. Powers, Division Master Mechanic, Toronto, Oct. 18, West Toronto to Hamilton.

C. Gribbon, Division Master Mechanic, London, Ont., Oct. 24, Windsor to North Toronto.

The trips from Vancouver to Victoria, B.C., on Sept. 22, and from Victoria to Vancouver, Sept. 29, were made on the C.P.R. s.s. Princess Alice, J. W. Troup, Manager, B.C. Coast Steamship Service, representing the company.

At Penticton, Sept. 30, a steamboat and motor trip was made, visiting Kelowna and Vernon, the C.P.R. steamboat Sicamous being used on Okanagan Lake, and on Oct. 1 the royal train was sent by ferry and rail from Nelson to Kootenay Landing, and the party left Nelson, by C.P.R. steamboat Nasookin, for Kootenay Landing, calling at Balfour en route. Douglas Browne, Superintendent, B.C. Lake & River Steamships, C.P.R., was on the steamboats during the trips.

The Algoma Central & Hudson Bay Ry. was represented during the trip over its line from Sault Ste. Marie to Oba, Ont., on Sept. 4, by R. Home Smith, President, G. A. Montgomery, Vice President and General Manager, and R. S. McCormick, General Superintendent.

The Canadian National Rys. was represented during the trip over its line, from Oba to Orient Bay, Ont., on Sept. 4 and 5, and during the fishing and camping on the Nipigon River, Sept. 5 to 8, by A. J. Hills, Assistant to the President. The other officials of the company who travelled on the train from Oba to Orient Bay were: G. N. Goad, Superintendent, Hornepayne, Ont.; W. H. Long, General Car Foreman, Toronto, and W. G. Strachan, Road Foreman of Locomotives, Hornepayne. From Orient Bay, where the Prince left the train for his fishing trip, it was sent over the C.N.R. to Nipigon, and was afterwards returned to Cameron Falls, from which point it was backed up, over the Hydro Electric Power Commission of Ontario's spur line of about three-quarters of a mile, to within a few hundred yards of the head of the 2½ mile portage that has to be made in taking the trip to Nipigon. The water below Cameron Falls is uninteresting, and rough weather may be experienced on Lake Helen, where three members of a C.N.R. engineering party were drowned some time ago, so it was thought better to take the Prince's party out at Cameron Falls, instead of at Nipigon as intended originally. From Cameron Falls the train was run over the C.N.R. to Nipigon, where it was transferred to the C.P.R.

H. R. Charlton.
General Advertising Agent, G.T.R., who will represent that company during the Prince of Wales' trip over its lines in Ontario and Quebec.

Esquimalt & Nanaimo Ry. The following officials travelled on the train between Victoria and Qualicum: H. E. Beasley, General Superintendent; J. Goodfellow, Superintendent; R. A. Bainbridge, Engineer; W. Byrd, Master Mechanic.

The Grand Trunk Pacific Ry. will be represented during the trip over its line, from Regina to Edenwald, Sask., on Oct. 6, and from Edenwald to Qu'Appelle on Oct. 9, by I. A. Macpherson, Superintendent, Belville, Sask.

The Grand Trunk Ry. will be represented on the trips over its line on Oct. 18 to 23, from Hamilton to Niagara, Brantford, Guelph, Stratford, Woodstock, Chatham, London and Windsor, and on Oct. 25 to 27, from Toronto to Kingston, Brockville and Vaudreuil, by H. R. Charlton, General Advertising Agent. S. L. Trusler, Passenger Trainmaster, will accompany the train over the Ontario Lines, and R. E. Marks, Passenger Trainmaster, will accompany it over the Eastern Lines. The following superintendents will travel on it over their respective divisions: J. H. Gordon, Hamilton Division; R. H. Fish, Stratford Division; C. E. Forrester, London Division; J. C. Crombie, St. Thomas Division; J. D. McMillan, Belleville Division; J. J. Connelly, Montreal Division.

Canadian National Railways Earnings.

Approximate earnings for July, $7,657,402, and for 2 weeks ended Aug. 14, $3,702,567, against $5,733,299 and $3,219,878, respectively for same periods, 1918.

January	$ 6,744,018	$ 4,696,267
February	6,000,342	4,421,704
March	6,827,491	5,710,660
April	6,909,632	7,165,890
May	7,518,244	6,580,745
June	6,009,785	6,848,864
July	7,657,402	5,733,299
August	8,274,882	[illegible]
	$55,941,869	$49,433,471

Canadian Pacific Railway Earnings, Expenses, Etc.

Gross earnings, working expenses, net earnings, and increases or decreases, from Jan. 1, 1919, compared with those of 1918:

	Gross	Expenses	Net	Increases or decreases
Jan.	$13,028,328	$11,474,816	$1,553,512	$ 387,519
Feb.	11,064,167	10,083,051	981,116	390,218
Mar.	12,374,182	10,835,138	1,539,044	*1,463,737
Apr.	13,108,905	11,020,281	2,088,624	*1,366,765
May	13,569,411	10,535,650	3,033,761	*654,015
June	13,577,274	10,586,852	2,990,421	178,274
	$76,722,267	$64,535,789	$12,186,478	*$2,520,706
Incr	$ 1,709,981	$ 7,320,487		
Decd			$ 2,520,706	

*Decreases.

Approximate earnings for July, $13,238,000 and for August, $14,878,000, against $11,920,000 and $12,714,000, respectively, for the same periods, 1918.

Grand Trunk Railway Earnings, Expenses, Etc.

The figures as reported are in pounds sterling, and are converted into currency at $4.87.

Gross earnings, working expenses, net earnings and increases or decreases compared with those for 1918, from Jan. 1, 1919.

	Gross	Expenses	Net	Increases or decreases
Jan	$ 4,405,403	$ 5,121,778 x$	[illegible]	*$ [illegible]
Feb.	4,090,800	[illegible] x	[illegible]	[illegible]
Mar.	5,517,223	[illegible]	[illegible]	[illegible]
Apr	[illegible]	[illegible]	[illegible]	[illegible]
May	[illegible]	[illegible]	[illegible]	*[illegible]
June	[illegible]	[illegible]	[illegible]	*[illegible]
July	[illegible]	[illegible]	[illegible]	*[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]
Incr	[illegible]	[illegible]	[illegible]	

xDeficits. *Decreases.

Approximate earnings for August, $[illegible], against $[illegible] for August, 1918.

Timiskaming & Northern Ontario Railwaymen's Patriotic Association has contributed $99,446.40 to the Canadian Red Cross Society and the Canadian Patriotic Fund, exclusive of personal subscriptions by the commissioners and employes. This is the final total, the lists having been closed.

Traffic Orders by Board of Railway Commissioners.

Canadian Freight Classification and Express Classification for Canada.

General order 271, Sept. 10. Re Canadian freight classification and the express classification for Canada, and sec. 322 and 323 of the Railway Act, 1919, it is ordered as follows:

1. Any reissue of the Canadian freight classification, or of the express classification for Canada, or any supplement thereto, or any supplement to the issue of either now in force, shall be submitted in printed proof form for the board's approval before it is made effective.

2. Should such proposed reissue or supplement remove any goods from a lower to a higher class, or in any other way add to the cost of transportation of any goods, notice of the submission thereof shall be published by the applicant in the next two succeeding issues of The Canada Gazette, in the following form:

"Notice is hereby given that the .... will on the .... day of .... 19.., submit to the Board of Railway Commissioners for Canada, for its approval, the Canadian Freight Classification (or the Express Classification for Canada) no. .... (or Supplement no. .... to the Canadian Freight Classification no. ...., or to the Express Classification for Canada no. ....)."

3. (a) Unless, for special reasons, exemption be granted by the board, the following symbols shall be used in the said proof, and in the approved classification or supplement.

An asterisk, to denote an addition.

A large dot, to denote an increase in the previous rating, or charge, or cost of transportation.

A solid triangle, to denote a reduction in the previous rating, or charge, or cost of transportation.

A dagger, to denote any other change.

(b) Supplements shall show against each increase or reduction a reference to the previously approved item.

4. The application to the board shall be accompanied by—(a) Three copies of the said proof. (b) The reasons for proposed changes involving increased cost of transportation. (c) A copy of the notice furnished to the King's Printer for publication in The Canada Gazette.

5. One copy of the said proof and of the said notice for publication shall be furnished by the applicant to the following bodies, with the request that fully explained objections, if any, to proposed changes involving increased cost of transportation be filed by them with the Board of Railway Commissioners within 30 days from the receipt of the said proof and notice: Canadian Manufacturers' Association, Ontario Grocers' Guild. Manufacturers' Association of British Columbia, Vancouver, British Columbia Fruit Growers' Association of Ontario, Montreal Chamber of Commerce, Boards of Trade of Belleville, Ont.; Brandon, Man.; Brantford, Ont.; Brockville, Ont.; Calgary, Alta.; Chatham, Ont.; Collingwood, Ont.; Cornwall, Dnt.; Cornwall, Ont.; Edmonton, Alta.; Fort William, Ont.; Fredericton, N.B.; Galt, Ont.; Guelph, Ont.; Halifax, N.S.; Hamilton, Ont.; Kenora, Ont.; Kingston, Ont.; Kitchener, Ont.; Lethbridge, Alta.; London, Ont.; Medicine Hat, Alta.; Montreal, Que.; Nelson, B.C.; Ottawa, Ont.; Owen Sound, Ont.; Peterborough, Ont.; Port Arthur, Ont.; Preston, Ont.; Prince Albert, Sask.; Prince Rupert, B.C.; Quebec, Que.; Regina, Sask.; St. Catharines, Ont.; St. Hyacinthe, Que.; St. John, N.B.; St. Thomas, Ont.; Sarnia, Ont.; Saskatoon, Sask.; Sherbrooke, Que.; Stratford, Ont.; Three Rivers, Que.; Toronto, Ont.; Valleyfield, Que.; Vancouver, B.C.; Victoria, B.C.; Waterloo, Ont.; Windsor, Ont.; Winnipeg, Man., Woodstock, Ont., also, in the case of the freight classification, to the railway companies which are not members of the Canadian Freight Association.

6. Previous orders or regulations of the board conflicting herewith are rescinded.

27,717, Aug. 29. Approval of special tariff on cream in cans. See under "Among the Express Companies," on page 572 of this issue.

Carriers' Liability on Outbound Freight During Interswitching.

General order 272, Sept. 19. Re carriers' liability in connection with outbound freight traffic during interswitching operations: whereas, by order 7,562 (general order 41), dated July 15, 1909, the board prescribed conditions and limitations to be endorsed upon the forms of bill of lading therein approved for use in Canada; and it having developed that shippers and carriers are not always receiving the protection of the said conditions and limitations during the time when freight, in carloads, is being interswitched by the "terminal carrier" to the "line carrier" under the terms of the board's general interswitching order 252, Oct. 26, 1918; and it appearing to the board that such protection should be provided for, it is ordered that those terminal carriers that do not issue the bill of lading for the entire movement of such freight to its destination, and which are subject to the board's jurisdiction, shall give the shipper a local bill of lading on the appropriate form provided for in general order 41, covering the movement by interswitching service to the point of transfer to the line carrier that issues the bill of lading to the destination; or, if preferred, and in lieu thereof, shall give the shipper what is commonly known as an interline or switching ticket or receipt, which shall contain the words, "received subject to the conditions of the company's bill of lading, which are made a part hereof."

Increased Return Passenger Fares.

Assistant Chief Commissioner McLean gave the following judgment Sept. 9, as to the Toronto Board of Trade and the Border Chamber of Commerce, Windsor, Ont., complaint against the increased return passenger fares put into effect by the railways, Feb. 1, 1919:

"Canadian railways have for a considerable period provided round trip passenger rates at a reduction of one-sixth off the sum of the individual rates. This practice has been amended, effective Feb. 1, 1919, by limiting the reduction to 10%. After filing of complaints, answer and reply, the matter was set down for hearing. It has subsequently stood for further written submissions.

"The passenger rates practice involved developed, no doubt, as a means of building up traffic. In the case of round trips, between the points served by two or more lines of railway, the reduction from the sum of the rates held the traffic inbound to the line on which it had moved out. The practice, however, is general, not being limited to competitive situations. The board has approved standard passenger rates which are legally filed and published. The question is raised whether, this having been done, the board has power, in respect of traffic moving on said rates, to direct that a round trip rate shall enjoy a charge less than the sum held lawful where each portion of the journey is performed as an isolated unit, having no connection with a return.

"It is contended, on the one hand, that the round trip rate arrangement is a special rate arrangement, and that where such a rate arrangement has once been put in by a railway, the board has the same jurisdiction it has in regard to special rates generally. It was submitted in argument that the reduction from the sum of the rates was a concession which it was not obligatory on the part of the railways to give, and that, from the standpoint of principle, the railways would be within their legal rights in making no reduction. In substance, it was contended that the reduction on the round trip was in the nature of a privilege. Inferentially, this claims an analogy with the "privilege," e.g., of milling in transit and analogous arrangements, where the railway may initiate or terminate such an arrangement subject to the inhibitions against discrimination.

"The jurisdictional point involved is not free from difficulties. The Railway Act is silent on the question of round trip passenger rates. The special freight rates to which reference is made by way of analogy are concerned with a movement in one general direction. At the same time, the incidents attaching to some of these special rates, e.g., stop-off arrangements of various kinds, are matters which are not specifically set out in the Railway Act. It does not appear necessary, however, to pass on the jurisdictional matter. The main argument was directed to the merits.

"The railways contended that the amendment made was justified by increased costs. Reference was made to the freight rate increase allowed under order in council 1,863, and it was set out that the increases obtained thereunder fell short of the increased costs under the McAdoo award. Reference was made to the additional wage increases which have since been made. It was set out that the increase herein involved was so slight that even with it passenger traffic is "still far from bearing its adequate proportion of the added expenses of the railway companies." While there was contention as to the exact amount of traffic affected by round trip rates, it would appear from the statistics submitted, as to representative points, that they affected approximately one-third of the passenger movement. On this basis, the increase represents a diminution from a 16.6% reduction to a 10% reduction on one-third of the traffic.

"The material submitted as to costs both at the hearing and in written submissions is corroborative of what has been placed before the board in other connections. The material so submitted was subjected to a careful analysis and criticism by T. Marshall for the Toronto Board of Trade. Giving weight to the criticisms so advanced, it still appears that the railways have successfully borne the burden of proof placed on them and that the board would not be justified in disallowing the round trip arrangements herein involved."

In accordance with the foregoing judgment, order 26,791 was passed Sept. 13, dismissing the complaint.

Absorption of Switching Charges.

28,693. Aug. 15. Re application of the National Elevator Co., Winnipeg, for a ruling re absorption of switching charges by a railway company, in cases where a car of grain is shipped from the applicant's elevator at Port Arthur, on the Canadian National Rys., and then switched over to the C.P.R. and billed to Cartier for orders, the applicant paying a stop-off charge and then re-billing the car to Montreal or Quebec, or other common destination: Upon hearing the application at Ottawa, Oct. 29, 1918, in the presence of counsel for Canadian Pacific and the Canadian National Rys., and what was alleged, it is declared that, under the provisions of the tariff now in effect, grain consigned to Cartier "for orders," whence it is ordered to a final destination common to the Canadian Pacific and Canadian National Rys., or their connections, is entitled to the same absorption of interswitching charges as if it had been consigned through from Port Arthur or Fort William to its ultimate destination.

Demurrage on Grain at Keewatin.

28,708. Aug. 29. Re application of State Elevator Co., Winnipeg, for a refund of demurrage charges made by the C.P.R. on grain at Keewatin, Ont. Upon hearing the application at Winnipeg, Mar. 3, 1919, the Canadian Freight Association being represented, no one appearing for the applicant company, and what was alleged; and upon the report and recommendation of the board's Chief Traffic Clerk, it is ordered that the application be dismissed.

Commercial Travellers' Rates.

28,809, Sept. 20. Re order 27,718, Sept. 28, 1918, made upon the complaint of the Dominion Travellers' Association, the Northwestern Canada Travellers' Association of Montreal, and the Commercial Travellers' Association of Canada, Toronto, and suspending certain schedules of the Quebec, Montreal and Southern and the Napierville Junction Railways, cancelling reduced fares and special baggage allowance for commercial travellers: Upon hearing the matter at Ottawa, Oct. 16, 1918, the complainants, the Ontario commercial travellers, and the railway companies being represented at the hearing, and what was alleged; and upon reading the further submissions filed, it is ordered that the following schedules, cancelling reduced fares and special baggage allowance for commercial travellers, be disallowed, viz.:

Quebec, Montreal & Southern Ry., supplement 6 to C.R.C., 160; supplement 1 to C.R.C., 236; supplement 2 to C.R.C., 263.

Napierville Junction Ry., supplement 3 to C.R.C., 31; supplement 2 to C.R.C., 69; supplement 1 to C.R.C., 94.

Quebec Central Railway's Freight Tariff.

28,810. Sept. 22. Approving Quebec Central Ry.'s standard freight mileage tariff, C.R.C., 681.

Quebec Central Railway's Passenger Tariff.

28,811, Sept. 22. Granting application of Quebec Central Ry., under sec. 334 of the Railway Act, 1919, for approval of its standard passenger tariff, C.R.C., 174, on the basis of 3½c a mile.

Demurrage During Influenza Epidemic.

28,812, Sept. 17. The application of Imperial Oil Limited, of Sarnia, Ont., for a ruling in the matter of claims against the C.P.R. for a refund of demurrage charges which accrued during the epidemic of Spanish influenza, on a shipment detained at Shawinigan Falls: Upon hearing the application at Ottawa, Sept. 16, 1919, Imperial Oil Ltd., the Canadian Car Demurrage Bureau, and the C.P.R., being represented at the hearing, and what was alleged, it is ordered that the application be refused.

Milling in Transit Rules.

28,813, Sept. 18. Re complaint of Dominion Millers' Association and Canadian Manufacturers' Association against new milling in transit rules filed by the railway companies operating in Canada east of Lake Huron and the Detroit and St. Clair Rivers, to become effective Sept. 1: Upon hearing the complaint at Ottawa, Sept. 19, 1919, the complainants, the Montreal and Toronto Boards of Trade, the Grand Trunk, Canadian Pacific and Canadian National Railways, and the Canadian Freight Association being represented, it is ordered that the complaint be dismissed.

Grand Trunk Pacific Ry. Co. Defaults in Its Interest Payments.

The Secretary of the London, Eng., committee issued the following circular, Aug. 29:

"As you are no doubt aware, the Canadian Government took possession of the Grand Trunk Pacific Ry. some months back, by the appointment of the Minister of Railways as receiver of the undertaking, and in consequence the London committee of the G.T.P.R. Co., have no funds at their disposal out of which to defray the interest due on Sept. 1, upon the 4% debenture stock.

"The committee ask me to express their regret in having to make this announcement, but they feel that you ought to have notice of the position, as up to the present they have no information from Canada as to what arrangements, if any, the receiver is prepared to make for payment of the interest. The committee cannot call upon the Grand Trunk Ry. Co. of Canada, under the guarantee given by it, until it is ascertained whether the net revenue of that company for the year ending Dec. 31 next shows a surplus available for the purpose after payment of fixed charges."

English Railway Appointments—Chas. Addington has been appointed General Manager, Great Western Ry., succeeding Frank Potter, who died recently, after being in the company's service since 1869, and General Manager for 7 years. Mr. Addington has been in the company's service continuously for 36 years, except from 1899 to 1902, when he was Traffic Superintendent, Central London Ry. He was appointed Assistant General Manager, G.W.R. last spring, immediately previous to which he was Superintendent of the Line. F. J. C. Pole, heretofore Assistant to the General Manager, has been appointed Assistant General Manager, G.W.R. W. J. Grinling, Chief Traffic Manager, Great Northern Ry., has resigned after being in the company's service since 1871, and occupying his recent position since 1902.

Capreol Railway Y.M.C.A.—Tenders are reported to have been asked for the erection of a railway Y.M.C.A. building at Capreol, Ont., at an estimated cost of $75,000. The building was planned originally by the Canadian Northern Ry. and is said to have been approved by the Canadian National Rys. management.

Canadian Pacific Railway Construction, Betterments, Etc.

Chateau Frontenac Extension—A Quebec press report states that it is expected that work will be started early next spring upon the foundations for a new wing of the Chateau Frontenac at Quebec.

Three Rivers Station—A perspective view of the exterior of the station to be built at Three Rivers, Que., together with a plan of the ground floor lay out in contrast with the present station's layout were given in Canadian Railway and Marine World for September. A short general discription of the building was also given, and we are now enabled to give the following information as to the dimensions. The total length will be 127 ft., the width of the center block being 55 ft., and of the 2 wings, 35 ft. The central block will contain a general waiting room 50 x 70 ft., smoking room, ticket offices, news stand, women's waiting room, and lavatory accommodation. The two waiting rooms will be each 20 x 26 ft. The left wing will contain a buffet dining room, 56 x 32 ft., with seating capacity for 50, the kitchen being at the extreme end. The right wing will contain a baggage office and room 49 x 32 ft., and connected with this by a covered way will be the express room, 62 x 32 ft. The exterior is designed in the French chateau style. The building will have a concrete foundation, brick walls, reinforced concrete floors and roof, steel frame, main walls of Citadel, Quebec, brick, trimmed with Deschambault limestone, copper roof. The main waiting room walls will be marble wainscote and Caen stone or marble above tile floor. The lunch room and lavatories will be finished with marble dadoes and tile floors. The wood trimming generally will be red oak.

Place Viger Hotel—A Montreal press report states that the company proposes to rebuild the Place Viger Hotel, converting it into a 10 story building.

Wymark to Archive—A press report states that J. Sandgren, has arrived at Wymark, Sask., with his contracting outfit, and is preparing to start work on grading towards Archive, for 25 miles. J. Armstrong is reported to be making agreements with farmers along the route for men and teams. The general contract for the work was let to J. W. Stewart Construction Co., Vancouver, B.C.

Leader to Cantaur—A press report states surveys for a projected line from Leader, Sask., on the Swift Current-Empress-Bassano line, to the Bech Stach Lake, and thence to a junction with the same branch at Cantaur, Sask., have been completed, and that construction will be started at an early date. (Sept., pg. 489).

The Railways and Canals Department is reported to be undertaking a survey in survey in the neighborhood of Cardinal for the construction of a canal to take the place of the present system of canals between Cardinal and Cornwall. This work, it is stated, is to be undertaken, owing to the impossibility of accommodating Welland Canal size vessels farther down the river than Prescott on account of the size of the canal locks. The plan which is said to be under consideration, will do away with the locks at Cardinal, Morrisburg, Farran's Point and Cornwall, and will provide a new canal back from the river.

Railway Development, Projected Lines, Surveys, Construction, Betterments, Etc.

Alaska—The U.S. House of Representatives on Sept. 6, voted an additional appropriation of $170,000,000 to complete the construction of the government railway from Seward to Fairbanks, Alaska. The original appropriation was $35,000,000, but the increased cost of labor and materials during the last five years has necessitated the additional expenditure. The main line is completed for 227 miles at one end, and for 106 miles at the other, with a gap of 138 miles between. The first section, with 32 miles of branch lines, serves the ports of Anchorage and Seward, with the interior settlements of Matanuska, Wasitla, Talkertua and the Mabanuska coal fields, while the second section, with 37 miles of branch lines, serves Fairbanks and Nenana, with their coal fields.

The present position of construction is 371 miles of line have track laid, and are being operated, and 34.5 miles of sidings are in place. Construction is in progress in various stages on other portions, but there is a gap between miles 265 and 365 from Seward, upon which no work has been done. (Aug., pg. 431).

Athabasca, Grande Prairie, Fort Vermilion Ry.—The failure of the application to the Dominion Parliament for the incorporation of a company with this title at the first session this year, was recalled in the Senate, Sept. 4, when Sir James Lougheed stated that an order in council, dated July 1, authorized the cancellation of 8 coal mining leases dated Aug. 29 and 30, 1918, issued in favor of A. E. Austin, W. Barnett, R. W. McClung, A. H. Weir, C. W. Coppock, G. E. H. Hauff, J. A. Leask and W. R. Gouin, all of which had been assigned Jan. 27, 1919, to C. A. Barnard, K.C., Montreal, and A. T. Shillington, M.D., Ottawa. The leases had accordingly been cancelled, and the rights described in the same had been reserved to the crown. C. A. Barnard, is a member of the legal firm who acted for the promoters of the company, among whom was Dr. Shillington. (Aug., 1919, pg. [illegible]).

Calgary South Western Ry.—We are officially advised that it has been decided not to do any construction on this projected railway from Calgary, to the coal fields in Sheep Creek district of Alberta at present. Should the conditions then warrant it, construction may be started early in 1920. (July, pg. 381).

Dolly Varden Mines Ry.—A Vancouver, B.C., press report of Sept. 3, states that the railway from the Dolly Varden and Wolfe mines in the Kitsault River valley to the sea coast on Alice Arm, B.C., 18 miles, has been completed and was opened for traffic Aug. 28. The railway is to be used mainly for mineral traffic. The work has been done by the Taylor Engineering Co., which took over the entire property early in the year. (Aug., pg. 431).

Edmonton, Dunvegan and British Columbia Ry.—Application is being made to the Board of Railway Commissioners for a recommendation to the Dominion Government to sanction an agreement entered into between the company and the Alberta and Great Waterways Ry., [illegible] 1919. The Edmonton, Alta., Board of Trade's council is giving consideration, [illegible] a special committee, [illegible] and prospects of the E. D. and B.C.R., and its subsidiaries, the Alberta and Great Waterways Ry. and the Canada Central Ry. The physical condition of the E.D. and B.C.R., including its branch to the Grande Prairie District, is unsatisfactory and the committee has been in consultation with the Alberta Government as to steps to be taken to have it put in condition for operation. A solution of the problem has not yet been received, but it was reported, Sept. 10, that a certain amount of work was being done on the worst parts of the line, to ensure safe operation, and that the additional rolling stock and motive power necessary would be obtained from other railway companies.

The question of the extension of the line to Dawson, Yukon, has been considered, on the invitation of the Dawson people, but the committee declined to express any opinion upon it, until the line from Edmonton to the Grand Prairie district is put in good condition. (Aug., pg. 431).

Esquimalt and Nanaimo Ry.—We are officially advised with respect to a recent press report that tenders would shortly be invited for the construction of a 12 mile extension from near Alberni towards the Great Central Lake, that the proposed extension will start from the present line at a point between Bainbridge and the Alberni terminus. The route has been located as far as Great Central Lake, about 12 miles; the surveys having just been completed. No date has been fixed for starting construction. The extension will be built to the same standard as the existing line to Alberni. When completed the extension will form part of any line to be built in the future to Ucluelet and Clayoquot, in one direction and to Comox Lake in another. No construction is contemplated at present beyond Great Central Lake. (Sept., pg. 491).

Grand Trunk Ry.—A press report states that negotiations are in progress for the erection of a coal terminal at Prescott, Ont. It is stated that it is proposed to operate a car ferry from Ogdensburg, N.Y., to Prescott, to carry coal and other freight cars over the river, and distribute them thence to eastern Ontario points. (Sept., pg. 491).

Kettle Valley Ry.—A recent press report states that J. J. Warren, President and General Manager, and A. McCulloch, Chief Engineer and General Superintendent, have completed an inspection of the proposed route for an extension of the line southerly, and that it is likely that construction will be started in 1920. (Sept., pg. 491).

Newfoundland Railway Extension—A press report states "it is understood that a railway will be constructed from Port aux Basques to Curling, Nfld., 130 miles." Port aux Basques is the terminus of the Reid Newfoundland Ry., whence steamship connection is maintained with Sydney, N.S., and Curling is a station on the line at mile 406 from St. John's. The mileage of Port aux Basques from St. John's is 546, the present railway distance between that point and Curling being 140 miles.

Pacific Great Eastern Ry.—A. F. Proctor, Chief Engineer, returned to Victoria, B.C., recently, after having completed an inspection trip over the line. He is reported to have said that track had been laid at the line of his visit to within 19 miles of Williams Lake, townsite and that it was expected to reach that place with the track by Sept. 15. This is expected to be the extent of tracklaying work this year. Beyond Williams Lake a gang is putting in the foundations for the bridge over Deep Creek, a structure which is estimated to cost $500,000. This work will be completed early in 1920, when track will probably be laid to the Fraser River at a point whence navigation is open to Prince George. (Sept., pg. 491).

Pas, Man., Northwesterly—A Winnipeg press of Sept. 25 stated that the Premier of Manitoba, on his return from Ottawa, announced that he had met with considerable success in impressing the Dominion ministers with the necessity of providing railway connection with the mining district northerly from Pas, Man. The projected line would be about 75 miles long, and it has been reported from Winnipeg that in the event of the Dominion Government declining to build the line the Manitoba Government would consider the feasibility of constructing it. This is probably the same line a project for the construction of which was submitted to the Canadian National Rys. directors in March, by the Flin Flan Mining Syndicate.

Quebec and Saguenay Ry.—We are officially advised that during this year about 30 miles of track has been laid with steel rails, and that its ballasting has been completed. (Sept., pg. 491).

The St. John and Quebec Ry. is now completed and in operation between Centerville and Westfield, N.B., has a total length of 158 miles, and is reported to have cost approximately $7,400,000. The most important piece of work on the line from an engineering standpoint was the rock cut at Nerepis, which cost about $1,500,000. The gradient is 0.4% to Westfield, the junction with the C.P.R., over which the through trains are operated into St. John. The gradient on the C.P.R. section operated over is 1%, and the length of the section is 14 miles. (Sept., pg. 491).

Algoma Central and Hudson Bay Ry. and Algoma Eastern Ry. Reports.

The Lake Superior Corporation director's report for the year ended June 30, deals with the operation of the Algoma Central and Hudson Bay Ry., and the Algoma Eastern Ry., as follows: The Algoma Central & Hudson Bay Ry. net earnings for the year, after depreciation, were $263,293, against $439,218 in the previous year. The decrease was largely due to falling off in freight traffic which, prior to the armistice, had consisted largely of munitions and raw materials for war supplies. Industrial development and settlement is proceeding along the line and should provide additional revenue.

The Algoma Eastern Ry. shows a deficiency for the year of $31,076, against a deficiency for the previous year of $130,615. Temporary shut-down in mineral production along the line decreased the earnings, but these operations are to be immediately resumed.

A committee of directors visited London in July and reached a tentative agreement with the Algoma Central Ry., and Algoma Central Terminals bondholders committee with a view to settling the Lake Superior Corporation's obligations under its guarantee of principal and interest. Full interest is being paid on the corporation's income bonds.

Re-employment of Returned Soldiers by Canadian Pacific Railway.

The re-employment of returned soldiers has been carried out by the C.P.R. so whole-heartedly that, according to the official records up to the end of August, actually more returned soldiers have been given employment than left the company for service overseas. The figures are as follows:

Total reported as joining the army	10,538
Dead	1,000
Wounded	1,952
Re-employed in the service	5,024
Other soldiers given employment	5,543
Total soldiers given employment to date	10,567

In finding employment for returned soldiers, the C.P.R. has found by experience that in most cases it is advisable to reinstate them in the same department as that in which they worked previous to enlistment. The freight handler, who has ambitions to become a dining car waiter, is not encouraged to change his vocation unless he can prove that he learned some thing about waiting, for instance, at an officers' mess during his military life. His military experience has probably made him a better man than before for handling freight, but has not qualified him for the skilled trade of a dining car waiter. Baggagemen who have served in the army come back as a rule all the better for their experience, but the army training has not qualified them to be sleeping car conductors or ticket clerks, and if they prove to be misfits at a new job the only result is friction and discontent. The general experience, however, is that the normal returned man who goes back to his old or a similar job is all right, indeed is often improved by the discipline and teamwork which he has learnt in the army. The C.P.R.'s policy is to find a position for a returned man at least as good as the position given up, and this policy has been carried out in the higher ranks of the service as well as in the lower ranks. The following are examples:

T. S. Acheson, who was General Agricultural Agent at Winnipeg, enlisted in Oct., 1915, and was re-employed in the same capacity Jan. 1, 1919.

G. W. Curtis, who was Industrial Agent at Montreal, enlisted in Nov., 1916, and was re-employed Jan. 1, 1919, in the same capacity.

M. L. Duffy, who was Chief Clerk, Freight Department, London, Eng., enlisted October, 1914, and was re-employed Mar. 1, 1919, as Agent at Glasgow.

F. A. Gascoigne, who was Superintendent of Car Service, Montreal, enlisted July, 1915, and resumed duty as Secretary-Treasurer, Canadian Pacific Ocean Services Ltd., Montreal, Oct., 1918. He is now Lieut.-Col. Gascoigne, D.S.O.

Gerald Hiam, who was District Freight Agent at Fort William, enlisted in June, 1915, and returned to duty Mar. 15, 1919, as District Freight Agent, at Cleveland, Ohio.

W. M. Kirkpatrick, who was Assistant Freight Traffic Manager, at Montreal, and enlisted in Sept., 1915, resumed duty Feb. 1, 1919, as Assistant Freight Traffic Manager at Winnipeg. He is now Major Kirkpatrick, M.C.

T. M. Leask, who was Chief Surgeon, Moose Jaw, Sask., enlisted in Feb., 1916, and resumed duty as Chief Medical Officer at Moose Jaw, June 1, 1919.

B. H. Muckleston, who was Division Engineer, Natural Resources Department, Calgary, Alta., enlisted in April, 1916, and resumed duty, as Division Engineer, Mar. 17, 1919.

G. G. Ommanney, who was Special Assistant Engineer, Montreal, enlisted in Aug., 1915, and resumed duty as Assistant Engineer, Chief Engineer's Department, Montreal, July, 1919.

L. C. Ord, who was Assistant Works Manager, Angus shops, Montreal, enlisted in Sept., 1915, and resumed duty in the same capacity in May, 1919.

C. W. P. Ramsey, who was Engineer of Construction, Montreal, and who took command of the Canadian Overseas Railway Construction Corps in Feb., 1915, resumed duty as Relieving Superintendent on Eastern Lines in Mar., 1919. He is now Col. Ramsey, C.M.G.

M. J. Robertson, who was Assistant to Manager, Real Estate Department, Montreal, enlisted in June, 1916, and returned to duty in his former position in Mar., 1919.

H. B. Yewdall, who was Purchasing Agent, Right of Way Department, Winnipeg, enlisted in Nov., 1914, and resumed his former position in June, 1919.

The British Commander in Chief's Special Train.

Owing to the abolition of censorship, the following information is now available: On April 10, 1917, the London and North Western Ry. of England, was asked to provide a train of 10 cars for the Commander in Chief of the British Army and his staff in France. Five cars left Wolverton on May 5, and the remaining five on May 12, so that the complete train of 10 cars was provided in a month from the date of the order. A further request for 4 additional cars was received later, and these were fitted up and sent out on July 20, 1917.

Car 1 comprised a dressing-room, bedroom and sitting room for the Commander in Chief; no. 2 a bedroom, bathroom and office for the Chief of Staff and his assistants; nos. 3, 4, 5 and 6 provided sleeping and office accommodation generally. No. 6 had an assembly room, and was placed next to the officers' mess car, no. 7. No. 8 was the kitchen car, and this also contained the electric lighting set and accumulator room. No. 9 was a car for officers' orderlies, servants, etc. No. 10 provided more sleeping accommodation, chiefly for junior officers. No. 11 gave a large office, and an officers' bed and bathroom. No. 12 was a telegraph and telephone vehicle. No. 13 was a stores van, and in this was fitted a small locomotive boiler for providing steam to heat the train when standing. No. 14 was an ordinary brake van for stores and other impedimenta. With the exception of the telephone and the two brake vans, the whole of the cars were converted from 42 ft. x 8½ ft. bogie picnic saloons taken from stock, and so far as lights and doors were concerned, lent themselves very well to the scheme without much structural alteration.

The train was electrically lighted by a petrol driven lighting set, steam heated by the locomotive when running and by a boiler fitted in the brake and stores car when standing, and was fitted with Westinghouse brakes. The telegraph and telephone car was fitted up with the necessary instruments, etc., by the General Post Office Engineering staff, but the vehicle itself and all furniture, counters, etc., were provided by the railway. There was telephone and bell communication throughout the train, and means were provided and cable carried on the telephone car for connecting up to any telegraph and telephone system in proximity to the train.

The interior painting was principally white enamel, while the exterior was finished off in lead color. Ventilation was studied, and there is an ample supply of fans and roof ventilators, while all the drop lights were fitted with louvres and gauze that could be used in the opening when lights were dropped.—Railway Magazine.

Arm the Railway Mail Clerks.

Dispatches about the robbery of the Ocean Limited on the Canadian National Rys., 25 miles below Levis, indicate that $100,000 was stolen. It is stated that the Postoffice Department regulations forbid mail clerks from carrying arms of any kind, and that the only weapon they had when attacked was a penknife. Such an improvident regulation ought to be rescinded at once. The railway clerks are entrusted every day with large sums of money, and important and negotiable documents, and they ought to be provided with the means of defending their trust. Bank clerks, express messengers, and others in charge of valuables are well armed for such emergencies, though the fact seems to be forgotten sometimes. The courage of the bank manager at Agincourt, near Toronto, and his woman assistant recently, in fighting off two burglars, will remind the underworld for many a day of the danger they run in attacking these institutions. On the other hand, the Postoffice Department's announcement that the railway mail clerks are unarmed will invite another attack, particularly when it is added that the amount carried on that train frequently runs up to $200,000—Toronto Globe.

Coal Shipments From United States—The Canadian Railway War Board has issued the following circular:—Reports received by the board indicate that the shipment of coal from mines in the United States is being reduced as a result of insufficient car supply. Any serious shortage in the output of coal will mean a corresponding reduction in the amount of fuel shipped on Canadian orders. Canadian consumers, including both the public and the railways, can assist in avoiding or reducing the anticipated fuel shortage by eliminating all unnecessary delay in the handling of coal cars. The railways are requested, therefore, to bring to the notice of all consignees concerned the vital importance of unloading cars within the shortest possible space of time. Hopper or self-clearing cars must, immediately upon release, be returned empty to the United States lines designated by existing orders of the U.S. Railroad Administration. Flat bottom cars may be used for return loading to U.S. points in accordance with current instructions when such loading will not involve undue delay.

The Caraquet and Gulf Shore Ry., has asked the Dominion Government to disallow an act passed at the New Brunswick Legislature's last session, ordering the making of certain repairs and the provision of an adequate train service.

Railway Rolling Stock Orders and Deliveries.

The C.P.R. has ordered 1 van, 29 ft. long, from its Winnipeg shops.

The Canadian Car & Foundry Co. has received an order for 15 car underframes and trucks from Bliss, Dallett & Co., New York, for Dorado Extension Ry., a European company.

The C.P.R., between Aug. 14 and Sept. 17, received 7 steel baggage and express cars, 70 ft. long, 1 steel tourist car, 6 freight refrigerator cars and 4 Pacific type locomotives from its Angus shops, Montreal.

The G.T.R., between July 11 and Sept. 11, received one switching locomotive from its Montreal shops, completing an order for 20 and 44 steel frame box cars, 2 steel frame stock cars and 9 all steel mail cars from Canadian Car & Foundry Co.

The National Steel Car Co. has received an order from the Government of Jamaica for 20 box cars, 30 tons capacity each, and delivered, between Aug. 14 and Sept. 12, 146 stock cars and 96 box cars to Canadian National Rys., and continued deliveries of railway material to the Federated Malay States Government Rys., the Paris Lyon, and Mediterranean, and the Midi Rys. (France).

The Canadian Car & Foundry Co., between Aug. 15 and Sept. 23, delivered 10 tourist car frames, completing an order for 30, and completed 20 tourist cars at its Montreal shops, and 213 stock cars at its Amherst, N.S. shops for Canadian National Rys., 42 box cars and 9 hopper cars for the Grand Trunk Ry., and 441 repaired cars, out of an order for 1,500 repaired cars, for Grand Trunk Pacific Ry.

The 44 box cars which the G.T.R. has received from Canadian Car & Foundry Co. are single sheathed, with steel superstructure and underframe, outside metal roof, friction draft gear, and Westinghouse K.C., 8 x 12 air brake, and the 2 stock cars also received from Canadian Car & Foundry Co., are open single sheathed with inside metal roof. The general dimensions of both types are:

Length inside of car	36 ft.
Length over end sills	37 ft. 2½ in.
Length over striking plate	37 ft. 11½ in.
Length center to center of bolster	26 ft. 10 in.
Length center of bolster [illegible] to end sill	5 ft. 2¼ in.
Width inside [illegible]	8 ft. 6½ in.
Width over side sills	8 ft. 9½ in.
Width over eaves	8 ft. 11¾ in.
Width of door opening	6 ft.
Height from [illegible] car	8 ft.
Height rail to center of coupler	2 ft. 10½ in.
Height rail to [illegible]	3 ft. 3¼ in.
Height rail to top of [illegible]	4 ft. 1 in.
Height rail to eaves	12 ft. 4 in.
Height rail to top of running board	13 ft. 11½ in.
Height rail to top of brakemast	1[illegible] ft. 11 in.
Height of door	7 ft. 7 15-16 in.

The 9 mail cars which the G.T.R. is having built by Canadian Car & Foundry Co. will be of the 6 wheel cast steel truck type with M.C.B. axles 5 x 9 in., and Simplex type of clasp brake; underframes of the fish belly type, center sills, bolsters and crossbearers of pressed steel, steel platform castings and pressed steel floor beams; superstructure of steel plate reinforced with pressed channel posts and special rolled belt rail; wood roof [illegible] canvas for upper and lower decks; Westinghouse automatic air brakes with hand brake at each end; Safety Car Heating & Lighting Co.'s electric lighting system with body hung generators; Vapor Car Heating Co.'s heating system, with an emergency stove; Mudge peerless ventilating system. All the interior fittings, are in accordance with the Canadian railway mail service specifications for mail cars. Following are the chief dimensions:

Length over couplers	63 ft. 7½ in.
Length over end sills	60 ft. 10 in.
Width over side sills	9 ft. 9⅝ in.
Width at eaves	10 ft. 2¼ in.
Height from rail to side sill	3 ft. 7⅝ in.
Height from rail to eaves	11 ft. 2½ in.
Height from rail to top of roof	14 ft. 1½ in.

The 9 dining cars which Canadian National Rys. have on order with Canadian Car & Foundry Co., will be of steel throughout, except the interior, which will be of quarter sawn oak, and the roof, which will be of poplar, with canvas for upper and lower decks. The steel underframe will be with center sill of the built up fish belly type, with pressed steel bolster and cross bearer, steel platform castings, with pressed steel floor beams. The braking system will comprise Westinghouse automatic air brakes type L.N. 18-12, with hand brakes at each end, one being operated from the inside and the other from the outside. The cars will be equipped with electric lighting system, with body hung generators, air pressure water raising system, Mudge peerless ventilating system, with one exhaust fan and a hurricane ventilator in the kitchen. Following are the chief dimensions:

Length over end sills	73 ft. 6 in.
Width over side sills	9 ft. 9⅝ in.
Width at eaves	10 ft. 2¼ in.
Length of car coupled	81 ft. 10½ in.
Truck centers	57 ft. 6 in.
Truck wheel base	11 ft.
Total wheel base	68 ft. 6 in.
Height from rail to side sill	3 ft. 7⅝ in.
Height from rail to eaves	11 ft. 2¼ in.
Height from rail to top of roof	14 ft. 1½ in.

The 20 mail cars which Canadian National Rys. are having built by Canadian Car & Foundry Co., will be of steel throughout except the roof and interior fittings. The trucks will be of the 6 wheel type of cast steel with 5 x 9 in. M.C.B. axles and Simplex clasp brake. The underframe will be of the built up fish belly type center sills, with bolsters and cross bearers of pressed steel. Platform castings will be of steel with pressed steel floor beams. The superstructure will be of steel plate reinforced with pressed steel posts and special rolled shape belt rail. The roof will be of wood with canvas roof for upper and lower decks. Westinghouse automatic air brake with hand brake at each ends will be supplied, and the lighting will be the United States Heating and Lighting Co.'s system with body hung generators. Mudge peerless ventilators will be used, and all interior fittings will be in accordance with the requirements of the Canadian railway mail service specification for mail cars. Following are the chief dimensions:

Length over end sill	73 ft. 6 in.
Width over side sill	9 ft. 9⅝ in.
Width at eaves	10 ft. 2¼ in.
Height from rail to side sill	3 ft. 7⅝ in.
Height from rail to eaves	11 ft. 2½ in.
Height from rail to top of roof	14 ft. 1½ in.

The 20 first class passenger cars which Canadian National Rys. has on order with Canadian Car & Foundry Co., will be of steel throughout except interior finish and roof. The steel underframes will have center sill of the built up fish belly type with pressed steel bolsters and cross bearers; platform castings of steel and pressed steel floor beams. The vestibule will be of the wide type with 33 in. steps at each end of the car, Westinghouse air brakes with hand brakes at both ends will be supplied, and the Safety Car Heating and Lighting Co.'s system of electric lighting with body hung generators, and the Vapor Car Heating Co.'s duplex coil hot water heating system with thermostat control, will be used. Gravity water system with other well tanks will be installed, also Mudge peerless ventilators. The seats in the general section will be upholstered in standard plush, and in the smoking room in leather. Following are the chief dimensions:

Length over end sill	73 ft. 6 in.
Width over side sill	9 ft. 9⅝ in.
Width at eaves	10 ft. 2¼ in.
Length of car coupled	81 ft. 10½ in.
Truck center	57 ft. 6 in.
Truck wheel base	11 ft.
Total wheel base	68 ft. 6 in.
Height from rail to side sill	3 ft. 7⅝ in.
Height from rail to eaves	11 ft. 2¼ in.
Height from rail to top of roof	14 ft. 1½ in.

The 18 sleeping cars which Canadian National Rys. have ordered from Canadian Car & Foundry Co., are being built under the general scheme of standardization, adopted recently for passenger car equipment by the C.N.R., details of which have been given in previous issues. The construction will be of steel throughout, except the interior and the roof, the former being of figured mahogany, with small marquetry design on the berth fronts only, and the latter will be of wood, with canvas for upper and lower decks. The steel underframe will be of steel, with center sill of the built up fish belly type, with pressed steel bolster and cross bearer, steel platform castings and pressed steel floor beams, and wide vestibule with 33 in. steps at each end of the car. Westinghouse automatic air brakes, with hand brakes at both ends, will be supplied, also an electric lighting system, with body hung generators, Vapor Car Heating Co.'s duplex coil hot water heating system with thermostat control, and air pressure water tanks. The water for washstands will be heated by steam, controlled by the temperature regulator. The berth light switches and push buttons will all be arranged with radiant caps, making them visible in the dark, and the cars will be equipped with floor lamps, lighting the passage way at night for the convenience of passengers. Mudge peerless ventilators and also one exhaust fan will be installed. Following are the chief dimensions:

Length over end sill	73 ft. 6 in.
Width over side sill	9 ft. 9⅝ in.
Width at eaves	10 ft. 2¼ in.
Length of car coupled	81 ft. 10½ in.
Truck centers	57 ft. 6 in.
Truck wheel base	11 ft.
Total wheel base	68 ft. 6 in.
Height from rail to side sill	3 ft. 7⅝ in.
Height from rail to eaves	11 ft. 2¼ in.
Height from rail to top of roof	14 ft. 1½ in.

The 13 observation cars which Canadian National Rys. has on order with the Canadian Car & Foundry Co. will be of steel throughout except the interior, which will be figured mahogany and the roof will be of poplar with canvas roofing for upper and lower decks. The cars will be arranged with four compartments, one drawing room, one buffet, and one observation room, 25 ft. 2¾ in. long. The trucks will be of the 6 wheel type of cast steel with 5 x 9 in. axles and Simplex clasp brake. The underframe will be of steel throughout, center sills of built up fish belly type with pressed steel bolsters and cross bearers, steel platform, castings and pressed steel floor beam. There will be a wide type vestibule at one end and observation platform at the other end, with steps 3 ft. wide and with special design of platform railing, which will be fitted with C.N.R. standard illuminated end sign. Westinghouse automatic air brakes will be supplied with hand brakes at both ends. The electric light system will be the Safety Car Heating & Lighting Co.'s system with body hung generators, and the heating will be by the Vapor Car Heating Co.'s duplex coil hot water system with thermostat control. The cars will be equipped with air pressure, water raising system, and the hot water, which will be heated by steam will be controlled by a temperature regulator. Mudge peerless ventilators will be used for ventilation. The upholstering in the compartment will be in friezette and the cars in the observation room will be upholstered in Spanish leather. Following are the chief dimensions:

Length over end sills	73 ft. 6 in.
Length of car coupled	82 ft. 1½ in.
Truck centers	57 ft. 6 in.
Truck wheel base	11 ft.
Total wheel base	668 ft. 6 in.
Width over side sill	9 ft. 9⅝ in.
Width at eaves	10 ft. 2¼ in.
Height from rail to side sill	3 ft. 7⅝ in.
Height from rail to top of roof	14 ft. 1½ in.

Aerial Transportation Notes.

A. Baddeck, N.S., press report states that a hydroplane built there under the direction of Dr. Graham Bell, made a speed of 71 miles an hour on a recent test.

An aerial survey party, under Capt. Owen, is reported to have been landed on the Labrador shore, by the steamship Granville, which returned to Halifax, Sept. 7.

The British Columbia Department of Lands is reported to have had photographic survey of the head waters of Harris Creek, near Vernon, B.C., made by means of an aeroplane.

In Mar., 1918, the Liberty motor developed 432 h.p. for a weight of 808 lb., or 1.86 lb. per h.p. At present, the Liberty motor is developing a maximum of 450 h.p. for a weight of 825 lb., or 1.83 lb. per h.p.

The average consumption of fuel decreased from about 0.8 lb. per h.p. in 1903 to 0.55 lb. in 1918, and for the Liberty engine to 0.50 lb. The present consumption is about 0.46 lb. per h.p.

The dirigible R-33, sister ship to the airship which made the round trip between England and the United States recently, has completed a trip over the continent, visiting Holland, France and Belgium. The passengers were people interested in promoting commercial air navigation.

The Northern Canadian Traders Ltd., is being organized at Ottawa, with a capital of $75,000 to explore and establish trading posts in the north lands of Canada, particularly in Ungava. E. L. Janney, formerly of the R.A.F., and others in Ottawa, are reported to be interested.

Mayor Gray of Winnipeg, is reported to have expressed the opinion that within the next 18 months an aerial mail and passenger service will be provided for the city, and that the question whether the Dominion Government or the city should provide the air docks will have to be given serious consideration in the near future.

A London, Eng., cable states that a committee of leading financial representatives has been appointed to discuss with the Imperial Air Ministry, the ultimate disposal of government air ships, the use of government aerodromes, and the extent of government assistance to be given for the development of commercial flying.

A New York press dispatch of Sept. 21 said that Carl Riddick a former member of the United States aerial air service, had left for Toronto to complete plans for the establishment of a daily passenger and mail aerial service between Toronto and New York, and that he intended to buy a plane in Toronto with which to inaugurate the international service.

The route of the New York-Toronto and return aeroplane race carried out recently, was across Lake Ontario and on to Buffalo, thence to Syracuse and Albany, and thence to Moncton on Long Island, N.Y. The fastest trip was made in 564¼ minutes, by a Vought, VE-7 training plane, manned by Lieut. B. W. Maynard, and Major R. W. Schreider, of the U.S. army. According to regulations, these officers cannot accept the $10,000 prize, was was consequently awarded to a Curtis JN-4 plane, piloted by R. H. Depew, a civilian.

The United States National Advisory Committee for Aeronautics has issued the development in airplans which has been made since 1903. The first man carrying airplane flights were made in Dec., 1903, with the Wright Bros. engine, developing 12 h.p. and weighing 152 lb., or 12.7 lb. per h.p. In 1910, the average horsepower for aeronautic engines had increased to 54, and the weight had decreased to 5.7 lb. per h.p. After another seven years, in 1917, the average power output had advanced to 243 h.p., and the weight had decreased to 2.8 lb. per h.p.

Under the authority of the Act to Authorize the Appointment of an Air Board for the Control of Aeronautics, passed at the Dominion Parliament's first session this year, the following were appointed members of the Air Board, without salary: Hon. A. L. Sifton, Minister of Customs and Inland Revenue, Chairman; Col. O. M. Biggar, Judge Advocate General, Militia Department, Vice Chairman; Hon. C. C. Ballantyne, Minister of Marine and Naval Service; Hon. S. C. Mewburn, Minister of Militia; R. M. Coulter, Deputy Postmaster General; J. A. Wilson, Director of Stores, Naval Service Department; E. S. Busby, Chief Inspector, Customs and Inland Revenue Departments.

Confidential Information Not to Be Disclosed.—The Quebec Superior Courts decided recently that E. W. Beatty, K.C., President, C.P.R., was not in contempt in declining to answer questions put to him by a commission appointed to take evidence in Canada in a munitions case now before United States courts, the answering of which would involve the giving of confidential information which came into his possession as General Counsel, C.P.R., in 1915.

Steel Freight Cars for British Railway.—Cammell, Laird & Co., Sheffield, Eng., are reported to have acquired from the Imperial Government the ordnance factory operated during the war at Nottingham, and to be about to adopt it for building steel freight cars.

Grand Trunk Pacific Railway Operation by Receiver.

During the House of Commons current session, E. W. Tobin, M.P., for Richmond and Wolfe, Que., asked the following questions:

"1. Is the Grand Trunk Pacific Ry. still being operated by Hon. J. D. Reid, Minister of Railways and Canals, in his capacity of receiver?

"2. If so, in virtue of what authority was he so appointed?

"3. If by order in council, is it the intention of the government to introduce legislation during the present session to confirm the said order in council?"

The Minister of Railways, Hon. J. D. Reid, replied as follows:

"1. Yes.

"2. Order in council 517, dated Mar. 7, 1919, as amended by order in council 547 dated Mar. 13, 1919, and ratified and confirmed by act of parliament passed June 6, 1919, chap. 22, Statues of Canada, 1919.

"3. Already confirmed by above mentioned act."

Railway Finance, Meetings, Etc.

Canadian Northern Ry.—There has been filed with the Secretary of State at Ottawa, duplicate original of collateral trust agreement dated Aug. 1, made between the C.N.R. Co. and Central Union Trust Co. of New York, securing an issue of 66 collateral trust gold notes.

Cumberland Ry. and Coal Co.—The National Trust Co., Montreal, recently invited proposals for the sale of 5% first mortgage bonds maturing Oct. 1, 1940, of the Cumberland Ry. and Coal Co., to be paid for by $22,782.04 lying at the credit of the sinking fund under the terms of the trust deed of Oct., 1910.

Grand Trunk Pacific Ry.—The annual meeting of shareholders called to be held in Montreal, Sept. 16, was adjourned until further notice.

Timiskaming & Northern Ontario Ry.

	June, 1919	June, 1918
Passenger earnings	$78,793.85	$54,149.64
Freight earnings	167,977.65	[illegible]
Total earnings	246,771.50	[illegible]

Hudson Bay Enquiry.—The Senate on Sept. 5, on motion of Hon. G. W. Fowler, appointed a committee to take evidence and report at the current session upon the navigability and fishery resources of Hudson Bay and Strait, and upon the character of the ports of Hudson Bay with regard to their fitness as railway terminals. The committee consists of Senators Bostock, Casgrain, Dandurand, Daniel, De Veber, Fowler, Lougheed, Michener, Schaffner, Sharpe, Watson and Willoughby. A similar committee was appointed during the 1918-19 session, but although a considerable volume of evidence was taken, the session came to a termination before the committee completed its work. A suggestion was made, but not acted upon, that the committee be authorized to continue its work after the close of the session and to make a report when ready. The present committee will have before it the work done by its predecessor.

The Board of Grain Supervisors for Canada, has issued notice that it will conclude its operations at an early date and close up all financial matters in which it is concerned. Accounts should be sent to the Secretary, 325 Grain Exchange Building, Winnipeg, before Nov. 1.

Mainly About Railway People Throughout Canada.

J. E. Armstrong, M.P., for East Lambton, Ont., was re-elected chairman of the House of Commons' committee on railways, canals and telegraph lines at the current session.

W. R. Baker, C.V.O., ex-Secretary, C.P.R., and Mrs. Baker, expect to leave Montreal for Europe shortly.

E. W. Beatty, President, C.P.R., has given $10,000 to assist in paying off the Vancouver General Hospital's debt. He has taken A. E. Holt's house, 570 Pine Ave. West, Montreal, for the winter. On Oct. 15 he will be installed as Chancellor of Queen's University, Kingston, Ont.

Lady Bury, wife of Sir Geo. Bury, ex-Vice President, C.P.R., and now President, Whalen Pulp & Paper Mills Ltd., Vancouver, B.C., has gone on a trip to Japan, accompanied by her son, Major G. A. E. Bury, and his wife.

A. B. Calder, Assistant General Passenger Agent, C.P.R., Montreal, who is representing the company's President, E. W. Beatty, on the company's special train during the Prince of Wales' Canadian tour, gave two luncheons while in Winnipeg, en route to the west. D. C. Coleman, Vice President, Western Lines, was the chief guest at one of them, and C. E. McPherson at the other, the representatives of overseas newspapers accompanying, the Prince being at both. Mr. Calder was born at London, Ont., Aug. 24, 1867, and from 1882 to 1887 was in various capacities on C.P.R. construction west of Brandon, Man. He entered C.P.R. service in 1887, since when he has been, to 1889, in Passenger Department, Winnipeg; 1889 to Oct., 1893, ticket clerk, Tacoma, Wash.; Oct., 1893 to July, 1895, Travelling Passenger Agent, Tacoma, Wash.; July, 1895 to Dec., 1897, Travelling Passenger Agent, San Francisco, Cal.; Dec., 1897 to Nov., 1904, Travelling Passenger Agent, Tacoma, Wash.; July, 1895 to Dec., 1897, Travelling Passenger Agent, San Francisco, Cal.; Dec., 1897 to Nov., 1904, Travelling Passenger Agent, Seattle and Tacoma, Wash.; Nov., 1904 to Nov., 1910, General Agent, Passenger Department, Seattle, Wash.; Nov., 1910, to Sept., 1911, General Agent, Passenger Department, Chicago, Ill.; Sept. 1, 1911 to Jan., 1916, associated with his father in a general ticket agency at Winnipeg, and since Jan., 1916, Assistant General Passenger Agent, C.P.R.

Mrs. A. D. Cartwright, wife of the Secretary, Board of Railway Commissioners, returned to Ottawa early in September, with her son, after spending several weeks at the Pacific coast.

Hon. F. B. Carvell, Chief Commissioner, Board of Railway Commissioners for Canada, presided, for the first time, at the board's sitting in Ottawa, Sept. 16.

Mrs. H. R. Charlton, wife of the General Advertising Agent, G.T.R., returned to Montreal early in September, after spending some time at Old Orchard Me.

H. R. Charlton, General Advertising Agent, G.T.R., who will represent the company during the portion of the Prince of Wales' Canadian tour over its line, [illegible] 6, 1866, and after engaging for three years in newspaper [illegible] Que., was on railway [illegible] and 1884, on the [illegible] Ry. He was in [illegible] St. John's, Que., until 188[illegible] [illegible] to June he [illegible] C.P.R. exhibition car, and after four years of newspaper work was given charge of the C.P.R. advertising department in April, 1891, remaining there until April, 1896, when he again went into business. In Jan., 1898, he was appointed to his present position as advertising agent of the G.T.R., and was subsequently appointed to act in a similar capacity for the Grand Trunk Pacific Ry. He has been the company's representative on various Canadian tours of important personages during the last 20 years. Following Prince Fushimi's visit to Canada, the Emperor of Japan gave him the Order of the Sacred Treasure.

Hon. Francis Cochrane, M.P., until recently, Minister of Railways and Canals, died of Bright's disease, at Ottawa, Sept. 22, after a long illness. He was born at Clarenceville, Que., Nov. 18, 1852, and for many years conducted a hardware business at Sudbury, Ont., and was also largely interested in mining, lumbering and other industrial operations. He served several terms as mayor of Sudbury. In June, 1905, he was elected to the Ontario Legislature as member for East Nipissing and in 1908 was elected for Sudbury. He was appointed Minister of Lands and Mines in the Ontario Government in 1905, the title being changed subsequently to Minister of Lands, Forests and Mines. He acted as a member of the Royal Conservation Commission in 1909, and was also a vice president of the Dominion Forestry Association. He entered the Dominion Government in 1911 as Minister of Railways and Canals and retired from that position in 1917 on account of ill health, but remained a member of the government for some time without portfolio. The funeral took place at Mount Pleasant Cemetery, Toronto, Sept. 24, when Hon. J. D. Reid, Minister of Railways and Canals; Sir Henry Drayton, Minister of Finance, and Major Graham A. Bell, Deputy Minister of Railways and Canals, attended.

Capt. A. H. Kendal, M.C.,
Master Mechanic, Quebec District, Canadian Pacific Railway.

D. C. Coleman, Vice President, Western Lines, C.P.R., was reported Sept. 29 to be confined to his house in Winnipeg, as the result of an accident at Spirit River, Alta.

Thomas Collins, who has been appointed Superintendent, Montreal Terminals Division, Quebec District, C.P.R., Montreal, entered C.P.R. service, Sept. 2, 1885, since when he has been, to Mar. 7, 1887, brakeman, West Toronto, Ont.; Mar. 7, 1887, to Aug. 1, 1896, conductor, West Toronto, Ont.; Aug. 1, 1896, to Sept. 1, 1896, construction trainmaster, Guelph and Goderich Branch; Sept. 1 to Oct. 15, 1897, Trainmaster, London, Ont.; Oct. 15, 1897, to Jan. 1, 1908, construction trainmaster, double tracking, Montreal to Smiths Falls, Ont.; Apr. 15, 1908, to June 1, 1909, construction trainmaster, double tracking, Montreal to Smiths Falls, Ont.; June 1, 1909, to June 1, 1912, Assistant Superintendent, Smith Falls, Ont.; June 1 to Dec., 1912, Superintendent, District 2, Lake Superior Division, Chapleau, Ont.; Dec., 1912, to May 1, 1916, Superintendent, District 4, Ontario Division Toronto; May 1, 1916 to Aug. 1919, Superintendent, District 2, Ontario Division, London, and Superintendent, Toronto Terminals Division, Ontario District, Toronto.

Theodore Cooper, who died in New York, N.Y., recently, was one of the best known consulting engineers in the United States, and an outstanding authority on bridge design and construction. His first work of engineering responsibility was in connection with the construction of the Hoosac tunnel, on the Troy & Greenfield Rd., in 1861, the contractors for this work being the late Frank and Walter Shanly, both well known Canadian engineers. He was a consulting engineer in connection with the Quebec bridge construction.

C. Dowling, who resigned from the position of Traffic Manager, Edmonton, Dunvegan & British Columbia Ry., at Edmonton, Alta. recently, has been appointed Purchasing Agent, Co-operative Supply Department, United Grain Growers Ltd.

J. M. R. Fairbairn, Chief Engineer, C.P.R., and W. F. Tye, formerly Chief Engineer, C.P.R., were two of the arbitrators between the Cook Construction Co., and the City of Montreal recently, on claims connected with the contract for the enlargement of the Montreal aqueduct and the break in the water supply conduit.

John Gordon, who has been appointed Assistant Electrical Engineer, Western Lines, Canadian National Rys., Winnipeg, was born at Forres, Scotland, Jan. 29, 1884, and served an apprenticeship as mechanical and electrical engineer in Scotland, and later served in the Electrical Department, North Eastern Ry., in England. He entered railway service in Canada in 1909, since when he has been, to 1910, machinist and draftsman, C.P.R. Winnipeg; 1910 to 1911, mechanical draftsman, Grand Trunk Pacific Ry., Rivers, Man.; 1911 to 1914, Electrical Engineer, same road, Winnipeg; 1914 to 1918, General Electrical Foreman, Western Lines, Canadian Government Rys., Winnipeg; 1918 to July 31, 1919, Signal and Electrical Engineer, same road, Winnipeg.

F. Green, Roadmaster, C.P.R., Kamloops, B.C., was killed between Spences

Bridge and Kamloops towards the end of August, when his motor car was run down by a train in rounding a curve. He was for some time yardmaster at Brandon, Man.

Jas. Hardwell, Chief Traffic Officer, Board of Railway Commissioners, and Mrs. Hardwell, have returned to Ottawa after spending a month at Ocean Park, Me.

Mrs. Hays, widow of the late C. M. Hays, formerly President, Grand Trunk and Grand Trunk Pacific Rys., returned to Montreal recently, after spending the summer at Cushings Island, Me.

Mrs. Hills, wife of A. J. Hills, Assistant to President, Canadian National Rys., met with an accident in Toronto, Sept. 5, when the automobile in which she was driving, accompanied by her sister, was struck by a Toronto Ry. car at a street intersection. Mrs. Hills was badly cut about the right eye, several stitches being necessary to close the wound. Her sister was severely shaken, and the automobile was considerably damaged.

Sir Herbert Holt, one of the C.P.R. directors, has returned to Montreal from England.

C. R. Hosmer, one of the C.P.R. directors, and Mrs. Hosmer, returned to Montreal recently, after spending the summer at their house at St. Andrews, N.B., where he recuperated after undergoing two operations in the Royal Victoria Hospital, Montreal. He has resumed attendance at his office on Hospital street.

Capt. Albert H. Kendall, M.C., who has been appointed Master Mechanic, Quebec District, C.P.R., Montreal, was born at Aspatria, Cumberland, Eng., April 4, 1878, and entered railway service in June 1901, since when he has been, to Jan., 1904, locomotive foreman, C.P.R., Nakusp and Revelstoke, B.C.; Jan. to Nov., 1904, locomotive foreman, G.T.R., London, Ont.; Nov., 1906 to July, 1913, gang foreman, erecting shop foreman, and general foreman, successively, Angus shops, C.P.R., Montreal; July to Dec., 1913, locomotive inspector, C.P.R., Kingston, Ont.; Dec., 1913 to April, 1915, general foreman, C.P.R., North Bay, Ont.; April, 1915, to Aug. 28, 1916, Assistant Works Manager, Angus locomotive shops, C.P.R., Montreal; Aug. 28, 1916 to Jan., 1917, Master Mechanic, Ontario District, C.P.R., Toronto. In Jan., 1917, he entered military service as Captain, no 1 section, Skilled Railway Employes, and was later transferred to the 58th Broad Gauge Operating Co., B.E.F., in France. He was awarded the Military Cross, in the latter part of 1918, for superintending evacuation under heavy fire, and keeping lines running until the last moment.

O. M. Lavoie, who has been appointed Superintendent, Laurentian Division, Quebec District, C.P.R., Montreal, was born at St. Cyrille de Wendover, Que., Oct. 16, 1882, and entered railway service in March, 1889, since when he has been, to April, 1900, telegraph operator Intercolonial Ry.; Apr., 1900, to Sept., 1902, telegraph operator, Quebec, Montreal and Southern Ry.; Sept., 28, 1902 to July, 1909, operator, C.P.R.; July 19, 1909 to Jan. 15, 1916, dispatcher, C.P.R., Farnham, Que.; Jan. 15, 1916, to Oct. 30, 1917, Chief Dispatcher, Farnham Division, Quebec District, C.P.R., Farnham, Que.; Oct. 30, 1917 to Aug. 1, 1919, Superintendent of Car Service, Eastern Lines, C.P.R., Montreal.

Lieut. M. P. MacLeod, son of M. H. MacLeod, Vice President, Operation, Maintenance and Construction, Canadian National Rys., Toronto, who was in the Royal Air Force in France, and on the borders of Belgium up to the close of the war, has been awarded the Distinguished Flying Cross, and the Belgian Government has given him the Croix de Guerre.

Sir Wm. Mackenzie, ex-President, Canadian Northern Ry., is stated to be the highest assessed person by the City of Toronto for income, his assessment this year being on a sworn statement for $125,700, against $225,000 fixed by the assessment commissioner in 1918.

Col. Frederick Mears, formerly of the 31st United States Engineers, and in charge of transportation of U.S. forces in France, has been appointed Chairman and Chief Engineer of the Alaska Engineering Commission, which is building the U.S. Government Railway in Alaska.

Mrs. Mills, wife of James Mills, formerly a member of the Board of Railway Commissioners for Canada and now the Board's librarian, died in Ottawa, Sept. 10.

Hector King Morrison, who was appointed recently Division Engineer, Superior Division, Canadian National Rys., Hornepayne, Ont., was born at Dartmouth, N.S., Oct. 12, 1885, and entered railway service in 1903, since when he has been, to 1904, chainman, Halifax and Southwestern Ry.; 1904 to 1905, rodman, same road; 1905 to 1906, topographer, Canadian Northern Quebec Ry.; 1906 to 1907, levelman, Canadian Northern Ontario Ry.; 1907 to 1910, transitman, same road; 1910 to 1912 in charge of location party, same road; 1912 to 1914 Resident Engineer, same road, Pembroke, Ont.; Jan. to June 16, 1919, Resident Engineer, Canadian National Rys., Hornepayne, Ont.

Capt. George Porteous, formerly chief draftsman, Division Engineer's office, C. P.R., Calgary, Alta., has returned to Canada after five years in active service and has resumed his profession. He enlisted with the Corps of Guides in Aug., 1914, at Calgary, and was later transferred to the Imperial Forces. He was twice wounded and at the time of the signing of the armistice was acting Major, 38th Division Tunnellers.

Allan Purvis, General Superintendent, Ontario District, C.P.R., Toronto, has been elected a vice president of the Old Time Telegraphers and Historical Association.

Osborne Scott, General Passenger Agent, Canadian National Rys., Winnipeg, is a son of Archdeacon Scott, Winnipeg, who died there recently, following an operation for appendicitis.

Lord and Lady Shaughnessy, and the Hon. Marguerite Shaughnessy, returned to Montreal early in September, after spending most of the summer at Fort Tipperary, St. Andrews, N.B.

The Hon. Mrs. Alfred Shaughnessy, daughter-in-law of Lord Shaughnessy, and her children, have returned to Canada from England.

Hon. Arthur Lewis Sifton, M.P., who has been appointed Minister of Public Works, of Canada, and member of the Privy Council, was born at St. Johns, Ont., Oct. 26, 1858, and educated in Ontario public schools, Wesley College, Winnipeg, Victoria University, Cobourg, Ont., and Alberta University. He commenced practice as a barrister in 1883 in the Northwest Territories and was made a Q.C., in 1892. He represented Banff in the Alberta Legislature from 1899 to 1903, and from 1903 to 1905 was Chief Justice of the Supreme Court, N.W.T., from 1905 to June, 1910 was Chief Justice of the Supreme Court of Alberta, and from June, 1910 to 1917, Premier of Alberta, holding the offices of President of the Council, Provincial Treasurer, and Minister of Public Works, and from 1917 to his present appointment, Minister of Customs and Inland Revenue in the Dominion Government.

Sir Thos. Tait, President, Fredericton & Grand Lake Coal & Ry. Co., and Lady Tait and daughter, have returned to Montreal, after spending the summer at St. Andrews, N.B.

T. Walklate, General Tie & Lumber Agent, C.P.R., Mrs. Walklate, and family, have returned to Montreal from Pine Point, Me.

E. Garth White, whose appointment as Superintendent of Department of Colonization and Development, C.P.R., Montreal, was announced in our last issue, was born at Charlottetown, P.E.I., Aug. 2, 1886, and is a son of the late W. C. White, at one time Commissioner of Public Lands of Prince Edward Island. He entered C.P.R. service in Apr., 1906, since when he has been, to Jan., 1910, clerk, Land Department, Calgary, Alta.; Jan., 1910, to Mar., 1912, clerk, Land and Irrigation Department, Calgary, Alta.; Mar., 1912, to Mar., 1913, chief clerk, Department of Natural Resources, Montreal; Mar., 1913 to Aug., 1919, Assistant to Manager, Department of Natural Resources, Montreal.

International Ry. of New Brunswick Transferred to Dominion Government—The ownership of the International Ry. of New Brunswick, extending from Campbellton to St. Leonards, 111.30 miles of single track, and 5.76 miles of yard track and sidings, was transferred to the Dominion Government on Aug. 1. The then Minister of Railways on Aug. 1, 1914, entered into an agreement with Thos. Malcolm, of Campbellton, since deceased, to buy, subject to certain encumbrances, the railway, its rolling stock and other property, for $2,700,000. Pending the completion of the purchase, the government was to lease the property for $90,000 a year. The property was turned over to the Canadian Government Rys. for operation on Aug. 1, 1914, since which date the rent has been paid, it being assigned to the Royal Trust Co., which acted as trustee. The agreement was confirmed by the Dominion Parliament in 1915, but owing to the war the payment of the purchase was deferred until recently, when it was made, and the ownership was transferred on Aug. 1, as stated above.

Light Railway in Arabia.—One of the war's benefits to Arabia has been the completion of a narrow gauge railway, approximately 30 miles long, from Aden, the seaport of Arabia, to Lahej, capital of the Abdali tribe in southwest Arabia. The first [illegible] miles were laid in 1915 as a supply route for British forces operating against the Turks in that region. The remainder was [illegible] after the armistice [illegible]. All work was done by the Royal Engineers. With the completion of the line to Lahej, its extension to the Yemen plateau, 200 miles north of Aden, where the world's supply of Mocha coffee is grown, becomes a matter of serious discussion.

The Canadian National Rys. freight offices at Brandon, Man., were broken into recently by burglars who secured about $2,000.

Transportation Appointments Throughout Canada.

The information under this head, which is gathered almost entirely from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Algoma Eastern Ry.—R. E. KING has been appointed Assistant Comptroller, Sault Ste. Marie, Ont.

A. A. PINKNEY has been appointed Comptroller, vice T. H. Rahilly, resigned. Office, Sault Ste. Marie, Ont.

Canadian National Rys—JOHN GORDON, heretofore Signal and Electrical Engineer, National Transcontinental Ry., Transcona, Man., has been appointed Assistant Electrical Engineer, Mechanical Department, Western Lines, Canadian National Rys. Office, Winnipeg.

R. W. HANNINGTON, heretofore City Solicitor, Victoria, B.C., has been appointed General Attorney, C.N.R., Vancouver, B.C., and not Solicitor, as stated in our last issue. This is a new position.

A. M. MACGILLIVRAY, heretofore Resident Engineer, Fort William, Ont., has been appointed District Engineer, Saskatoon, Sask.

W. C. ROBERTS, heretofore Auditor of Stores and Mechanical accounts, Canadian Government Rys., Moncton, N.B., has been appointed Auditor of Stores and Accounts, Canadian National Rys. Office, Leaside, Ont.

E. W. ROBINSON, has been appointed Resident Engineer, Fort William, Ont., vice A. M. MacGillvray, promoted.

ERNEST SCHRANTZ, heretofore Supervisor, Electrical Maintenance, Canadian Northern Ry., Winnipeg, has been appointed Electrical Supervisor, Mechanical Department, Western Lines, Canadian National Rys. Office, Winnipeg.

The Electrical Department, Western Lines, consisting of the installation, operation and maintenance of all electrical equipment at the different shops and locomotive houses, train lighting, and the installing and maintaining of electric lighting in all buildings on Western Lines, which heretofore has been under the jurisdiction of the Superintendent, of Electrical and Telegraph Maintenance, H. McConkey, has been transferred to the mechanical department, and in future all matters in connection with electrical equipment will be handled directly with the Mechanical Superintendent's office. JOHN GORDON has been appointed Assistant Electrical Engineer and ERNEST SCHRANTZ has been appointed Electrical Supervisor, both with headquarters at the Mechanical Superintendent's office, Winnipeg. H. McCONKEY retains jurisdiction over construction and maintenance of telegraph and telephone lines and offices, west of O'Brien and Port Arthur, Ont.

Canadian Pacific Ry.—J. A. BERRY, heretofore Car Service Agent, Moose Jaw, Sask., has been appointed Car Service Agent, Winnipeg, vice G. S. Lytle, transferred to Moose Jaw, Sask., as announced in our last issue.

J. R. BRUCE, Director of Exhibits, Department of National Resources, Calgary, Alta., is reported to have been transferred to Montreal.

T. COLLINS, heretofore Superintendent, Toronto Terminals Division, Ontario District, Toronto, has been appointed Superintendent, Montreal Terminals Division, Quebec District, vice R. A. Sewell, whose appointment as Superintendent of Car Service, Eastern Lines, Montreal, was announced in our last issue. Office, Montreal.

JAS. COWLEY, Assistant Publicity Agent, Department of National Resources, Calgary, Alta., is reported to have been appointed Publicity Agent there, vice N. F. Rankin, transferred.

H. J. Humphrey,
Superintendent, Trenton Division, Ontario District, C.P.R.

M. F. Tompkins.
Assistant General Freight Agent, Canadian National Rys., Moncton, N.B.

G. FITZPATRICK, returned recently from military service overseas, has been appointed storekeeper, Sutherland, Sask., vice O. Gardner, resigned.

Capt. A. H. KENDALL, M.C., formerly Master Mechanic, Ontario District, Toronto, and latterly in military service overseas, has been appointed Master Mechanic, Quebec District, vice C. A. Wheeler, transferred. Office, Montreal.

O. M. LAVOIE, heretofore Superintendent of Car Service, Eastern Lines, has been appointed Superintendent, Laurentian Division, Quebec District, vice H. J. Humphrey, transferred. Office, Montreal.

C. L. LEIGHTY, heretofore Chief Dispatcher, Smiths Falls, Ont., has been appointed Assistant Superintendent, Montreal Terminals Division, Quebec District. Office, Montreal.

C. J. McGREGOR has been appointed Assistant Superintendent, Smiths Falls Division, Quebec District, Smiths Falls, Ont.

N. F. RANKIN, Publicity Agent, Department of National Resources, Calgary, Alta., is reported to have been appointed Special Publicity Agent, same department, Montreal.

E. J. SEMMENS, heretofore chief clerk to Industrial Commissioner, Department of Colonization and Development, Calgary, Alta., has been appointed Travelling Agent, same department, Calgary.

A. A. SHEPPARD, heretofore Division Master Mechanic, Smiths Falls Division, Quebec District, Smiths Falls, Ont., has resumed his former position as Locomotive Foreman, Ottawa.

J. F. SWEETING, Industrial Commissioner, Department of Colonization and Development, Western Lines, has had his office removed from Calgary, Alta., to Winnipeg.

C. A. WHEELER, heretofore Master Mechanic, Quebec District, Montreal, and recently on vacation, has been appointed Division Master Mechanic, Smiths Falls Division, Quebec District, vice A. A. Sheppard, who has resumed his former position. Office, Smiths Falls, Ont.

W. H. WORTMAN, heretofore Division Master Mechanic, Cranbrook Division, British Columbia District, Cranbrook, has been appointed Division Master Mechanic, Kenora Division, Manitoba District, vice J. Neill, transferred. Office, Kenora, Ont.

Edmonton, Dunvegan and British Columbia Ry., Alberta and Great Waterways Ry., Central Canada Ry.—C. DOWLING, Traffic Manager, having resigned from the service, all traffic matters are being handled by the General Manager and Chief Engineer, W. R. SMITH, Edmonton, Alta.

Grand Trunk Ry.—J. O. ADAMS has been appointed General Eastern Freight Agent, Lines in Canada, New York City, vice S. E. Dewey, deceased. Office, 1450 Woolworth Building.

French Railway and Tunnel Projects—Studies are reported as being made in France of a plan for a great international railway from Bordeaux to Odessa, There is also a committee studying the project of constructing a tunnel under the English Channel and another through the Vosges Mountains, west of Alsace.

The Denver, Boulder & Western Rd., which served various Colorado mountain resorts, has been authorized to cease operation entirely, a series of cloud bursts having destroyed the line in many places.

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AND
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Railway Freight Delays in Great Britain.

From the Birmingham, Eng., Chamber of Commerce Journal.

"It is no exaggeration to say that the difficulties experienced by traders in connection with the collection and delivery of their railway traffic have never been greater than they are at present. We have before us a few instances of the kind of irritation which manufacturers are compelled to put up with. Here are a few:—

"1—Consignment to A handed to railway Apr. 3, returned to trader, reaccepted by railway Apr. 11, again returned, reaccepted April 22, once more returned, then transferred to another railway on April 30, which also returned it. Finally accepted by a third railway on May 12 and carried to B, whence it had to be conveyed by local carrier to destination.

"2—A consignment for C accepted Mar. 25, returned, reaccepted Mar. 29, again returned, finally accepted Apr. 28.

"3—Consignment to D handed to railway Mar. 24, returned Mar. 25, recollected April 5, again returned, finally collected April 20.

"4—Consignments for E and F ready for dispatch May 15; on June 17 still awaiting collection.

"If our information is correct, these —which are only samples of the complaints of one trader—are typical of the difficulties experienced by hundreds of others. It is no consolation to be told over and over again that the congestion has been caused by the almost entire cessation of coastwise shipping, which previously carried traffic to the extent of 75,000,000 tons a year. We make no complaint whatever against the local railway managers and their subordinates. On the contrary, we gratefully recognize that they are doing their utmost, and we believe that they are as much dissatisfied with the present position as the traders. If the country is to recover from the terrible effects of the war, however, it is essential that something drastic should be done, and done quickly; and for ourselves we believe something would be done if the government control of railways were abandoned, the Railway Executive Committee abolished, and the railway companies left free to deal with the problems which confront them."

American Railway Tool Foremen's Association.

This association's annual convention was held at Chicago recently. The meetings were devoted largely to the discussion of a number of papers were of interest to tool foremen engaged in railway work, and also to the consideration of the reports made by the several standardization committees, which were appointed at the last annual convention, to recommend such standards as would be advisable for general adoption in the toolrooms of railway shops. The principal work done was in connection with the development of standards for locomotive frame taper reamers. It was recommended that the standard taper reamers to be carried in stock should have a taper of 1/16 in. per foot, a shank $1\frac{3}{4}$ in. long, and the flutes should be milled with a left-hand spiral. Various lengths and sizes were specified for stock, and certain other features were noted in the committees' recommendation.

Committees were appointed to report at the next annual convention on the following subjects: standardization of boiler and staybolt taps; heat treatment of steel in locomotive shops; jigs and devices for use in locomotive and car repair shops; standardization of power press punches and ties for locomotive and car shops; issuing and checking of tools in locomotive and car shops.

How Parliament's Time is Wasted on Petty Questions.

During the House of Commons' current session, Jos. Archambault, M.P., for Chambly and Vercheres, Que., asked the following questions:—"Did the government, in any way, select or order the selection of the volumes of Canadian literature which were placed in the special car for the use of His Royal Highness the Prince of Wales? If so, were volumes of French-Canadian literature placed in the library of the special car for the use of His Royal Highness the Prince of Wales, who very well reads and speaks the French language? If not, why were such volumes not placed in the said library?"

Hon. N. W. Rowell replied as follows: "The works of reference placed on the royal train by government officials at Ottawa consjsted largely of maps and statistical information. The selection of general literature was left to the officers of the C.P.R. Co., and there is no information in Ottawa as to what books were placed on board, or in what languages they were written."

International Railway General Foremen's Association.

This association held its annual meeting at Chicago, Ill., Sept. 2 to 5. The general feeling expressed was that better times may soon be in sight for the railways, which will enable many of them to make such improvements around their shops as they have been desiring of making for years past; consequently, the discussion of present methods and future plans was of great interest to those actively engaged in this work.

Considerable discussion was aroused on the topic of safety first as it can be applied both in the shops and locomotive house service, and many of the general foremen described the methods which have been adopted not only in their own shops, but in shops throughout the entire systems for attaining a minimum record in the matter of accidents in the shop. Many of the accident-prevention schemes which have been recommended and are being tried, have evolved a system of reward to those shops or portions of railway systems which are most successful in reducing the percentage of accidents.

The welding of locomotive parts and castings, and particularly of locomotive cylinder by both oxy-acetylene and electric welding, was also the subject of discussion for a whole morning session. Several papers were presented upon draft gears.

The G.T.R. ran its first train between Montreal and Toronto, Oct. 27, 1856.

Grand Trunk Ry.—A press report states that the city engineer is completing plans for the building of the approaches to the subway, under the G.T.R. at St. Pauls Ave., Brantford, Ont., and that tenders for the work will be asked at an early date.

Orders by Board of Railway Commissioners for Canada.

[illegible] with June, 1904 Canadian Railway and Marine World has published in each issue [illegible] of orders passed by the Board of Railway Commissioners, so that subscribers who have filed the paper have a continuous record of the Board's [illegible]. No other paper has done [illegible].

[illegible]. Aug. 14.—Extending to Nov. 14, time [illegible] G.T.R. shall complete siding for [illegible] London, Ont.

[illegible]. Aug. 1[illegible].—Approving G.T.R. plan of [illegible] location of westbound home [illegible] Pere Marquette Rd. at Chatham, Ont.

[illegible]. Aug. 1[illegible].—Rescinding order 27,688, Sept. 1[illegible], [illegible] re G.T.R. train service at Oakville, Ont.

[illegible]. Aug. [illegible].—Authorizing C.P.R. to cross [illegible] Moose Jaw Southwesterly Branch [illegible] to Consul, Sask.

[illegible]. Aug. 1.—Ordering C.P.R. to rebuild [illegible] Elora St., Harriston, Ont., to [illegible] maximum highway grade of 6%, and [illegible] of 22½ ft., over track, work to be completed by Oct. 31.

[illegible]. Aug. 1[illegible].—Approving location of C.P.R. [illegible], North Branch, from mile 71 to 81, Alta.

[illegible]. Aug. 16.—Authorizing Saskatchewan Government to make highway across Grand Trunk Pacific Ry. in n.w. ¼, sec. 27, Tp. 35, Range 14, west [illegible] meridian, Sask.

[illegible]. Aug. 11.—Relieving C.P.R. from providing further protection at Valley Road crossing, mileage [illegible], St. Stephen Subdivision, N.B.

[illegible]. Aug. 16.—Rescinding order 25,998, Apr. 10, 1917, which authorized building of branch line from Buckeye Machine Co. in s.e. ¼, Sec. 1[illegible], Tp. [illegible], Range 2[illegible], west 4th meridian, South Alberta District.

[illegible]. Aug. 16.—Granting application of L'Air Liquide Society for modification of paragraph 18[illegible] of regulations for transportation of explosives and other dangerous articles, and specifications for shipping containers approved by the board in respect of transportation of compressed acetylene gas.

[illegible]. Aug. 16.—Authorizing Farnham West Tp., Que., to make crossing over C.P.R., in Lot [illegible], St. Romuald Parish, Que.

[illegible], [illegible]. Aug. 16, 15.—Ordering Canadian National Rys. to appoint station agents at [illegible] Lake, Man., by Sept. 1, and at Hamton, Sask., by Sept. 1[illegible].

[illegible]. Aug. 20.—Ordering Grand Trunk Pacific Ry. to file within 30 days detail plans of station as directed by order 22,995, to be built between Oak and Ash Sts., Prince George, B.C.

[illegible]. Aug. 20.—Authorizing Winnipeg Joint Terminals to rebuild Water St. subway, Winnipeg, to accommodate west approach to Provencher Ave. traffic bridge.

[illegible]. Aug. 20.—Recommending to Governor in Council, for sanction, agreement between Western Canada Telephone Co., and British Columbia Telephone Co.

28,683. Aug. 20.—Authorizing Grand Trunk Pacific Ry. to build extension to branch for Humberstone Coal Co. in s.w. ¼, Sec. 7, Tp. 53, Range 23, west 4th meridian, Alta.

[illegible]. Aug. 2[illegible].—Authorizing G.T.R. to build extension to siding for Massey-Harris Co., Toronto.

[illegible]. Aug. 21.—Authorizing C.P.R. to build [illegible] Coal Co., in Rocky Mountain [illegible], Alta.

[illegible]. Aug. [illegible].—Ordering G.T.R. to move [illegible] Chatham yard, Ont., [illegible]

[illegible]. Aug. [illegible].—Ordering G.T.R. and C.P.R. [illegible] bridges carrying Weston Road, Toronto, [illegible]

[illegible]. Aug. [illegible].—Authorizing C.P.R. to build [illegible]

[illegible]. Aug. 20.—Authorizing Hydro Electric [illegible] the railway [illegible]

[illegible]

[illegible] platform at Congress, Sask.

[illegible] orption of [illegible] had been consigned through to [illegible]

[illegible] Authorizing Canadian National Rys. [illegible] River [illegible] River Subdivision, Man.

[illegible] Canadian National Rys. [illegible] and divert highway in s. ½ of Sec. 31, Tp. 59, Range 11, west 4th meridian, Alta.

28,697. Aug. 21.—Authorizing C.P.R. to build bridge to serve Alberta Government telephones, Calgary, Alta.

28,698, 28,699. Aug. 21.—Authorizing Canadian National Rys. to cross and divert highways at two points between Sec. 36, Tp. 38, and Sec. 1, Tp. 39, and between Sec. 36, Tp. 38, Range 22, and Sec. 6, Tp. 39, Range 21, west 2nd meridian, Sask.

28,700. Aug. 21.—Authorizing Canadian National Rys. to double track bridge over Rosebud River, Alta.

28,701, 28,702. Aug. 21, 21.—Authorizing Canadian National Rys. to build bridges over Rosebud River, at mileage 322.8, Sec. 7, Tp. 28, Range 19, west 4th meridian, Alta., and mileage 321.1, Calgary Subdivision, Alta.

28,703 to 28,705. Aug. 21, 22.—Authorizing Canadian National Rys. to rebuild bridges over Black Rapids Creek, Nepean Tp., Ont.; over Green's Creek, mileage 106.84 from Montreal, and over Black River, mileage 86.90, from Toronto.

28,706. Aug. 22.—Authorizing G.T.R. to take additional lands at St. Agapit, Que., for approach to new station.

28,707. Aug. 30.—Authorizing C.P.R. to build spur for Vernon Storage Co., Vernon, B.C.

28,708. Aug. 29.—Dismissing application of State Elevator Co., Winnipeg, for refund of demurrage charges made by C.P.R. on grain at Keewatin, Ont.

28,709. Aug. 22.—Relieving G.T.R. from providing further protection at Carr's Crossing, near Cobourg, Ont.

28,710. Aug. 28.—Authorizing G.T.R. to extend Charles St. spur, Kitchener, Ont., for Ames-Holden Tire Co., and Lang Tanning Co.

28,711. Sept. 2.—Authorizing Michigan Central Rd. to connect with Hydro Electric Power Commission of Ontario's track in Niagara Tp., Ont.

28,712. Sept. 2.—Dismissing Montreal Tramways Co.'s application for leave to cross C.P.R. between Atlantic and Beaumont Aves., Montreal.

28,713. Aug. 30.—Rescinding orders 790 and 793, Nov. 28 and 30, 1905, re interswitching at Lindsay, Ont.

28,714. Aug. 27.—Authorizing Canadian National Rys. to take extra land for right of way and retaining walls at Athabasca St., Moose Jaw, Sask.

28,715. Aug. 26.—Authorizing Grand Trunk Pacific Ry. to build spur for U.G.G. Sawmills, Ltd., at mile 1,217.3, Cariboo District, B.C.

28,716. Aug. 29.—Extending to Nov. 29, time within which the C.P.R. may build spur for Gunns Ltd., Toronto.

28,717. Aug. 29.—Approving special tariff on cream in cans, C.R.C., no. E.T.-672, effective Sept. 1.

28,718. Aug. 27.—Approving Pere Marquette Rd. interlocking plant at Blenheim, Ont.; speed restricted to 15 miles an hour.

28,719. Aug. 27.—Extending to Nov. 27, time for completion of additional tracks on Talbot and Kain Sts., St. Thomas, Ont., by London & Port Stanley Ry.

28,720. Aug. 23.—Authorizing Canadian National Rys. to replace part of trestle bridge over Thunder River, at mileage 101.7 Blue River Subdivision, B.C., by a single 100 ft. through girder span on concrete substructure.

28,721. Aug. 26.—Authorizing G.T.R. to build spur for Public Highways Department.

28,722 to 28,724. Aug. 26.—Authorizing Canadian Northern Saskatchewan Ry. to cross highways at three points.

28,725. Aug. 29.—Authorizing Canadian National Rys. to build siding over north and south government road allowance between Sec. 6, Tp. 39, Range 2, and Sec. 1, Tp. 39, Range 3, west 3rd meridian.

28,726. Aug. 28.—Approving location of C.P.R. [illegible] Easterly Branch, Empress to Milden, mileage 217.45 to 251.11, and authorizing crossing of 30 highways.

28,727. Aug. 26.—Authorizing Toronto, Hamilton & Buffalo Ry. to build spur for H. W. Farr & Co., Hamilton, Ont.

28,728. Aug. 27.—Approving location of Canadian National Rys. 3rd class station at Durban, Man.

28,729. Aug. 27.—Authorizing G.T.R. to install improved type of bell at Martin St. crossing, Beachville, Ont.

28,730, 28,731. Aug. 28.—Authorizing Canadian National Rys. to cross highways at two points in Tp. [illegible], Range 1[illegible], west 3rd meridian.

28,732. Sept. 3.—Authorizing G.T.R. to build spur for Wm. Clare Ltd., St. Remi Parish, Que.

28,733. Aug. 26.—Authorizing C.P.R. to remove portion of Motherlode spur from junction switch at Greenwood, B.C.

28,734. Aug. 29.—Extending to Nov. 24 time within which C.P.R. shall improve permanent culvert near Golden, B.C., as required by order 2[illegible], July [illegible].

28,735 to 28,738. Aug. 26, 30.—Authorizing Canadian Northern Saskatchewan Ry. to cross highways at [illegible] points.

28,739. Aug. 29.—Authorizing C.P.R. to build sidings 1,040 and 345 ft. long for North American Magnesite Co. at mileage 60, Lachute Subdivision, Que.

28,740. Aug. 26.—Amending order 28,569, July 24, Canadian National Rys. crossing of highway between Secs. 14-15, Tp. 40, Range 21, west 3rd meridian.

28,741. Aug. 28. Authorizing Canadian National Rys. to cross highway between Secs. 13 and 18, Tp. 45, Range 17, west 3rd meridian.

28,742. Aug. 29. Amending order 2,139, Dec. 6, 1906, as amended by order 8,897, Dec. 11, 1909, form, size and style of tariffs of tolls to be charged by telephone companies.

28,743. Aug. 27.—Relieving G.T.R. from providing further protection at crossing near Forest station, Ont.

28,744. Aug. 27.—Amending order 28,606, July 26, re highway crossing over Canadian National Rys. in s.w. ¼, Sec. 18, Tp. 15, Range 12, west 2nd meridian.

28,745. Aug. 26.—Extending to Nov. 1, time within which G.T.R. shall complete erection of station at Mille Roches, Ont.

28,746. Sept. 4.—Authorizing Alberta Public Works Department to make highway crossing over C.P.R. in Samson Indian Reserve 137, Tp. 44, Range 24, west 4th meridian.

28,747. Sept. 4.—Ordering Grand Trunk Pacific Ry. at once to comply with order 21,937, and complete facilities for stock pen with platform and loading chute; also spur between Tofield and Deville, Alta.; work to be completed by Oct. 15.

28,748. Sept. 5.—Amending order 23,133, Jan. 12, re Canadian National Rys. and Grand Trunk Pacific Ry. closing at night, interlocking plant at Empire Ave., Fort William, Ont.

28,749. Sept. 3.—Approving Vancouver, Victoria & Eastern Ry. & Nav. Co.'s (G.N.R.) plan of interlocking appliances to be installed at the crossing of British Columbia Electric Ry., Georgia St., Vancouver, B.C.

28,750, 28,751. Sept. 4.—Approving Bell Telephone agreement with La Cie. de Telephone, St. Ours, Richelieu, St. Hyacinthe and Vercheres counties, Que., Aug. 18; and Crews Telephone Co., Northumberland County, Ont., June 11, 1915.

28,752. Sept. 5.—Authorizing Ottawa Electric Ry. to carry wires across C.P.R. at Queen Mary St., Overbrooke, near Ottawa.

28,753. Sept. 8.—Authorizing G.T.R. to build spur for T. Davidson Mfg. Co., Montreal Parish.

28,754. Sept. 8.—Authorizing G.T.R. to build spur for Lefebre and Mahon, Lachine Parish, Que.

28,755. Sept. 6.—Authorizing C.P.R. to build spur for York Shaw Fuel Co., Calgary, Alta.

28,756. Sept. 10.—Authorizing C.P.R. to build spur for Crescent Collieries, Bienfait, Man.

28,757. Sept. 6.—Authorizing G.T.R. to build spur for Crushed Stone, Ltd., near Kirkfield, Ont.

28,758. Sept. 8.—Authorizing Niagara, St. Catharines and Toronto Ry. to build branch for Imperial Oil Co., Welland, Ont.

28,759. Sept. 9.—Approving plant of G.T.R. overhead bridge, as authorized by order 27,838, Nov. 8, 1918, in Bayham Tp., Ont.

28,760. Sept. 6.—Authorizing C.P.R. to build spurs for Merritt Collieries at mileage 41.2 from Spences Bridge, B.C.

28,761. Sept. 8.—Authorizing Niagara, St. Catharines & Toronto Ry. to connect with Doheny, Quinlan and Robertson's tracks at Thorold, Ont.

Steel Rails for Canadian Railways.

We are officially advised, with reference to deliveries of 85 lb. steel rails by the Algoma Steel Corporation and the Dominion Iron and Steel Co., on orders placed by the Dominion Government during the autumn of 1918, a total of 204,870 gross tons have been delivered, of which, 100,188 tons were by the Algoma Steel Corporation, and 104,682 tons by the Dominion Iron and Steel Co. The following table shows the shipments to the various railways:

Algoma Steel Corporation.

	Gross tons
Canadian National Rys.	54,618
Canadian Pacific Ry.	39,500
Kettle Valley Ry.	2,670
Timiskaming and Northern Ontario Ry.	3,000
Toronto, Hamilton and Buffalo Ry.	400
Total	100,188

Dominion Iron and Steel Co.

	Gross tons
Canadian Government Rys.	36,153
Canadian National Rys.	2,865
Canadian Pacific Ry.	30,500
Grand Trunk Ry.	35,003
Timiskaming and Northern Ontario Ry.	161
Total	104,682

Canadian National Railways Construction, Betterments, Etc.

Prince Edward Island Ry.—A press report of Sept. 14, stated that the first standard gauge train on the line made a trip from Borden, to Summerside and to Charlottetown and return, on that day as a test. This marks the completion of the laying of a third rail on this section of the line. The distance between Summerside and Charlottetown, through Emerald Jct., is 48 miles, and the branch from Emerald Jct., to Borden is 13 miles, making a total of 661 miles on which standard gauge traffic can be moved. It was reported that regular freight and passenger traffic, with standard gauge trains, would be operated over this mileage from and after Oct. 1.

Dartmouth and Salt Springs Stations—Tenders are under consideration for the erection of a frame station building and platforms at Salt Springs, N.S. We are officially advised that a contract has been awarded to the Standard Construction Co., Halifax, N.S., for the erection of a station and freight shed at Dartmouth, N.S.

We are officially advised that the new station building at Dartmouth, N.S., will be of frame construction on concrete foundation, size 120 ft. 2 in. x 29 ft. 8 in.; the freight shed will also be of frame construction, 208 x 30 ft.

Sydney, N.S., Stores Building—We are officially advised that the contract for the erection of a stores building at Sydney, N.S., has been let to Chappell Bros. Co., Sydney. It will be a one-story frame structure 81 x 32 ft., on a concrete basement, with outside platforms and bins for storing castings. Oil storage equipment will be installed.

Sunny Brae-Guysboro-Mulgrave, N.S.—A press report states that a petition is being signed throughout the district asking the Dominion Government to build a railway from Sunny Brae to Guysboro and thence to Mulgrave, N.S., and that a strong delegation will go to Ottawa shortly to press the matter.

The present Intercolonial Ry. line between Ferrona Jct., via New Glasgow, and Mulgrave, is 87 miles, and owing to gradients and alignment, it is claimed not to be capable of carrying the present heavy traffic economically. There is a branch from Ferrona Jct. to Sunny Brae, 13 miles, and it is reported that a route has been surveyed from that point via Guysboro to Mulgrave, about 91 miles long. The gradients on this survey are said to be such that freight trains carrying from 50 to 60% more tonnage than it is possible for trains to carry over the existing routs, could be operated over it. Members of the railway's engineering staff are reported to have gone over the route recently and an additional report is to the effect that an engineering party is going over some sections of the route to obtain additional information.

Courtenay Bay Branch—A press report states the work was started Sept. 19 on a branch line at Courtenay Bay, St. John, N.B., to give greater yardage there. The new track starts at the foot of Duke St., and runs parallel to the present branch line as far as the Imperial Oil Co.'s works, 1,680 ft.

Fredericton to McGivney Jct—A press report states that Engineer McIsaac and staff are completing surveys for grade reduction and curvature elimination work on the section of the old Canada Eastern Ry., between Fredericton and McGivney Jct., where the Transcontinental Ry. is crossed. The work, it is reported, will cost about $1,500,000, exclusive of the strengthening of the bridge over the St. John River at Fredericton, the cost of which is put at $1,000,000.

Edmundston, N.B., Car Shop—We are officially advised that the contract for the erection of a car shop at Edmundston, N.B., on the National Transcontinental Ry., has been let to Jos. Gosselin, Ltd., Levis, Que. The building will be of frame, 200 x 48 ft., on concrete pedestals, and mill type roof. Offices, stores and lavatory space will be provided in a lean-to erection on one side of the main structure.

St. Malo, Quebec, Shops—A press report of Sept. 10 stated that about a fourth of the machinery for the locomotive and car shops at St. Malo, Quebec, had been installed. The passenger car repair shops are being operated, but owing to the slow arrival of machinery no repair work is yet being done in the locomotive shops. It is expected, however, to have all the machinery installed by Dec. 31.

Ouareau River Bridge—We are officially advised that plans for the renewal of one deck span of 105 ft., and the reinforcing of a similar span, on the bridge crossing the Ouareau River, mileage 7.20 from Joliette, Que., on the Lachute Subdivision, have been completed, but that part of the field work has been done.

Port Arthur Terminals—A. E. Warren, General Manager, Western Lines, and other officials, inspected the railway and steamship terminals at Port Arthur, Ont., Sept. 2. It is reported to have been stated that practically all the maintenance and betterment work for 1919 had been completed. The improvements and extensions necessary to meet future needs was discussed with the operating staffs.

Kindersley Subdivision Culverts.—We are officially advised that a contract for building concrete culverts on the Kindersley subdivision, Sask., has been let to Carter, Halls, Aldinger Co., Winnipeg.

Gravelbourg—Swift Current Extension—We are officially advised that in addition to the 27 miles of grading on the Gravelbourg extension, for which Gibbs Bros. have the contract, it is possible some further work will be done this year.

Prince Albert to Paddock Wood, Sask.—We are officially advised in respect of a press report that construction was to be started immediately on a branch line from Prince Albert to Paddock Wood, Sask., that a survey party is running a line from Prince Albert northeasterly for probably about 40 miles. Nothing has been announced in regard to construction.

North Battleford to Edmonton—A large amount of work is reported to have been done this year between North Battleford, Sask., and Edmonton, Alta. About 35 miles have been relaid with new 85 lb. rails, replacing 60 lb. rails; passing tracks have been provided at Kitscoty, Minburn, Innisfail, Lavoy, Chipman, and Bruderheim, and additional storage tracks have been provided at Vegreville, where the line southerly to Drumson Jct., Drumheller and Calgary, branches off.

Munson Jct. to Calgary—Munson Jct. is the point at which the line from Saskatoon, Sask., and the line from Vegreville, Alta. join, and then continue to Calgary, Alta. General betterments have been done on the Vegreville-Munson line, and a considerable amount of work has been done on the Hanna-Munson section of the line from Saskatoon, including passing tracks at Mecheche, Delta and Carrginyle. Extensive works have been carried out or are in progress between Munson and Wayne. A second track has been completed, according to a recent press report, from Munson to Drumheller, 11 miles, and is being extended to Wayne, a further distance of 7 miles. On this stretch a 300 ft. tunnel is being built, together with a number of diversions, to eliminate a number of trestles and bridges along the Rosebud and Red Deer River valleys, for which contracts were let in March. At Drumheller new freight yards, giving accommodation for 750 cars, and a new locomotive house, are reported to have been completed.

Oliver-St. Paul de Metis Line—A recent press report from Edmonton, Alta., stated track had been laid to mile 105 from Oliver towards St. Paul de Metis, that ballasting was in progress, and that the grading of the 23 miles into St. Paul de Metis, was almost completed, and it was expected to have the track laid into the town before many weeks. The telegraph line is reported to have been extended almost to the end of the track at present laid. Material for the erection of stations, section houses, etc., is being delivered.

Edmonton Terminal Yards—A press report states that the expenditure on the C.N.R. terminal yards at Edmonton, Alta., for this year will be in excess of $100,000. In addition to the laying of additional tracks, the work done, or in progress includes the addition of 4 stalls to the locomotive house, and the building of a new coal dock.

Sangudo to Whitecourt—A branch line from Peace River Jct., 36 miles westerly from Edmonton, Alta., is in operation to Sangudo, 31 miles. On the suspension of work for the season in 1914, grading had been practically completed upon an extension of this line to Whitecourt, a further distance of 42 miles. A recent press report states that gangs are restoring this 42 miles of grading and preparing it for tracklaying. About 100 cars of rails and other construction material was reported to have been delivered at Sangudo, at the end of August.

Nitinat Lake Extension—The [illegible] Bay Canning and Packing Co. is reported to have asked the British Columbia Government's help to get railway communication opened up from the Canadian Northern Pacific Ry. Victoria-Alberni line to Nitinat Lake, and a press report states that the B.C. Premier has taken up the matter with D. B. Hanna, President, Canadian National Rys. The suggestion is that the track graded during the war for a logging railway to reach the spruce areas could be utilized for the 6 mile line asked for by the company. (Sept., pg. [illegible])

Leaside Terminals, Toronto, Canadian National Rys., have not yet been opened for general transportation operation, but a portion of them is being used to do general locomotive repairs, Matthew Neil being the Superintendent of Shops

National Industrial Conference.

The following delegates were appointed, from the transportation and allied interests, to attend the National Industrial Conference which opened at Ottawa, Sept. 15.

Employers' Delegates.

Electric railways—G. Gordon Gale, Vice President and General Manager, Hull Electric Co., Hull, Que.

Shipping—Thos. Robb, Manager Shipping Federation of Canada, Montreal; G. M. Bosworth, Chairman, Canadian Pacific Ocean Services Ltd., Montreal.

Shipbuilding—H. B. Smith, President, Collingwood Shipbuilding Co., Owen Sound, Ont.; R. M. Wolvin, Vice President and Managing Director, Halifax Shipyards Ltd., Montreal.

Telephones—J. E. Macpherson, Ottawa.

Steam railways and telegraphs—A. D. MacTier, Vice President, Eastern Lines, C.P.R., Montreal; S. J. Hungerford, Assistant Vice President, Canadian National Rys., Toronto; F. P. Brady, General Manager, Eastern Lines, Canadian National Rys., Montreal; A. J. Hills, Assistant to President, Canadian National Rys., Toronto; G. C. Jones, Assistant to President, G.T.R., Toronto; Geo. Hodge, Assistant to Vice President, Eastern Lines, C.P.R., Montreal. These are members of Canadian Railway Board of Adjustment no. 1.

Employes' Delegates.

Electric railway employes—J. L. Bourbonnier, Montreal.

Freight handlers—A. C. Hay, Winnipeg; A. R. Mosher, Ottawa.

Power house employes — Jas. W. Frame, Calgary.

Railway shop trades—Frank McKenna, Vancouver; R. J. Tallan, Calgary; Stanley Steevas, Moncton; James Somerville, Moose Jaw.

Shipping—J. E. Tighe, St. John, N.B.; A. F. Brunet, Montreal.

Woodworking manufacturing—T. Jackson, Toronto.

Steam railways and telegraphs—S. N. Berry, Toronto, Vice President, Order of Railway Conductors; Ash Kennedy, Winnipeg, Assistant Grand Chief, Brotherhood of Locomotive Engineers; J. M. Main, Winnipeg, Deputy President, Order of Railroad Telegraphers; James Murdock, Toronto, Vice President, Brotherhood of Railroad Trainmen; G. K. Wark, Toronto, Vice President, Brotherhood of Locomotive Firemen and Enginemen; Wm. Dorey, Montreal; W. L. Best, Ottawa; L. L. Pelletier, Ottawa.

During the discussions at the meetings, Senator Robertson, Minister of Labor, spoke of the importance of transportation to industry, and called upon Warren S. Stone, President of the Brotherhood of Locomotive Engineers. Mr. Stone said the problems on the other side of the line were the same as here. The social unrest was only slumbering under the crust and could easily be fanned into flame. The war was won, but the present period was even more critical, and in the next few months the clock of progress must either be moved ahead or retarded. The pay envelope does not solve the cost of living, and there lies the [illegible] problem at the present time. The peace period must end war profiteering and the cost of living must come down. Wages only mean what you can buy with them. A 20% increase in pay, and a 40% increase in living costs will never bring peace. The question must be settled man fashion, face to face across the table. The solution of the question between capital and labor is the human touch. Labor is always looked on as a producer. It is also your biggest consumer. "In the United States if we can't solve the problem any other way, we will have the price plainly marked on every article," and if there is profiteering we'll trace it.

He concluded by saying: "I hope some man will rise big enough and broad enough to put the word 'brother' back into the brotherhood of man. The cry 'Am I my brother's keeper?' never had such a vital meaning as today."

United States Railway Notes.

Senator Frelinghuysen introduced a bill in the United States Senate, Sept. 15, proposing a permanent policy of private operation of railways, under government control, which is said to embody the U.S. Chamber of Commerce's views.

Director General Hines of the U.S. Railroad Administration stated recently that the freight car situation was substantially more favorable than it was in recent years prior to the war. On Aug. 1, 1917, total car surpluses reported throughout the country were 43,481 cars, whereas on Aug. 1, 1919, total car surpluses were 107,900. Total number of unfilled car requisitions on Aug. 1, 1917, was 77,287, whereas total number of unfilled car requisitions on Aug. 1, 1919, was only 19,271.

Washington, D.C., press dispatch, Sept. 12.—Preparing for the return of the railways to private control, Director General Hines today ordered all roads to begin an inventory of supplies on hand as of Dec. 31, 1919, the date indicated by President Wilson in his address to Congress as the termination of government supervision. A few weeks before the government turns the roads back the former managements will be put in charge, so that some time before the Railroad Administration goes out of existence, they can reorganize their staffs.

The U.S. Railroad Administration is reported to have authorized the statement that during the week ended Sept. 13 5,341 new cars ordered by the administration were placed in service.

British Railway Accidents.—It was stated recently that since July 6, 1918, there had been no fatal passenger train accidents on railways in the United Kingdom. Prior to the accident at Aberdeen on July 6, 1918, there had been no fatal passenger train accident for a year and 16 days. These records were made in the face of adverse conditions; unusual density of traffic during the last two years, depleted staffs and the unavoidable lowering of standards in some departments of maintenance.

Grain in Store at Terminal Elevators, Interior Terminal Elevators and Public Elevators in the East.

	Wheat. Bush.	Oats. Bush.	Barley. Bush.	Flax. Bush.	Rye. Bush.	Totals. Bush.
Week ended Sept. 5, 1919.						
Fort William—						
C.P.R.	180,898	78,886	50,738	174	40,267	350,963
Empire Elevator Co	15,555	27,367	*783	3,278	3,425	48,842
Consolidated Elevator Co.	26,159	14,376	4,263	5,621	3,855	54,274
Ogilvie Flour Mills Co.	210,179	22,122	35,850	....	3,057	271,208
Western Terminal Elevator Co.	5,835	12,351	1,896	2,278	2,106	24,466
G. T. Pacific	88,068	118,824	11,998	7,203	4,192	230,285
Grain Growers' Grain Co.	200,167	34,473	20,547	....	21,362	276,549
Fort William Elevator Co.	*8,595	23,997	4,967	3,820	3,413	27,602
Eastern Terminal Elevator Co.	9,281	15,069	....	....	....	24,350
Northwestern Elevator Co.	57,660	15,169	14,705	23	1,178	87,735
Port Arthur—						
Port Arthur Elevator Co.	255,185	216,865	56,092	27	38,492	566,661
Sask. Co-op. Elevator Co.	54,614	71,018	8,102	5,774	6,344	145,852
Canadian Government Elevator	27,933	87,201	6,612	3,716	4,189	129,651
Canadian a/c Imperial Government	....	....	....	63	....	63
Thunder Bay	79,289	152,230	9,263	1,351	7,864	249,997
Davidson and Smith	20,716	99,478	31,661	....	3,614	155,469
Eastern-Richardson	48,736	27,054	15,662	*156	3,268	94,564
Vancouver Can. Gov't. Elevator	....	23,393	....	....	....	23,393
Total Terminal Elevators	1,271,680	1,038,873	271,573	33,172	146,626	2,761,924
Saskatoon Can. Gov't. Elevator	2,984	48,812	1,538	14	....	53,348
Moose Jaw Can. Gov't. Elevator	4,668	45,192	6,114	371	x5,663 3	62,011
Calgary Can. Gov't. Elevator	898	45,873	14,643	104	x1,000 235	62,753
Total Interior Terminal Elevators	8,550	139,877	22,295	489	x6,663 238	178,112
Midland—						
Midland Elevator Co.	5,000	....	....	....	....	5,000
Tiffin, G.T.P.	2,299	....	....	....	....	2,299
Port McNicoll	69,087	78,536	7,500	....	....	155,123
Goderich—						
Elevator and Transit Co	50,850	192,610	5,505	....	....	248,965
Toronto—						
Campbell Flour Mills Co.	22,515	....	11,156	....	....	33,671
Port Colborne						
Maple Leaf Milling Co., Ltd		119,095	6,139	....	....	506,729
Montreal—						
Harbor Commissioners No. 1	215,362	125,648	970,444	....	....	1,311,454
Harbor Commissioners No. 2	292,180	366,442	199,607	....	....	858,229
Montreal Warehousing Co.	87,272	115,213	76,924	....	....	279,409
Ogilvie Flour Mills Co	38,861	....	....	....	....	38,861
Quebec Harbor Commissioners	81,099	14,182	....	....	....	95,281
West St. John, N.B., C.P.R.	245,227	....	....	....	....	245,227
Total Public Elevators	1,491,247	1,011,726	1,277,275	....	....	3,780,248
Total Quantity in Store	2,771,477	2,190,476	1,571,143	33,661	x6,663 146,864	6,720,284

*Overshipped. xCorn.

Electric Railway Department

Hydro Electric Railway Projects in Ontario.

There is a good deal of activity at present in connection with the various projects for the construction of electric railways under the Ontario Hydro Electric Railways Act of 1914 and its amendments. Three different lines have been projected, for which plans were prepared and bylaws passed and the present activities aim at the starting of construction on these lines and extension of them.

The first line was projected to run from Toronto easterly, and was fully described and a plan given in Canadian Railway and Marine World for Nov., 1913, pg. 540. The total estimated cost of this line, including branches, was estimated, at the time the bylaws were voted on in 1914, at $4,346,938. The bylaws were passed by Scarboro, Markham, Pickering, Whitby and Reach townships; Whitby town, and Markham, Stouffville and Port Perry villages, and was defeated by Uxbridge and Whitchurch townships, and the Uxbridge and Newmarket towns. The bylaws passed were confirmed by the Ontario Legislature in 1915, and the plans were changed to suit the altered conditions. The four municipalities where the bylaws were defeated were struck out of the contract, and the routes were re-arranged somewhat, the estimated cost of the revised project being put at $3,159,234. This act also gave the Hydro Electric Power Commission of Ontario power to acquire any existing electric railway and to utilize it as part of any of the lines to be built by the commission.

The second line was projected to run from Toronto westerly, in the following sections: Toronto terminal—Humber River; Humber River—Port Credit; Port Credit—Milton; Milton—Guelph; Guelph — Berlin; Berlin — Stratford; Stratford—St. Marys; St. Marys—London; at an estimated cost of $13,734,155. Bylaws approving of the building of this line were passed by London, Trafalgar, Waterloo, Blanshard, Wilmot, Downe, South Easthope, Toronto, Nassagawaya, Guelph, Etobicoke, North Easthope, Biddulph, Esquesing, Puslinch, Eramosa, Nelson, Ellice, East Zorra, townships; Toronto, London, Guelph and Stratford, cities; Waterloo, St. Marys and Milton, towns; and Mimico, New Toronto, Port Credit, and New Hamburg, villages, and were confirmed by the Ontario Legislature in 1916. The City of Berlin was the only municipality which failed to pass the bylaw, the estimated cost of the line there being $774,040.

The third line was projected to connect Toronto with the Niagara peninsula, and was to be in two parts, viz: Part one—Port Credit-Hamilton section; Hamilton city section; Hamilton-St. Catharines section, the estimated cost of which was $11,360,363. Part two—Welland-Port Colborne to Bridgeburg, estimated cost, $2,208,716. Bylaws for the part one lines were passed in 1917 and 1919 by Toronto, Trafalgar, Nelson, East Flamboro, Barton, North Grimsby, Clinton, Louth and Grantham, townships; Grimsby and Beamsville, villages; Oakville and Burlington, towns, and Hamilton and St. Catharines, cities.

West Flamboro and Saltfleet, townships defeating the bylaw in both 1917 and 1919. The proposed debenture issues in these townships are $66,669 and $1,002,296, respectively. The bylaws for the lines mentioned in part 2, were carried by all the municipalities interested in 1917, viz: Humberstone, Crowland and Bertie, townships; Port Colborne, Fort Erie and Humberstone, villages, and Welland and Bridgeburg, towns. All these bylaws were confirmed by the Ontario Legislature in 1919. This act authorized the municipalities passing the bylaws to assume their proportionate part of the cost of the line through municipalities which had declined to participate in the building of the line.

The commission's attention so far as construction activities are concerned, is apparently been given principally to the lines west of Toronto. Under the act of 1919, the municipalities interested in the building of the Toronto-London, and the Toronto-St. Catharines lines, are being asked by the commission to take up the liability of the dissenting municipalities, viz: Berlin, on the first mentioned line, and West Flamboro and Saltfleet on the second. It is reported that a number of the municipalities have already signed the supplementary bylaw but no definite information is available as to how many have. One statement reported to have been made by Sir Adam Beck, is that the City of Guelph is holding up progress in connection with the Toronto-London line, by not signing, and another statement is to the effect that a considerable number of the municipalities interested have not signed.

The surveys for the line from Toronto to Hamilton are reported to have been completed. The route, it is stated, is closely parallel to the G.T.R. from Toronto to Clarkson, thence southerly to Oakville, crossing the town about a quarter of a mile north of the Toronto-Hamilton highway, and then on to Hamilton, by a route some distance north of the Hamilton Radial Electric Ry. at Burlington. The terminus in Toronto, will, it is stated, be at Yonge St., while the exact route into Hamilton has not been definitely decided. Engineers are reported to be checking up the surveys for this part of the line, and it is said that as soon as this work is completed steps will be taken to buy the right of way.

In connection with the section of the line in the Niagara peninsula, surveys were reported to have been started recently between Bridgeburg and Port Colborne.

During the progress of the recent campaign in Guelph against the passing of the bylaw to lease the Guelph Radial Ry. to the Grand River Ry. Co., plans were suggested for linking up the Toronto-Hamilton Niagara Falls line with the Toronto-Guelph line, and for making Galt the center of a system of lines radiating to all points in that district. It was reported recently, that engineers were in various parts of the district looking over the territory, and laying down possible routes. Sir Adam Beck, Chairman of the Hydro Electric Power Commission of Ontario had a conference in Guelph with the mayor on Aug. 21. It is reported that he advised the mayor that until Guelph signed the additional agreement assuming a portion of the liability for the municipalities rejecting the bylaws, nothing could be done, and that the Guelph City Council should enter into an agreement with the commission for the operation of the Guelph Radial Ry. St. George residents are petitioning the commission to locate the proposed Hamilton-Galt line through that village. Sir Adam Beck is reported to have stated Aug. 29, that the estimates of the cost of the proposed electric railway from Hamilton to Galt, and other points in that area would be ready in time to have bylaws submitted to the various municipalities interested at the annual elections in Jan., 1920.

So far as the lines east of Toronto are concerned, it appears from a speech of Sir Adam Beck at Brougham, Ont., before the Pickering Township Council, Sept, 17, that the plans, as discussed and voted upon in 1913, have been rearranged, and practically a new project initiated. This project is based on the acquisition from the Canadian National Rys. of the partially constructed Toronto Eastern Ry., and its completion from Toronto, where terminals will be provided, to Bowmanville. The position of the Toronto Eastern Ry. in connection with the railway plans of the Hydro Electric Power Commission of Ontario has been under consideration for sometime, and various proposals have been discussed.

Sir Adam Beck is reported to have said that the present project is based on an offer by the Dominion Government to sell the Toronto Eastern Ry., at a reasonable price. It is intended to build a first class line from Toronto Bowmanville, and to provide adequate terminals in Toronto. The commission's engineers who had gone into the matter and prepared estimates, were of opinion that the line would be self sustaining from the beginning. "The Dominion Government," he said, "is adverse to building a radial railway in Ontario, because if it undertakes the construction of radials in Ontario it will be requested by other provinces to do the same, and it does not contemplate the construction of municipal railways. The Province of Ontario has enunciated a radial railway policy of its own and having electricity in abundance to operate them, it is obvious that it is not a function of the Dominion Government to undertake the radial projects." He then stated that in the event of the Dominion Government taking over the Grand Trunk Ry., the Canadian Northern Ry. lines between Toronto and Napanee would be abandoned, and that the Minister of Railways had suggested that these lines could be handed over to the commission or to the municipalities for electrification.

The report of F. A. Gaby, Chief Engineer of the commission, gave the following details regarding the proposal

Route—Commencing at Toronto terminal, the line runs easterly over Toronto Harbor Commission property across Queen St. near the junction of Kingston Road, thence northerly to a point near St. Clair Ave., overcrossing present

C.N.R. Toronto-Ottawa line, providing for grade separation from Toronto terminal to the above mentioned point. The line then extends easterly, roughly paralleling St. Clair Ave., extension to an undercrossing of the C.N.R. Toronto-Ottawa line, thence northeasterly roughly paralleling Kingston road at a distance of three quarters of a mile until Kingston Road is undercrossed by line near crossing of road with G.T.R. main line. Dunbarton, the old location of the Toronto Eastern, has been adopted, extending through Pickering, Whitby, Oshawa and Bowmanville. Estimated mileage, 4[illegible].

Capital Cost—Right of way, grading, track and overhead	
Yonge St. terminal to line between townships to undercrossing of C.N.R. mile [illegible]11 from Bowmanville	$4,132,212
From C.N.R. undercrossing, mile 35.11 from Bowmanville to mileage 19.60 from Bowmanville	
Estimated value of work done by Toronto-Eastern Ry. between Pickering (mile 19.60) and Bowmanville (mile 0.00) and cost of completing and repairing Toronto-Eastern Ry. partially constructed line from Pickering to Bowmanville	2,578,581
	$6,510,794

Rolling Stock, Car Barns, Etc.

Locomotives, interurban and suburban cars, car barns, sub stations and equipment	$1,830,000
Total	$8,360,794

Distribution of Cost—The following table shows the distribution of capital cost between the various municipalities:

Township of York	$ 381,587
Township of Scarborough	892,686
Township of Pickering	482,050
Township of Whitby	280,304
Township of East Whitby	299,943
Township of Darlington	429,680
Town of Whitby	277,955
Town of Oshawa	771,894
Town of Bowmanville	216,030
City of Toronto	4,328,665
	$8,360,794

Estimated Traffic—The estimated traffic is based upon an hourly passenger service between terminals, 6 a.m. to 12 p.m., together with 10 minute suburban service from Toronto to C.N.R. overcrossing, 6 miles from Toronto terminal. Two or three freight trains will be provided each week day, and in addition, switching locomotives at Toronto and Oshawa.

Estimated Annual Revenue:

Passenger, suburban, interurban, and tributary districts voted upon	$ 873,140
Freight, grain, package freight, express and milk business	244,863
Total	$1,118,003

Estimated Annual Operating Expenses:

Maintenance of track, buildings, and equipment, station operation and dispatching, way stations, terminals, pension charges, general expenses	$ 658,135
Interest at [illegible]	41,828
Net annual revenue	$ 41,828

Following the reading of the report from which the above particulars are taken, Sir Adam Beck, went on to say that it was estimated that the radial system would expend altogether about [illegible]000 on terminals in Toronto. There would be a central terminal at the foot of Bay St., with a loop around Queen St. to Bay St., south to Richmond St., [illegible] Church St. The radial lines would operate an express system. Construction on the line could go ahead at once.

After discussion it was agreed that Pickering Township ratepayers would be asked to vote on a bylaw on Oct. 12.

The Prime Minister of Ontario, Sir Wm. Hearst, in a pre-election address to the people, issued Sept. 23, read: 'Though the construction of hydro electric radial railways by the power commission has been delayed by the war, the time has not been lost. Investigations and surveys have been actively pushed forward. Enabling legislation has been enacted and all orders in council have been passed and all steps recommended by the commission have been taken to permit of active prosecution of this important work. We believe that as soon as the Dominion Government has acquired the G.T.R. certain of its lines should be transferred to the Hydro Electric Power Commission to be electrified, thereby avoiding duplication, and bringing to the farmer and urban dweller the advantage of cheap transportation."

A press report states that a meeting representing Woodstock, Ingersoll, Brantford and Beachville, met in Brantford, Sept. 16, to discuss a project for an electric railway under the Hydro Electric Railways Act; from Brantford, via Woodstock and Ingersoll to a junction with the London and Port Stanley Ry. between London and St. Thomas. A committee was appointed to arrange for a general conference of all the municipalities interested. It is suggested that the Brantford and Hamilton Ry., owned by the Dominion Power and Transmission Co., and running between Hamilton and Brantford, should be acquired in connection with the project.

Fenelon Falls, Ont., Village Council, proposes to ask the Hydro Electric Power Commission of Ontario to build an electric railway from Port Perry, via Lindsay and Fenelon Falls, and on through Victoria County. The Lindsay Town Council has already asked for the building of a line to Lindsay, and there have been a number of meetings of residents in Haliburton County, at which resolutions have been passed favoring the building of a line through Minden to Haliburton.

Hydro Electric Railway Association of Ontario's Meeting.

The Hydro Electric Railway Association of Ontario held its annual meeting in Toronto, Aug. 29, when the following resolution was passed: '"That the time is now ripe for the construction and operation of hydro electric railways in Ontario, and that the construction of all such railways which have received the necessary consent of the ratepayers of the municipalities interested, and are considered advisable by the commission, should be proceeded with at once by the Hydro Electric Power Commission of Ontario, and that the Lieut.-Governor in council be requested to issue all orders in council.

Officers were elected as follows: Hon. President, Sir Adam Beck, Hon. Vice President, Hon. I. B. Lucas; President, J. W. Lyon, Guelph; Vice Presidents, T. L. Church, Toronto; A. F. Wilson, Markham; C. R. Somerville, London; Geo. Duncan, Peterborough; G. C. Brooker, Hamilton; W. B. Burgoyne, St. Catharines; F. Milman, Picton; John Derbyshire, Brockville; P. Ray, Waterdown; Secretary, T. J. Hannington, Guelph; Treasurer, G. P. Hamilton, Guelph.

Sir Adam Beck in the course of his address to the delegates, is reported to have said that as regards the London to Toronto line, he wished to inform the Guelph members that it could not at present be constructed, for the simple reason that Guelph had not yet joined with the other municipalities in assuming responsibility for the share of the four municipalities, which had not passed bylaws in connection with it. For the present the whole system from Toronto to Port Credit and London was held up until Guelph took this step, or the four municipalities in question passed bylaws endorsing its construction. Because that section of the Toronto-St. Catharines line between Toronto and Port Credit constituted part of a system for which bylaws had not been passed by all the municipalities it touched, this line also was held up, although he had advised the municipalities concerned to request the government for permission to proceed with it regardless of this. The St. Catharines-Niagara branch also hinged on this section. Construction of the Port Colborne-Bridgeburg division hinged on the acquisition from the Dominion Government of of the existing line between St. Catharines and Port Colborne, and, pending the outcome of negotiations for the nationalization of the G.T.R., which has a line parallel to the road in question, the purchase of this link from the government had not been accomplished.

Sir Adam said that surveys on the Toronto and Eastern division had been completed, and that he had applied to the Ontario Government to submit agreements on it to the municipalities.

With reference to the passing of orders in council for the construction of radial railways, he pointed out that the radials were entirely a municipal affair. The government could not be made liable unless the municipalities were to become bankrupt. He could see no justification or reason for a refusal to pass orders in council.

The delegates passed resolutions to the effect that candidates for election to the legislature be asked to give a pledge to support the hydro electric railway's plan as well as the commission's power plans; calling upon the Province of Ontario to make a definite statement as to the government's attitude towards the hydro electric railways, and calling upon the Dominion Government to take over the G.T.R.

Proposed Municipal Purchases of Electric Railways.

Niagara, Welland & Lake Erie Ry.—A press report states that the Welland, Ont., City Council, has arranged for the company's books to be audited, with a view of negotiating for the purchase of the line by the city. The mayor is reported to have stated that $350,000 is asked for the company's property.

Sandwich, Windsor & Amherstburg Ry., Windsor, Ont.—City Council instructed its solicitor, recently, to notify the company of the city's intention to take over the railway, on the expiration of the franchise, in Dec., 1922.

Fort William Municipal Ry.—**Port Arthur Civic Ry.**—In connection with the recently reported statement of Sir Adam Beck respecting the willingness of the Hydro Electric Power Commission of Ontario to take over the electric railway lines in Port Arthur and Fort William, and the interurban line connecting the two cities, at present operated by them under separate managements, it was stated at a meeting of the Port Arthur City Council, recently that the proposition was a trifle premature. Alderman I. L. Matthews is reported to have stated that he did not think the commission would take over and operate the lines. The lines could be run more economically and more efficiently under one management than under two as at present. (Sept., pg. 504).

The Niagara, St. Catharines and Toronto Ry. Employees Strike.

Canadian Railway and Marine World for September had a brief reference to the N., St. C. & T. R. employes' strike, which started Aug. 21, and ended Aug. 25 in a complete victory for the company. The strike commenced at 4 a.m., and the St. Catharines afternoon paper of that day contained the following as an advertisement:—

"The Niagara, St. Catharines & Toronto Ry. regrets that its service has unavoidably been temporarily discontinued, commencing this morning at 4 o'clock. This cessation of operation is due to the action of some of our employes refusing to remain on duty as a protest against the dismissal from the service of certain conductors. This railway is owned by the Dominion Government and operated under the Canadian National Rys. board. In view of these facts the management feels that it will serve the best interests of all concerned to give the public some of the facts which have resulted in the cessation of service. We have found it necessary to release from our service certain conductors against whom we have corroborative evidence that they have defrauded the company with regard to the collection of fares on the cars. Several months ago the management was confronted with indisputable evidence that a large amount of revenue was being lost through the dishonesty of certain employes. A request was accordingly made to have the line properly checked by government detectives. A thorough investigation for an extended period was made by officers. Sufficient evidence was collected to warrant the company in relieving several men from its employ, since their retention would have cast reflection on the honesty of a large number of faithful operators on our lines and would have placed them in a false position in the eyes of the public. The following data is taken from the reports made by the government operatives showing the results of investigation on single trips on the various lines:

Date—Division	Fares Collected	Fares Reported	Shortage
July 14—Local line..........	54	48	6
" 18—Lake shore	100	93	7
" 22—Welland	61	57	4
" 28—Main line	92	76	16
" 30—Main line	132	107	25
" 30—Pt. Dalhousie..	109	81	28
" 30—Pt. Dalhousie..	56	45	11
" 30—Pt. Dalhousie..	26	22	4
" 31—Pt. Dalhousie..	71	58	13
" 31—Main line..........	92	72	20
Aug. 7—Pt. Dalhousie..	49	42	7
" 8—Main line	63	59	4
" 8—Main line	105	95	10
" 9—Main line	66	61	5
" 9—Pt. Dalhousie..	62	52	10
" 10—Main line	134	115	19
" 11—Main line	89	74	15
" 11—Pt. Dalhousie..	51	45	6

"Realizing that, under certain conditions, the collection of fares may be omitted by the conductor without reflection upon his honesty, the government operatives have, in such cases, reported the number of people so carried, but have not included them in the above figures. This is the only part of the evidence which is in the company's possession and which we refused to hand over to the employes for their perusual, as the same is reserved for the use of the Department of Justice in any action that they may see fit to institute.

"In order to show the public at large that these men are not underpaid, we quote the amounts paid to 20 of our conductors and motormen selected at random. Only men who were in the service on Sept. 15 last have been considered and the totals show what has actually been paid to them from Sept. 15, 1918, to Aug. 1, 1919, a period of 10½ months. On this basis the earnings for a full year are computed for comparative purposes."

Sept. 15, 1918, to Aug. 1, 1919	Yearly basis	Sept. 15, 1919, to Aug. 1, 1919	Yearly basis
$1419.64	$1623.45	$1479.98	$1691.41
1159.55	1325.20	1367.08	1562.38
1353.00	1546.29	1285.38	1469.01
1300.72	1486.53	1296.01	1481.15
1315.06	1502.92	1321.17	1509.91
1120.72	1280.83	1297.99	1483.42
1351.36	1544.41	1101.42	1258.77
1546.64	1767.59	1223.48	1398.26
1498.69	1712.79	1217.04	1390.92
1463.06	1672.07	1012.21	1156.85

"The management is pleased to report a large number of cases were instanced by the government operatives in which honesty, courtesy and attention to the travelling public was commented upon. The company feels gratified that it has in its employ so many men of high standard, In fairness to the employes, in fairness to the company, and in sincerity to the public, representing the owners, we take the ground that the existence of dishonesty in the service cannot be tolerated.

"It is the aim of the officials to bring the service of the Niagara, St. Catharines & Toronto Ry. up to the highest possible degree of efficiency. To achieve this, we earnestly solicit the co-operation of the public and our employes."

The company also published the following advertisement, addressed to its employes:—

"The management feels that a large number of employes have failed to report for duty through some misunderstanding of the facts which led to the removal of certain men from the service. We have endeavored to place certain evidence before you to make the issue a clear-cut one of honesty vs. dishonesty. We would fail in our duty to the greater portion of our employes, to ourselves and to the public in general if we did not insist upon honesty in every form.

"An attempt has been made to accuse the management of being hostile to the employes' organization. Any statements of this character are not based upon facts. The company has recognized the right of its employes to organize, and such right is clearly shown in the existing agreement; but in a straight case of criminal dishonesty, the management will not consider whether the offender is a member of an organization or not. We claim the right in such cases to deal with the man in question as an individual.

"We trust that the spirit of friendly co-operation shown by so many of our employes in past years will continue in the future. The company's attitude to its employes in the past justifies our request for their loyal support; we fully realize the necessity of having this as well as the support of the general public in order to serve the district covered by our lines in the most efficient manner. It is perhaps doubtful if any organization in this section of the province has done more to advance the interests of its employes than the Niagara, St. Catharines & Toronto Ry. Active assistance has been given to various sports, celebrations, every victory loan, patriotic fund, every unit organized for the front and to many men returning from overseas.

"The strike which has been declared by our employes is illegal under the provisions of the Lemieux Act. By this legislation, each employe is liable to incur a penalty by thus deliberately absenting himself from the service. The company does not wish at this stage to take advantage of the act in this respect, and, after placing before our men the statements which have appeared officially in the press, we hereby give notice that all employes not concerned in the charges in respect to which we have evidence may return to the service on or before Aug. 25 at 10 a.m., and be reinstated in their former positions. Any employe who has not returned to duty by that hour will be considered as having permanently left the service."

The Ottawa Electric Railway's Insurance and Benefit Plan.

F. D. Burpee, Superintendent, Ottawa Electric Ry., issued the following bulletin, Sept. 15: "The company's insurance and benefit plan has been completed, and will be put into operation on Oct. 1. The following benefits can be obtained by enrolment:

"1. In case of death from any cause, $1,000 will be paid to the family, wife, mother, or other beneficiary named.

"2. Upon retirement from the service, at the age of 65 or over, $1,083, in cash, will be paid to each member, or he can take a payment of $100 a year for the balance of his life, with a total payment of $1,000 guaranteed, in case he dies before the age of 75.

"3. If an employe leaves the service for any cause at any time before reaching the age of 65, the total money paid in by him will be returned to him, with interest at the rate of 3% per annum; or if he wishes he can continue the policy getting credit for a like amount. At such time the employe might not be in physical condition to secure insurance, so that he has this policy guaranteed to him, in any case.

"4. If an employe is off duty, due to sickness, or accident, occurring when not at work for the company, he will receive $10 a week, but no payment shall be made for disability resulting from venereal disease or from any disease for which he is not treated by a physician, nor for the first 7 days of disability, nor for disability in excess of 26 consecutive weeks duration.

"5. When absent from duty, on account of illness, or accident, as above mentioned, free medical attendance will be provided.

"The weekly sick benefit is open to all employes who are paid by the hour or day, but not to those on a monthly salary. The assessment for the above benefits will be $1.50 a month, to be deducted from the pay roll. No entrance fee, or charge of any kind, except the monthly assessment, will be made. To those who are paid by the month, and who do not participate in benefits 4 and 5, the monthly assessment will be $1.25.

"The above plan is open to all employes. Those who have not enrolled to date, can do so by giving their names to Mr. Lang, at 248 Albert St. (ground floor)."

The Winnipeg Electric Ry., early in September, received 2 semi-steel cars from Ottawa Car Manufacturing Co.

Basis for Appraisal of the British Columbia Electric Railway's Plant Contributory to its Railway Activities.

The British Columbia Public Utilities Commissioner in giving judgment in this matter recently, detailed the contentions of the City of Vancouver's solicitors and the company's representatives regarding the basis of the appraisal, and said:

"To deal first with the request that the appraisal should be made by a board of three members—one to be appointed by the municipalities, two to be appointed, either by this commission, or one by the company, and one (the chairman) by this commission. A board so constituted and selected does not appear likely to ultimately differ in any material respect from an ordinary board of arbitration, members of which usually resolve themselves into two opposing partisans and a referee or chairman. I cannot agree that to leave the appraisal, which may well prove to be the crucial element of the enquiry, to the decision of such a board is in conformity with my duties as laid down in the act, or with what has been referred to as the spirit of the legislation which created the act. I am directed by the act to make a special enquiry to determine the just and reasonable rate to be charged by the British Columbia Electric Ry. for the carriage of passengers on any line of electric railway which enters or traverses any portion of the City of Vancouver. To carry out such enquiry, I am authorized to ascertain the value of the company's property, by an appraisal, if in my opinion it is necessary. In my opinion, it is necessary, and I may thus select and appoint persons to carry out such appraisal, under my direction. I have no authority to delegate appointment, and, as appointment and selection are so interlaced as practically to constitute one act, I consider I should not delegate selection. In carrying out my duties under the act, I am acting for the people of the province, through the legislature, and I cannot agree that the representatives of any particular city of other municipal area or district, or of any particular company, should exort the authority which has been given to me in the interest of the people of the whole province. The representatives of local municipal areas already differ as to the expediency of such a suggestion. This commission will, therefore, select and appoint the appraiser or appraisers.

"As to the request that the appraisal be conducted by a board of three members, all selected and appointed by this commission. The reasons for my decision as to selection are applicable also, in a measure, to a decision as to this request. With the precedent of my own appointment, viz., that the legislature of this province has enacted that the duties of this commission are to be carried on by one person, I consider that I am justified in deciding that a subsidiary duty can also be properly so carried on. This commission will, therefore, appoint one chief appraiser, who will be assisted by such assistant appraisers as in the judgment of the chief appraiser, in consultation with this commission, are required for the proper consideration of the different technical units of the company's property. Such chief appraiser will direct the assistant appraisers, receive and co-ordinate their reports, and make use of the information so derived in his own report. The chief appraiser will be subject to cross-examination by the company and the assistant appraisers will also be retained with a view to such cross-examination, if the necessity arises. I reserve a decision as to cross-examination by the representatives of the city and municipalities, or by others who may later appear and be admitted by me as interested parties, until I can obtain the advice of the law officers of the crown.

"It seems probable that I shall have to further define or perhaps amend my ruling as to procedure, of June 10 last, which I also quoted at the hearing of Aug. 18 last, and in which I said 'A copy of the appraiser's report will be supplied to the company and interested parties. Both sides may then examine the appraiser in relation to his report, produce and examine witnesses and make their argument as provided above.' It now appears, that the company having, in compliance with the act, as regards burden of proof, commenced its case by, among other things, giving the book value of its properties, this commission in making an appraisal to check the accuracy of such value, is acting, as described above, viz., in the interest of th epeople of the province and thus of such particular units of the people as have seen fit to aid this commission by appearing. It therefore, does not seem logical that the representatives of such units should cross-examine the appraisers, who will be, in effect, their own witnesses; or expedient, inasmuch as such representatives will not have access to all the data on which such appraisers will base their reports. It does seem logical, however, that, following cross-examination of the appraisers by the company, such representatives should aid this commission in arriving at a just decision of re-examining such appraisers. However, I am waiting for competent legal advice in this matter. In the meantime, I shall be glad of an expression of opinion from the legal gentlemen present on behalf of the city and municipalities.

"I agree with all that has been said as to the necessity of obtaining the services of expert and unbiased authorities as appraisers. With this essential in view, I have addressed the principals of Toronto, McGill and Dalhousie Universities, the Board of Railway Commissioners and the Manitoba Public Utilities Commission, asking them to suggest the names of persons qualified, in their opinion, to carry out the duties of chief appraiser. I propose to exercise equal care in selecting assistant appraisers, who would be of the highest reputation, technically and otherwise. In this connection, I shall be glad to receive suggestions from those appearing on behalf of the public.

"The legal point raised by Mr. McCrossan, viz., that lines which are not in this commission's jurisdiction, should not be dealt with in the appraisal, I have also referred for competent legal advice. I take it, however, there can be no objection to a consideration of the effect of the operation of such lines by the company as I note that sec. 35 (1) of the act authorizes this commission to 'enquire into every fact which in its judgment has any bearing' on the value of the company's property.

"Coming now to the very important question of the instructions to be given the appraiser. Before dealing with the proposals in this respect put forward by Mr. McCrossan for the City of Vancouver, and by Mr. Kidd for the B.C.E.R. Co., in their arguments at the hearing of Aug. 18, I will briefly review how far, in my opinion, the act itself and my rulings as already given under the act, have given such instructions. The Public Utilities Act, sec. 11 (4) specifies the reason for the appraisal viz., 'to determine the just and reasonable rate to be charged by the B.C.E.R. Co. for passenger traffic, on any line of electric railway which enters or traverses any portion of the City of Vancouver.'

"Sec. 26 (2) gives the following mandate: 'In fixing any rate the commission shall have due regard, among other things, to give the public utility company a fair and reasonable return upon the appraised value of the property of the company.'

"Sec. 35 (1) says 'Whenever in the opinion of the commission it is necessary for the purpose of carrying out any of the provisions of this act, the commission may, by appraisal, from time to time, ascertain the value of the property of any public utility company, and may inquire into every fact which in its judgment has any bearing on that value, including the condition and value of the undertaking of the company as a going concern, and the amount of money actually and reasonably expended in that undertaking in order to furnish service reasonably adequate to the requirements of the community served by the company as that community exists at the time of the appraisal.'

"My ruling of Aug. 6, as to scope of evidence admissable, admits evidence as to the company's investments of capital, either directly, or through its subsidiary companies, in its electric railway system, as constructed and operated in the District of Vancouver (being the area contiguous to and inclusive of the Delta of the Fraser River, the Cities of Vancouver and New Westminster, the Municipalities of Point Grey, South Vancouver and Burnaby, the City and District of North Vancouver and the districts served by the New Westminster and Chilliwack line, and whether directly or through its subsidiary companies, in its power and electric lighting systems in said district, and also admits evidence as to the present values of the properties covered by such investments. I excluded the company's investments in land or other property in such district, for any purpose except directly for the purpose of its power, light and railway systems, and its investments in its gas system. Therefore, as the appraisal is for the purpose of producing evidence, I have thus instructed the appraiser to ascertain the amount invested by the company in such properties and also to ascertain their present values.

"I have thus also given instructions essential to compliance with the proposals made at the hearing of Aug. 18, by both Mr. Kidd, or the B.C.E.R. Co. and Mr. McCrossan for the City of Vancouver. Such instructions, however, by no means cover in detail the points raised in their proposals. In my opinion, the fundamental difference between Mr. Kidd's and Mr. McCrossan's proposals arises out of their respective interpretations of the meaning of the words 'value' and 'property,' in the mandate of the act. Out of this fundamental difference arise their differing suggestions for ascertaining value. I find that the same differences as to meaning have arisen in many important appraisals, to the extent that the advisability of establishing a recognized legal definition of the word 'value' in its relation to the appraisal of public utilities, has been suggested in the United States. The question has concerned the highest legal authorities in that country, where the operations of public utilities commissions are more general than in Canada, and, in default of a standardized definition of 'value,' I find that a principle has been accepted, viz., that the problem of valuation should be worked out with reference to what is just and reasonable for the specific purpose involved. This principle, I unhesitatingly adopt in the present enquiry. I am not prepared, until I am more fully informed, to accept either Mr. Kidd's or Mr. McCrossan's proposals as to what is just and reasonable. I sonsider that this problem can only be justly worked out by the appraiser, as the appraisal proceeds. Until the appraisal has progressed, there is not sufficient information available to justify anyone arriving at definite conclusions as to how the appraisal should be made. I therefore do not propose to further instruct the appraiser, for the present, except to now decide that all the economic, financial and physical circumstances which attend the formation of the company and the acquisition and construction of its property and plant as limited above shall be considered by the appraiser in arriving at its value. I leave the appraiser to decide how they shall be considered. I shall place before him, all the proposals and suggestions which have been or may be received from interested parties and the company, and, if difficulties arise during the appraisal, I shall be prepared to hear all parties and to give a decision as to how the appraiser should proceed."

Port Arthur Civic Railway's Financial Position.

The city auditor's report on the accounts for the calendar year 1918, of the public utilities operated by the City of Port Arthur, Ont., has been issued by the Public Utilities Commission. The following information is given concerning the Port Arthur Civic Ry.

The Public Utilities Commission came into existence in its present form at the end of 1914, and the deficits on the operation of the electric railway since then have been as follows:

1915	$61,268.79
1916	51,311.16
1917	43,837.79
1918	30,154.90

The auditors draw attention to the fact that the reserves for depreciation in all the utilities are very inadequate.

The following remarks are made on the electric railway department:

"There was paid off during the year the final instalment of serial debentures under bylaw 656, the original amount of which was $10,000. This liability now having been paid off, an entry was made reducing the amount of instalment (or serial) debenture reserve on the other by $10,000. No new debentures were issued in 1918, but we understand that an issue is contemplated by the city to cover capital expenditure made which has not already been provided for by the issue of debentures. This capital expenditure amounts to $19,118.36, but extends back for a number of years, $13,360.65 being on the books at Dec. 31, 1915, and we trust that before issuing debentures, a careful scrutiny will be made of these assets and the original amounts reduced by the depreciation for the length of time between the construction or purchase and the issue of the debentures, and the term of the debentures will be made to correspond with the remaining expected lifetime of the assets. The point to be kept strictly in view is that the amount of the debentures to be issued must be accumulated and on hand either by way of sinking fund or depreciation, or by both sinking fund and depreciation, at the end of the expected productive lifetime of the assets created.

"We notice that an effort has been made to provide for depreciation in 1918, but this has been done in an arbitrary way and the provision of $4,689.72 was not based upon any specific rate. This is one of the difficult problems to be dealt with by the commission and, in view of the overcapitalized state of the railway, we must urge that a policy in regard to providing ample depreciation be adopted. To guide you in this, it would be necessary to make up an inventory of the assets, so far as it is possible to obtain details, from the books, showing a classification according to the lifetime of the various assets, and base a rate of depreciation according thereto.

"We have reported in previous years upon the balance at debit of this account, and our information now is that all possible enquiry has been made to locate this shortage in the stores inventory, without success. This account should be closed, and, as the shortage was discovered in years previous to 1918 and as there is no person who can be held responsible therefor, it should now be written off to surplus and deficiency account.

"There is a credit balance of $514.21 upon which we have reported in previous years, and we think that it should now be written off to credit of surplus and deficiency account or carried to the credit of depreciation reserve."

Granting of Transfers in South Vancouver Ordered.

J. L. Retallack, Public Utilities Commissioner for British Columbia, on Sept. 4, granted South Vancouver Municipality's application for transfers between the British Columbia Electric Ry.'s Main St. and Fraser St. lines. These lines are from 4 to 6 blocks apart for some 3 miles, and the company's contention was, that to grant transfers from one line to another at their junction point in Vancouver, would result in the company being defrauded by people returning home by one or other of these lines. The commissioner said:

"I do not accept the company's evidence that people might better walk from Fraser to Main, or vice versa, than to take the transfer sought. There are people, old and young, unable to walk. The municipality has made its application on behalf of such people and of others who do not wish to walk, and its commissioner has testified under oath that the matter is a serious one. I accept the company's argument that the principle of refusing transfers between parallel streets is generally recognized and acted on by street railway companies, but without now examining into the merits of the principle, I do not consider its application in the present instance affords just and reasonable service to South Vancouver.

"The municipality has granted or acquiesced in concessions valuable to the company. Thus by the agreement of July, 1918, it agreed to fares being raised to 6c, and it previously acquiesced in the company ceasing to operate on 34th St. The municipality is entitled to a return for such concessions beyond the company's normal service, which principle the company itself acquiesced in, when, in the agreement of July, 1918, it agreed to transfers between all points in the municipality, and as the municipality deals, as a separate municipal entity, with the company, the municipality is entitled to be specially considered by the company. The municipality is now asking a concession which its commissioner testified is very important to its welfare, and which the company's Traffic Superintendent testified may result in the company being defrauded by a negligible number of persons. The company has power to make bylaws to protect itself against such frauds.

"I therefore consider that the subsisting agreement as to points between which transfers may be made should continue in effect, or that if it is amended, such amendment should not alter its existing provisions as to transfers between any place in the municipality to any other place in the municipality, and, if such agreement is cancelled, a new agreement should not deprive the municipality of such existing rights of transfer."

Quebec Railway, Light and Power Co. Annual Report, Etc.

The following report for the year ended June 30, was presented at the annual meeting, Dec. 9:

The gross earnings from operation were $2,077,621.43, compared with $1,797,852.83, an increase of $279,768.60. The operating and maintenance expenses were $1,444,516.08 compared with $1,235,724.33, an increase of $208,791.75, leaving a net revenue of $633,105.35 compared with $562,128.50, being an increase of $70,976.85. After adding miscellaneous income $27,722.61, not including earnings on Quebec & Saguenay Ry. Co.'s securities, and deducting fixed charges, taxes, depreciation on cars, etc., of $726,101.55, there remains a deficit of $65,273.59, leaving a balance at the credit of surplus account to date of $682,464.20.

The railway between St. Joachim and Nairn's Falls under construction for the Quebec & Saguenay Ry. Co., one of this company's subsidiaries, has been acquired by the Dominion Government. This sale took place Mar. 4, 1919, and the trustees are now in possession of the funds for disposal in accordance with the bondholders' instructions. The construction of the road is being continued by the government, and, when completed, should prove a valuable source of revenue for the Quebec Ry., Light & Power Co.'s Montmorency Division. A train service to Murray Bay, operated by the contractors, has been in effect since July 1, the results of which have proved satisfactory.

It is with feelings of deep regret that your directors have to report the death in February last of Sir Rodolphe Forget, President, who devoted much time to the company's organization and operations. On Feb. 27, Senator D. O. L'Esperance was appointed a director and subsequently appointed Vice President. The directors desire to express their appreciation of the efficient services rendered by the officials and staff.

The following were elected directors for the current year: Lorne C. Webster, President; Hon. D. O. L'Esperance, Vice President; Paul Galibert, C. G. Greenshields, J. N. Greenshields, K.C.; Brigadier General A. E. Labelle, Chas. Lavigne, Arthur Picard, T. J. Stewart, M.P., L. J. Tarte, Senator Jules Tessier. The following, who were directors before, were not re-elected: Chas. Donohue, J. T. Donohue and L. G. Morin. W. J. Lynch is General Manager and Arthur Le Moine, Secretary.

Increases in Electric Railway, Freight and Passenger Rates.

British Columbia Electric Ry.—In presenting the company's case recently for no reduction of the 6c fare in Vancouver, George Kidd, General Manager, informed the Public Utilities Commissioner that there was a possibility that a 7c fare might be necessary to pay increased wages. He stated that the company was preparing an application for the increase of fares on its interurban lines, and if the application of the employes for another increase in wages was granted it would mean a corresponding increase in expenses with a necessity for further revenue. Wages have gone up from 20c an hour, when the company started operations in 1897, to 51c at present. The men are asking for 65c as the maximum for day work and 70c for night work.

See also 'Basis for Appraisal of B.C. E.R. Co.'s Plant, etc." on another page of this issue.

Dominion Power and Transmission Co.—A press report states that this company, which owns and operates the Hamilton, Grimsby and Beamsville Electric Ry., and the Brantford and Hamilton Ry., issued an order, Sept. 10, that students' tickets are to be sold only to scholars under 18 attending public institutions. Under this order students in neighboring villages who are enrolled in Hamilton business colleges are refused the special tickets, which in the past they bought at greatly reduced rates. Hamilton's City Solicitor is reported to have stated that there is no provision in the franchises of the several lines nor is there any general law providing for special rates to students. The Board of Railway Commissioners could, however, issue an order to stop discrimination if it was practised. The Hamilton, Grimsby and Beamsville Electric Ry., and the Brantford and Hamilton Ry., are under the Board of Railway Commissioners' jurisdiction, while the other two are subject to the Ontario Railway and Municipal Board. The steam railways issue books of tickets at a specially reduced rate to students up to 18 years of age, on production of a monthly certificate signed by the principal of the school they are attending.

A press report of Sept. 15 states that the chairman of Hamilton's City Council's street railway committee, had been assured by G. E. Waller, General Superintendent Dominion Power and Transmission Co., that the Hamilton and Dundas Electric Ry. proposed to put on a half hourly service on its line as far as West Hamilton, the cars to be of the ordinary city type. The fares charged will be 6 tickets for 25c, good to Garth St., but no transfers from the Hamilton St. Ry. lines will be accepted; 5c each way to and from Ainslie's Woods; 10c single to and from West Hamilton, with a [illegible] return fare. The service was reported to have been put in operation [illegible]

Montreal Tramways Co.—The following decision was given by the Montreal Tramways Commission, Aug. 29:

Whereas an operating allowance of [illegible] per revenue car mile for cars equipped with motors and an operating allowance of 17.4c per revenue car mile for trailers, used for transportation of passengers, have been granted, this day, to the Montreal Tramways Co. for its operating expenses and taxes for the year ending June 30, 1920;

Whereas a maintenance allowance of 8.54c per revenue car mile for cars equipped with motors and a maintenance allowance of 7.05c per revenue car mile for trailers, used for the transportation of passengers, have been granted, this day, to the Montreal Tramways Co. for its maintenance and renewal expenses for the year ending June 30, 1920;

Whereas under the contract executed between the City of Montreal and the Montreal Tramways Co. on Jan. 28, 1918, the company shall receive, yearly, out of gross revenues: 1.—As its annual return upon the capital value therein fixed, 6% on such capital value. 2.—On all amounts added to the capital value of the company, since Dec. 31, 1917, an annual return of 6% and an additional return of 1% per annum. 3.—Upon the working capital furnished by the company, during the year ending June 30, 1920, a return at the rate of 6% per annum. 4.—For the purpose of covering the expenses to be incurred by the company, in procuring additional capital, an amount of $181,431.47.

All these charges being estimated by the Montreal Tramways Commission, at $2,491,303.13 for the year ending June 30, 1920.

Whereas the City of Montreal shall receive, out of gross revenues, over and above all other amounts to which it may be entitled under the said contract, $500,000 a year. Whereas a sum equal to 1% of the gross revenues must be paid into the contingent reserve fund, during said year. Whereas the company's gross revenues in the year ended June 30, 1919, were insufficient to provide for the payment of all sums payable in accordance with article 92 of the contract, leaving a deficit of $1,264,111.14 for the year, and that such deficit must be made up. Whereas the Montreal Tramways Commission must increase the tariffs to the extent necessary to provide sufficient gross revenues to meet all the payments hereinabove mentioned;

Be it resolved: that the following tariffs be established for passengers carried by the Montreal Tramways Co., in the uniform tariff territory comprising the City of Montreal, as it exists at present, and the cities or Towns of Westmount, Outremont, Verdun, St. Laurent, Mount Royal, also the territories of that portion of St. Laurent Parish, and of that portion of the municipality of Cote St. Luc lying to the east of the line of the Montreal Tramways Co., running from Snowdon Jct. to Cartierville, including the land occupied by the said line:

(a) Day tariff—From 5 a.m. to midnight, 7c cash, or a ticket to be sold in series of 4 for 25c.

(b) Special day tariff—A ticket to be sold in series of 5 for 25c, to be good only between 6 and 8 a.m. and between 5 and 7 p.m., on week days only.

(c) The present night tariff and school children tariff shall remain in force.

For municipalities outside of the uniform tariff territory, the present tariffs remain in force, with the exception of the City of Lachine, where the following tariffs are established: Local tariff: (a) Day tariff—From 5 a.m. to midnight, 5c cash, or a ticket to be sold in series of 8 for 25c. (b) Night tariff—From midnight to 5 a.m., 10c. Interurban tariff—For persons travelling from any place within the limits of the City of Lachine to the western limits of the uniform tariff territory and vice versa, the present tariffs remain in force.

Note: the local tariff in Lachine providing for 8 tickets for 25c, is said to be a reduction.

The new tariffs were to go into effect on Sept. 15, unless appealed against. On Sept. 5, the Montreal Administrative Commission instructed the City Attorney to appeal to the Quebec Public Utilities Commission, on the ground, among others, that the estimates of expenditure made by the Tramways Commission could be considerably curtailed. The Cities of Westmount and Verdun have also appealed. The going into effect of the new fares is therefore delayed until the Public Utilities Commission gives judgment, and the necessary eight days public notice of the change is given thereafter.

The Montreal Tramways Co. has also appealed against the Montreal Tramways' Commission's decision, fixing the fare rate for the current year in uniform territory, and asking for revision by the Quebec Public Utilities Commission of various amounts arrived at by the Tramways Commission for maintenance, upkeep, and renewal and the remuneration of the capital value of the company. The company also appeals from the Tramways Commission's decision, rejecting various items which it is claimed by the company should be added to the capital value for power-house equipment, a turbo generator costing $195,195.40, motor generator, William St., power house, $39,263.21, and three transformers, St. Denis St. substation, $9,000. An amount of $534,055.08 is claimed by the company and which was refused by the Tramways Commission, as representing the reproduction costs of stores in hand, and, accordingly withdrawn from the amounts of working capital for which interest at the rate of 6% is claimed by the company from Feb. 10 to June 30.

The hearing of the appeals was commenced before the Quebec Public Utilities' Commission in Montreal, Sept. 23. Counsel for the City of Montreal asked that the hearing be adjourned and that B. J. Arnold, Chicago, Ill., be engaged to make an investigation of the affairs of the company's affairs and report thereon. The commission decided to permit the city to engage Mr. Arnold as its expert to enquire into the company's operating and maintenance expenses, but declined to grant an adjournment until the report was presented. Certain statements were put in by the company as to operating and maintenance costs, and on Sept. 24, the commission refused the city's application for the appointment of accountants to examine the statements put in. After some evidence had been given by J. E. Hutcheson, General Manager, the further hearing was adjourned to Oct. 2.

Moose Jaw Electric Ry.—The Moose Jaw, Sask., City Council was reported to have passed a bylaw, Aug. 27, subject to the ratepayers ratification agreeing to amend the company's franchise along the lines suggested by the company. The matter has been under discussion for a considerable time. The new agreement is reported to permit the charging of a 6c fare, and the operation of one-man safety cars, and the company agrees to resume within six months the operation of cars over the South Hill belt line, and within the same period to complete and commence operations on the Hall St. line. The city agrees to suspend until the franchise is completed all debts of the company to the city, and to accept 80% of the net profits after provision has been made for a dividend of 6% a year to the shareholders, and the setting aside of $20,000 a year as a sinking and renewal fund for all repairs and maintenance of equipment.

The Quebec Ry., Light and Power Co. is applying to Quebec City Council for authority to advance fares on its city lines.

W. J. Lynch, General Manager has written the Quebec City Council asking authority to charge increased rates for gas, and increased fares on the electric railway in the city. Following are extracts: "During the past six months as you are aware, great inconvenience has been caused to the travelling public in many cities in Canada and the United States, due to the suspension of railway operations on account of the delay in meeting the demands made by employes for increases in wages or in granting by regularity bodies permission to various companies to increase fares. There is in effect between this company and our street railway conductors and motormen, an agreement covering rules and wages and which agreement does not expire until Mar., 1921. Notwithstanding this fact, however, in June last our employes, due to the continued high cost of living, requested an increase in wages which increase the company granted in part effective July 1, 1919, and further will grant an additional increase to these employes, just as soon as the following demands, which we herewith apply for, are granted by you:

"We request that the following tariff be authorized: Seven cent cash fare. Seventeen tickets for $1. Eleven tickets for 50c (workmen's tickets), good between 6 and 8 a.m., and 5 and 7 p.m. Not good on Sundays. Rules at present in force. Two cent transfer. School children and children same fare as at present in effect. Fare after midnight, same as at present, viz: 10c cash fare.

"Also, that the payment to the city of Quebec of 4% on gross earnings of city street railway be discontinued, and that this company be no longer obliged to bear the cost of paving and maintenance of roadway between the tracks, and limited space on either side. This, in our opinion, is an unreasonable charge and is simply a continuance of the principle in effect at the time of the operation of horse cars. At that time, due to the constant wear and tear in the center of track by horses drawing cars, the street railway companies were obliged to maintain the roadway between the tracks. In the operation of electric cars, however, the center of tracks is not used by street railway companies and therefore the maintenance of same should not be borne by the company."

Winnipeg Electric Ry.—A press report states that the company's application for authority to charge increased fares will be heard by the Manitoba Public Utilities Commissioner, at the October sittings.

When the company's application to the Public Utilities Commission for authority to charge a 6c fare came up for hearing, Sept. 26, the city solicitor opposed it and an adjournment was made for a week. The city solicitor opposed it and is reported to have said that he would apply for an injunction if higher fares were granted and would question the commissioner's constitutionality.

Mainly About Electric Railway People.

J. Davidson, director and acting Secretary British Columbia Electric Ry., London, Eng., and managing director British Empire Trust Co., has been visiting Vancouver, for the first time since 1907.

J. F. Fozzard has been appointed Accountant, Lethbridge Municipal Ry., Lethbridge, Alta., succeeding E. H. Duricott.

G. Gordon Gale, Vice President and General Manager, Hull Electric Co., Mrs. Gale and family, have returned to Ottawa from their summer house at Aylmer, Que.

Jas. Gunn, Superintendent, Toronto Ry., who died recently, left an estate valued at $23,190.

R. C. Harris, City Works Commissioner, Toronto, has declined to accept a cheque for $500 sent him by the Toronto Ry. Co., under the Ontario Railway & Municipal Board's direction, as remuneration for acting as manager of the railway for a few days recently, when it was taken over by the O.R. & M. Board, owing to the conductors' and motormen's strike. He said he could not accept any payment, as he was in receipt of his salary from the city at the same time.

H. M. Mallison, heretofore managing director, Nova Scotia Tramways and Power Co., has been appointed Secretary-Treasurer.

W. H. Moore, General Manager, Toronto & York Radial Ry., has written a novel, "Polly Masson," dealing with relations between the English and French in Canada.

N. N. Oille, heretofore Special Agent, International Ry., Buffalo, N.Y., which also operates the Niagara Falls Park & River Ry., in Canada, has been appointed Secretary, International Ry. Co.

P. C. Reinhardt, heretofore Assistant Treasurer, International Ry., Buffalo, N.Y., which also operates the Niagara Falls Park & River Ry. in Canada, has been appointed Treasurer, International Ry. Co.

S. Rosevear, Electrical Engineer, Toronto Suburban Ry., has also been appointed Superintendent of Electric Lines, F. Mitchell, having left the company's service and gone to England.

Theodore P. Shonts, President, Interborough Rapid Transit Co., New York, N.Y., died there Sept. 21.

Lorne C. Webster, Montreal, has been elected a director of the Montreal Tramways Co. He is also President, Quebec Ry., Light, Heat & Power Co.; President, Webster Steamship Co., and a director of the Quebec and Levis Ferry Co.

W. L. Weston has been appointed Manager, Nova Scotia Tramways and Power Co., Halifax, N.S. He first entered the electric railway and lighting business in Fort Worth, Texas, in 1906, and subsequently occupied the position of Manager, Tampa and Sulphur Springs Traction Co., Tampa, Florida; Manager, Paducah Traction Co., and Paducah Light and Power Co., Paducah, Kentucky, and Manager Houghton Traction Co., and Houghton Electric Light Co., Houghton, Mich. Previous to going to Halifax, he served in the United States army for about 18 months.

Electric Railway Projects, Construction, Betterments, Etc.

British Columbia Electric Ry.—A press report states that as a result of conferences between the company's officials and C.P.R. officials, it has been arranged that the line on Granville St. South will be extended from the corner of King Edward Ave., southward past the golf links, and will be joined up to the track on Wilson Road, which was laid two or three years ago, but which has not been used. (Sept., pg. 501).

Calgary Municipal Ry.—We are officially advised that there is under construction 1.25 miles of single track on Center St., and 0.75 mile of single track on 29th St. West, and 23rd Ave., Calgary, Alta. T. H. McCauley, Calgary, is Superintendent.

A recent press report stated that the Center St. extension had been so far completed that it was expected to have it in operation Oct. 1. A decision is reported to have been reached to recommend the city council to authorize a further extension of the line to 20th Ave.

Grand River Ry.—A press report states that 85 and 90 lb. rails are being laid on the line between Preston and Kitchener, Ont., and that the rails being taken up will be laid on the 2 mile revision being built between Preston and Hespeler. Work on these two sections is said to have been restarted Aug. 29, after having been held up on account of shortage of labor.

A press report states that the Kitchener, Ont., City Council has before it an application for the construction of a switch from the company's line to the Ames-Holden Tire Co. plant. (Sept., pg. 501).

Moose Jaw Electric Ry.—Under an agreement entered into between the company and the Moose Jaw, Sask., City Council, Aug. 27, the company agrees to complete and put in operation the Hall St. line, within six months.

Niagara, Welland and Lake Erie Ry.—A press report states that the company proposes to extend its line from Welland, Ont., to Parkway Heights.

Winnipeg Electric Ry.—A press report states that the rerouting of the car line in the vicinity of the Tuxedo Hospital, Winnipeg, has been completed and that the new line runs within 25 ft. of the building, whereas previously it ran half a mile away. (June, pg. 324).

The Ottawa Traction Co. has declared a dividend of 1%, payable Oct. 1.

Electric Railway Employes' Wages, Working Conditions, Etc.

The British Columbia Electric Ry.'s employes decided at a meeting in Vancouver, Aug. 30, to apply for the appointment of a board of conciliation to arbitrate as to increases of wages, and altered working conditions asked for. The last agreement terminated Sept. 8, and the employes ask that any new scale put in force under the arbitration proceedings be made retroactive to that date.

Dominion Power and Transmission Co—A Hamilton, Ont., press report says that Hamilton St. Ry. employes have asked for increases of 25%, which the company says it cannot pay.

Fort William Municipal Ry. employes' wages have been advanced, dating from June 16, to the following rates per hour: Conductors and motormen, first 6 months, 45c; next 18 months, 47½c; third year, 50c. On one-man cars, 2½c an hour extra. One uniform free a year. Overcoat free every two years.

Barn employes: Foreman, $150 a month; armature winder, $135 a month; pitmen, first class, 53c an hour; second class, 47½c an hour; cleaners, 45c an hour; carpenters, 57c an hour; painters, 55c an hour.

Guelph Radial Ry.—A board of conciliation was appointed by the Labor Department recently to adjust differences as to wages and working conditions. H. Mahoney of Guelph, representing the City of Guelph, and T. Hall, of Guelph, representing the employes. Judge C. G. Snider, of Hamilton, was appointed chairman, on the recommendation of the two other members of the board.

Niagara, St. Catharines and Toronto Ry.—A press report of Sept. 11, stated that representatives of the company and the employes, had agreed to the appointment of a board of conciliation in regard to wages and working conditions. The men are reported to be asking for an 8-hour day, and for an increase in wages of approximately 35%.

The Quebec Railway, Light & Power Co. has increased its shopmen's wages 4c an hour, dating from July 1, and they are now as follows:

	An hour
Day car foreman	41c
Armature winders	41c
Blacksmiths	40c
Blacksmiths' helpers	32c
Carpenters, car and bench, 1st class	36c
Carpenters, car and bench, 2nd class	32c
Electricians, 1st class	34c
Electricians, 2nd class	31c
Machinists, 1st class	39c
Machinists, 2nd class	32c
Painters, letterers	37c
Painters' helpers	30c
Pitmen	32c
Linemen	32c
Trackmen	32c
Night car foremen	30c
Brake inspectors	29c
Controller inspectors	28c
Motor inspectors	28c
Oilers	28c
Car cleaners	26c
Apprentices, 1st year	17c
Apprentices, 2nd year	20c
Apprentices, 3rd year	22c
Apprentices, 4th year	26c

No change has been made in the working hours.

Toronto Civic Ry.—The City Works Commissioner wrote the Board of Control Sept. 8, as follows:—Since July 4 last, the Toronto Ry. Co.'s employes of the classes indicated below, have been paid the wages therein set out, these rates forming part of majority finding of a board of conciliation. I recommend that increased rates be paid the Toronto Civic Railway employes, dating from July 4 last, as per the following schedule, viz.:

Conductors and motormen:

Existing hourly rates		Proposed hourly rates	
1st 6 mons	40⅛c	1st 3 mons.	50c
2nd 6 mons	43⅜c	Next 9 mons.	52½c
2nd year	45¾c	2nd year and after	55c
3rd year and after	48c		
Shedmen	44⅝c		50c
Car repairers	48c		55c

"In order that the rates for roadmasters, mechanics and foremen will conform to those of the employes scheduled above, I recommend that roadmasters, be increased from 50¼c to 57c, and that mechanics and foremen, be increased from 51⅜c to 65c. Owing to civic railway employes receiving two weeks' annual vacation, with pay, additional allowance is not made for overtime, except on Sundays, when conductors, motormen and roadmasters receive an extra 4c an hour, and shedmen, car repairers, mechanics and foremen, an additional 2½c an hour. The payment of the rates recommended will entail an additional expenditure of $16,907, from July 4 to Dec. 31.

The City Council approved the report.

Toronto Ry. and Toronto Electric Light Co.—On Aug, 19, the Minister of Labor, on the application of electrical workers, machinists, blacksmith, pattern makers, brass moulders and core makers of these companies, appointed a board of conciliation, consisting of W. H. Moore, representing the companies; F. Bancroft, representing the men, and County Judge Denton as chairman. Subsequently F. Bancroft resigned and W. H. Harper was appointed in his place. After the board had been appointed a dispute arose between the Toronto Power Co., and certain of its employes at Niagara Falls, members of the International Brotherhood of Electrical Workers which was also referred to the board. The Toronto Power Co. consented to the board dealing with the dispute with its electrical employes in Toronto, but not as to those employed at Niagara Falls, and the board therefore limited its action accordingly At the board's first meeting, it was stated that the dispute between the companies and their machinists, blacksmiths, pattern makers and core makers, had been amicably adjusted, so the board confined its hearings to the electrical workers. On Sept. 2, the chairman of the board and the employes' representative, W. H. Harper, signed a report recommending certain increases in wages and changes in working conditions, the companies' representative, W. H. Moore, making a minority report. The board's decision was communicated to the companies' General Manager, R. J. Fleming, on Sept. 3, the employes demanded an immediate answer, and as this was not forthcoming at 5 p.m. they struck, stopping the entire street railway traffic in the city and causing great inconvenience, not only to citizens, but to thousands of visitors who were at the Exhibition. At 8 p.m. Mr. Fleming signed his acceptance of the award and the car service was resumed at 9.30 p.m.

Winnipeg Electric Ry.—A press report of Sept. 18 stated that the employes had decided to accept the award of the board of conciliation, presided over by Justice Mathers. The text of the award is not yet to hand, but the report says that the men's original demand was 60c an hour for the second six months, and 70c an hour for the second year and thereafter. The award, which they have accepted, gives 46c for the first six months; 49c for the second six months; 52c for the second year and 55c for the third year and thereafter. It also provides for an 8-hour day, instead of 9 hours as heretofore. The nine-hour rate was 39c, 41c, 44c nad 47c, respectively.

Electric Railway Notes.

The International Ry., Buffalo, N.Y., has been refusing to accept Canadian coins on its lines on the United States side of the Niagara River, since Aug. 3. Similar action is reported to have been taken at other boundary points.

The Regina, Sask., City Council, has under consideration an offer from the Canadian Street Car Advertising Co., of $1,700 a year, with an additional $50 a year for every additional car beyond the 34 at present operated, for advertising in the Regina Municipal Ry. cars.

The Toronto Suburban Ry. will, a press report states, shortly put a number of new cars in service between Keele St., Toronto, and Guelph. During the past year the regular service has been three trips a day in each direction, on week days and four trips in each direction on Sundays.

The Levis County Ry. has ordered a single truck snow sweeper with steel underframe and wood body, from Ottawa Car Manufacturing Co. The sweeper brooms are to be driven by bevel gears, and the car will have the following chief dimensions: length, over all, 28 ft. 2 in.; length, over cab, 24 ft.; width of cab, 7 ft. 1½ in.; height, top of rail to top of roof, 11 ft. 10 in.

Tourist traffic on the Quebec Ry., Light and Power Co., Montmorency Division, between Quebec and Ste. Anne de Beaupre, is reported to have increased about 300%. Without taking into account the regular pilgrimage traffic, the company operated four special trains daily to handle the tourist traffic during the past summer, in comparison with a single train of two cars in previous summers.

Winniueg Electric Ry. employes have formed an athletic association which, in point of numbers, is one of the strongest in western Canada. The association is encouraged in every way by the company, and A. W. McLimont, Vice President and General Manager, takes a personal interest in its activities. The association's annual meet on Sept. 6, is said to have been the biggest success of any athletic meet ever held in the city. There were over 30 events, including 9 championship contests, and over 4,000 people attended.

The Nova Scotia Power Commission, appointed under a statute passed rerecently, held its first meeting Sept. 9, and decided to appoint an engineer to prepare plans and estimates for the development of the water power on Indian River, about 15 miles from Halifax. It is proposed simply to develop current and to deliver it to municipalities for distribution.

Waterloo-Wellington Ry.—The Kitchener, Ont., Light Commissioners have recommended the City Council not to accept the offer to lease this line to the city for a year for 12% of the gross receipts, but that it be bought by the city if it can be secured at a price in accordance with its earning power.

Report on Condition of Toronto Railway Co.'s Tracks.

H. W. Middlemist, Consulting Engineer, Bridges and Substructures of Railways, Ontario Railway and Municipal Board, who was instructed recently by A. B. Ingram, Vice Chairman, to examine the Toronto Ry. tracks on a number of street, has reported as follows:

Parliament St., between Carlton and Gerrard Sts., length 797 ft. Double track, laid in 1893, with Dick, Kerr & Co. rails, section 56 A, on ties, with concrete slab in between to support the block pacing. These rails are completely worn out, the heads split and crushed and the grooves cut away. The paving is also in very bad condition. This section is in the same state as that reported by me on June 12, 1918, on the same street from Gerrard to Queen Sts., and I consider it a waste of time and money to attempt any repairs.

Gerrard Street, from the Don bridge to Broadview, length 645 ft. Double track, laid in 1893, with Dick, Kerr & Co., 73 lb. grooved section. Block paving between rails. This track is constructed the same as Parliament St. mentioned above, and is, if anything, worse. The sooner it is removed the better, more particularly as it is on a steep grade, descending to the bridge. I picked up bolts, with the nuts on, that had been broken off the cars coming in contact with the paving.

Ossington Ave., from Queen to College Sts., length 3,691 ft. Double track, laid in 1893. Intersection at Queen St., much worn. The section between King and Dundas Sts., is laid with 669 lb. grooved section, Dick, Kerr & Co., rails, on ties with concrete between. The whole street is paved with bricks, which are very dilapidated between the rails. The rails are all worn away and spit, the grooves tearing off in long shreds. I understand that repairs have been made recently, but, in my opinion, they are useless. This section can only be made good by entirely new track. The special work at Dundas St. is badly worn.

From Dundas St. to College St. the rails are 73 lb. grooved section, laid on a concrete slab, with brick paving between the rails. The repair gang was working here trying to shim up the joints and putting in new tie rods in places. The slab is, I understand, broken away and sunk. The rails here are the best I have seen, and some are still in a serviceable state, but of course, could not be laid down again on a new base. The paving is badly worn, but, with the unsound condition of the slab, it would be no use renewing it, unless the track is relaid with new rails on a solid base. The intersection at College St. is good and sound.

Bathurst Street, from Queen St. to King St., length 1,036 ft. Double track laid in 1893, with 73 lb. grooved section Dick, Kerr & Co rails. The crossing at Queen St. requires refixing, but is still good for use. The tracks are on ties, with concrete between. The paving is of brick between the rails, and is in a bad state of repair. Rails are completely worn out and are beyond repair. The intersections at Adelaide and King Sts. are good.

While passing along Bathurst St. to go to this section, I examined the track from Bloor St. to Dundas St. It was laid at the same time, with the same section of rail. The paving is of brick, which is in very bad repair. The rails are quite worn out and no amount of repairs will do any good. This section was not mentioned on the list for examination in your letter, but I feel it my duty to report what I saw. Its length is 4,730 ft.

Lansdowne Ave., from Dundas St. to College St., length 215 ft. Double track laid in 1893, with 69 lb. grooved Dick Kerr & Co. rails, laid on ties, with concrete between. Brick paving between rails badly worn. The rails are practically worn out and the whole need renewing. The intersection at College St. is good, but that at Dundas St. will have to be taken out and a new one put in.

Dundas St., to Howard Park Ave. to Ritchie St., length, 586 ft. Double track laid in 1893 on ties with concrete between. Brick paving between rails, and in better condition than I have seen on the other streets, but will have to be renewed if new tracks are laid. The rails are 69 lb. grooved Dick Kerr & Co., section, and are worn out. The intersection at Howard Park Ave. needs renewing.

All lengths giving are street measurements which will have to be multiplied by four to get the rail length required.

I also went over some of the sections I reported on last year, and see no reason to change the opinion I then formed, except that I would urge the renewal of the same as speedily as possible, and in this I would include the additional sections mentioned in this report. In fact, I do not understand how the cars keep on the rails on most of them, the latter being so completely worn out, and I am afraid if this condition continues much longer, there may be bad derailments.

I understand that tenders are being called for for the reconstruction of the Broadview Ave. line from Danforth Ave| to Queen St., all of which is in a very bad condition.

I looked over the rails the company has in hand in its yard and found that the total quantity was 28,285 lin. ft., made up as follows: 524, 90 lb. grooved rails, each 62 ft. long, equals 28,024 ft.; 2 90 lb. grooved rails, 59 ft.; 2 90 lb. rails, 58 ft.; 2 90 lb. rails, 56 ft.; 2 90 lb. lb. rails, 46 ft.; 2 90 lb. rails, 42 ft.; equals 261 lin. ft.; making a total of 28,024, plus 261, equals 28,285 lin. ft., or 37 tons.

Taking the length of street inspected by me, I make the street measurements 797, plus 645, plus 3,691, plus 1,036, plus 215, plus 586, equals 6,970 lin. ft. total, which, multiplied by 4, give 27,880 lin. ft. of rail, or 373 tons. If Bathurst St., between Bloor St. and Dundas St. is added, it would be 27,880, plus 4,730 ft., multiplied by 4, equal to 46,880 lin. ft. of rail, or 627 tons.

In addition to these, there are the streets mentioned in my last year's report, which, excluding the Spadina Ave. section already renewed, is made up of the following streets: Ossington Ave., from Queen to Dundas, 1,850 ft.; Carlton St., between Sherbourne and Parliament, 1,205 ft.; Parliament St., from Gerrard to Queen, 2,197 ft.; Broadview, from Gerrard to Queen, 2,265 ft.; Gerrard St., from Broadview and Carlaw, 2,587 ft. Total, 10,104 ft. This multiplied by 4, equals 40,416 lin. ft. of rail, which, multiplied by 30 lb. equals 541 tons required. If the whole of Broadview Ave. is to be done, for which I believe tenders are being asked, the street measurement will be increased by 2,871 lin. ft., equal to 11,484 ft. of rails, or 154 tons.

The total quantity of rails required to complete all the streets mentioned in my report of June 12, 1918, and this report will be 373, plus 541, equal to 914 tons, not counting the addition to Broadview Ave., which will make 154 tons more, or a total of 1,068 tons. Bathurst St., between Bloor and Dundas, is not included in this total, as it was not on the list of streets to be inspected. It would add another 255 tons.

Waterloo-Wellington Railway Offered for Sale.

Canadian Railway and Marine World for August contained an article under the above heading, in which there were two typographical errors, one in the first paragraph, where some lines of type were accidently dropped and the other in the second paragraph, where the omission of a decimal point, gave the length of the line as 35 miles instead of 3.5 miles. The article should have read as follows:

A press report states that the electric railway owned by the Berlin and Bridgeport Electric St. Ry., the title of which was changed in 1912 to the Berlin and Northern Ry., and which was further changed at the Ontario Legislature's last session to the Waterloo-Wellington Ry., has been offered to the City of Kitchener, Ont., which already owns the street railway in the city. The line extends from Kitchener to Bridgeport, and the act above referred to authorizes the company to extend its line from Bridgeport to Elora and Fergus. The present franchise has three years to run. W. H. Breithaupt, Kitchener, Ont., is President.

We were officially advised that the proposal was being considered by the Kitchener Light Commissioners who have charge of the city's street railway department. Under the terms of the franchise the city has the option of taking over the railway in 1922, but W. H. Breithaupt is willing to sell the line, plant, etc., at once. The property consists of 3.5 miles of line, with a park and casino at Bridgeport; 1 double truck car and 2 single truck cars. Power is supplied from the Kitchener and Waterloo St. Ry.'s plant.

We have since been advised that the Kitchener Light Commissioners, to whom the offer was referred, have reported that it would be inadvisable for the city to buy the line until the expiration of the franchise on April 11, 1922, as there is a difference of approximately $40,000 between the commissioners' estimate of the value of the road and the price asked by the company.

After the presentation of the report referred to, W. H. Breithaupt, President, Waterloo-Wellington Ry., made a new proposition to the City of Kitchener, viz.: that the city lease the line for a year at the rate of 12½% of the gross receipts.

The Hydro Electric Power Commission of Ontario will, it is announced, erect an exhibit building on the National Exhibition grounds at Toronto, in time for next year's exhibition.

Electric Railway Finance, Meetings, Etc.

British Columbia Electric Ry. and Allied Companies:

	July, 1919	July, 1918
Gross	$642,090	$413,968
Expenses	492,981	394,803
Net	149,109	19,165

Edmonton Radial Ry.—The Edmonton, Alta., City Comptroller reports that for July the public utilities operated by the city had a surplus, inclusive of capital and depreciation charges, of $13,854.33, against a deficit of $1,993.52 for July, 1918. The gross earnings of the public utilities for the seven months ended July 31 were, $1,148,314.40; operation and maintenance expenses, $618,526.92; net earnings, $529,787.48, against $468,-426.84, for corresponding period of 1918. The capital and depreciation charges, and the deficit on the Edmonton Radial Ry. were $383,279.99, leaving a net surplus of $85,146,85. The figures for the E.R.R. are not given separately, but the report concludes:—"For the first occasion within several years, there is a net surplus of $2,218.67 for July, in the operation of the street railway department, after providing for capital and depreciation charges, against a net deficit for the same month last year of $7,-514.98."

The Montreal Tramways Co's annual meeting called for Aug. 27 was adjourned until Sept. 25, after a resolution had been adopted, changing the date from August to September for the future.

Regina Municipal Ry.—The City Auditor's report on Regina, Sask., finances for the seven months ended July 31, shows that the deficit on the operation of the Regina Municipal Ry. was $22,-217.39, and an estimated deficit for the 12 months to Dec. 31, of $27,911.

Regina Municipal Ry.—A press report states that the deficit increased from $22,217 on July 31 to $23,848 on Aug. 31.

St. Thomas Municipal Ry.—A press report states that the deficit in operation for July was $1,000.

Toronto & York Radial Ry. and Allied Companies:

	July, 1919	July, 1918	7 mons. to July 31, 1919	7 mons. to July 31, 1918
Gross	$997,262	$1,049,936	$7,110,558	$7,406,105
Expenses	695,027	589,964	4,338,323	4,045,377
Net	282,235	459,972	2,772,235	3,360,728

Toronto Railway:

	Aug., 1919	Aug., 1918	8 mons. to Aug. 31, 1919	8 mons. to Aug. 31, 1918
Gross earnings	$629,540	$551,709	$4,565,553	$4,369,545
City percentage	125,908	111,142	871,073	832,606

Windsor, Essex and Lake Shore Rapid Ry.—For the annual meeting of shareholders called to be held at Windsor, Ont., Sept. 22, the following business was on the agenda;—The consideraton and confirmation of the report of the directors with the accompanying financial statements and the confirmation of the adjustments of certain of the assets and the adjustment and settlement of certain of the company's liabilities and other financial arrangements recommended by the directors, confirmation of bylaws amending the present general and special bylaws and [illegible]ng the duties of the officers of the company and reducing the number of directors to five and fixing their remuneration, and the election of directors and auditors of the company and such other business as may lawfully be transacted by the annual general meeting or a special general meeting of shareholders.

The Windsor, Essex & Lake Shore Rapid Ry. Co.'s annual meeting was held at Windsor, Ont., Sept. 22, among other business transacted being the completion of arrangements for refinancing, which will provide funds for betterments and other requirements. The following are the directors and and officers for the current year: President, G. R. Cottrelle, Secretary, Board of Management, I.O.F., Toronto; Vice President and General Manager, A. Eastman, Kingsville, Ont.; Secretary Treasurer, W. R. Phillimore, Chatham, Ont., J. W. McColl, Toronto, and T. P. Pinkard, Windsor, Ont.

Winnipeg Electric Ry.—A recent press dispatch stated that the Winnipeg Electric Ry. had been given one week by the city to make some statement regarding what it intended doing in connection with overdue taxes, aggregating $400,000, and that if a satisfactory agreement was not made at the expiration of the week the city would enforce payment by seisure of the company's property. The company states that the city overcharged it $300,000 for pavements, and has suggested that it be reliever of pavement charges, as they necessitate higher fares.

Winnipeg Electric Ry. and Allied Companies:

	July, 1919	July, 1918	7 mons. to July 31, 1919	7 mons. to July 31, 1918
Gross	$337,978	$288,155	$2,212,618	$2,099,493
Expenses	283,014	218,454	1,741,501	1,603,747
Net	154,964	69,701	471,117	495,746

There was a net deficit after allowing for fixed charges for July, of $9,732.95.

Montreal Tramways Co's Annual Report, Etc.

The following report for the year ended June 30, was presented at the adjourned annual meeting, Sept. 25:

Your directors, in submitting their eighth annual report, wish to point out that for the first period of operations, being from Feb. 10, 1918, to June 30, 1919, the revenue has not been sufficient to meet the requirements under the new contract, the shortage being $1,364,-111.74, of which amount $692,694,05 is payable to the City of Montreal, when received. As the amounts to be received by the company from revenue for account of the City of Montreal of $692,-604,05, and for the contingent reserve fund of $115,722.10, are only to be paid when receiver, these amounts have not been brought into the statement of assets and liabilities, but are shown on statement of operations under new contract. The gross income accruing to your company from all sources from the year was $2,303,783.50, and the expenses, $1,800,537.25, leaving a balance carried to the credit of the general surplus account of $503,246,25, which, added to $536,571.61 at the credit of this account last year, after sundry deductions, makes a total of $1,039,817.86.

Under the authority of a resolution of the shareholders, adopted Sept. 30, 1919, your directors during the year authorized an issue of $4,000,000.00 of 5% debenture stock, to be disposed of from time to time as required. Of this amount, $1,000,000.00 was sold during the year.

The board regrets that the increase in the rates of fares during the past year did not provide sufficient revenue to meet the whole of the company's interest allowances, and in consequence the regular quarterly dividends on the common stock for the year were deferred.

In January last the employes made a general demand for an increase in wages to start from Feb. 1, but in view of the conditions of the franchise, under which the necessary allowances for expenditures are provided for yearly, this could not be entertained. Upon the demand of the employes a board of conciliation, as provided under the Industrial Disputes Act, 1907, was authorized. The board, after consideration, authorized a general increase in wages to all employes, effective from July 1, 1919, amounting approximately to $1,000,000.

The Tramways Commission, after due consideration of the operations of the past year, and after taking into consideration the requirements for the forthcoming year, rendered its decision on Aug. 29, granting a further increase in the rates of fares, which decision has been appealed from to the Quebec Public Utilities Commission by the City of Montreal and some of the other municipalities, and this company.

During the year F. H. Wilson tendered his resignation as Vice President and director. The board desires to place on record its appreciation of the very valuable services rendered by him to the company. Lorne C. Webster was elected a director to fill the vacancy caused by F. H. Wilson's resignation.

Your directors desire to place on record their appreciation of the valuable and faithful services rendered by the officers and employes.

Statement of Operations Under New Contract, Feb. 10, 1918, to June 30, 1919.

Gross earnings		$11,572,210.48
Operating expenses and taxes	$6,640,715.22	
Operating profit	45,927.82	
Maintenance and renewals	2,098,120.81	
Total		8,784,763.85
Balance		$2,787,446.63
Allowances due company:		
6% on capital value	$3,019,224.42	
6% on worknig capital	40,645.44	
7% on addition to capital	32,919.35	
Expenses of financing	251,353.01	
Total		3,343,142.22
Balance dr.		$ 555,695.59
Payable when earned:—		
City of Montreal rental	$ 692,694.05	
Contingent reserve	115,722.10	
Total		808,416.15
Balance dr.		$1,364,111.74

During the 16 2-3 months covered by the report, $980,801.58 was spent on new construction.

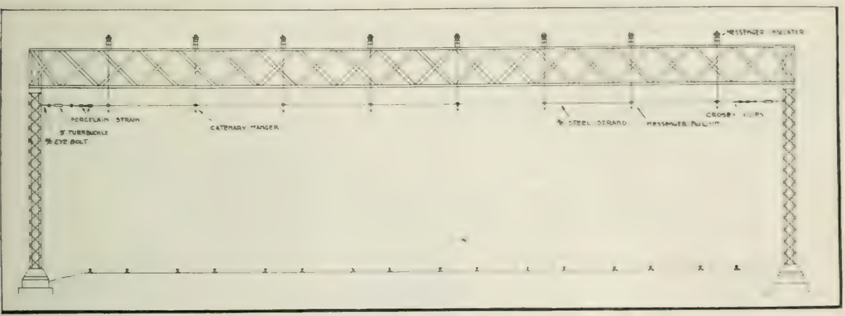
Proposed Purchase of London Street Railway—A special meeting of the London, Ont., City Council's committee in charge of street railway matters, was called to be held at the end of September to discuss the terms upon which the city would be willing to take over the line. Some time ago the company offered to sell its stock in the company at $50 per $40 share, and this was followed by some negotiations between the mayor and the company's President. The committee desires that progress be made in the matter so that a bylaw may be voted upon at the elections in Jan., 1920. Under the terms of the franchise the city can take over the line at any time upon terms fixed by arbitration. The mayor is opposed to arbitration and desires to have a price fixed by agreement.

Marine Department

Montreal Harbor Commissioners' Terminal Railway Electrification.

The Montreal Harbor Commissioners have taken the first step toward the electrification of their 55.35 miles of steam operated lines along the waterfront. The first portion of the lines to be electrified will be those north of Beaudry St., extending to the Canada Cement Co.'s works, comprising the equivalent of about 20 miles of single track. The intention is to electrify the whole of the harbor railway terminals, but at present only the electrification of the high level part and a portion of the lower level will be done. It is said that this will be the first harbor in the world to be electrified.

The overhead construction will be of the cross-span cantenary type, with wooden poles spaced 150 ft. on tangent track, using one 0000 grooved copper trolley wire, located in the center of each track 20 ft. above the head of the rails. All the rails will be bonded with 0000 bonds.



Elevation of Steel Bridge Construction, Montreal Harbor Commissioners' Terminal Railway Electrification.

The substation will be on the commissioners' property at the foot of Beaudry St., and in addition to the apparatus for the electric railway operation, will contain the compressor sets for the cold storage building, which is now being built by the commissioners.

The extension of the overhead construction which will later on be carried out over the lines south of Beaudry St., will utilize steel bridges for spanning the tracks and supporting catenary construction. The general design of these steel bridges will be as shown in the accompanying plan, and their location along the water front, with reference to the main piers, will also be as indicated in the plan. The same height of trolley wire above the head of the rail will be maintained as in the present construction, namely, 20 ft.

Motor Generator Unit—The first installation for the railway service will consist of 1 1000 k.w. motor generator set, with provision for a second duplicate set. This motor generator set will conform to the following specifications: The substation equipment is laid out on the basis of the present installation of 1 1000 k.w. motor generator set for the supply of energy of 2,400 volts d.c., with provision, in the switchboard, of blank panels, for the future installation of a second set of the same capacity. This 1000 k.w. set is specially designed for very heavy over-load capacity, for a short period, to meet railway operating conditions, and must be capable of carrying 250% load for 5 minutes. The set is to consist of a 3 phase, 60 cycle, 5 unit, 6 bearing synchronous motor generator set, rated as follows, to operate on 62½ cycles:

1—1,450 h.p. 2,300 volt, 3 phase, 60 cycles, 720 r.p.m., self starting synchronous motor.
2—500 k.w. 1,200 volt, 720 r.p.m. compound wound, commutating pole d.c. generators.
1—Exciter, shunt wound, 20 k.w., 125 volts, 720 r.p.m., for the excitation of the synchronous motor.
1—Exciter, 15 k.w., 125 volts, 720 r.p.m. for the excitation of the generator fields.

The above set, consisting of 2 500 k.w. compound wound, commutating pole generators wound for 1,200 volts, insulated for 2,400 volts, will be direct connected to the synchronous motor.

Base, Bearings and Shaft—The direct current generators, the synchronous motor will be mounted on a common cast iron base, which will carry the standards and self aligning, self oiling bearings, each machine having its own shaft.

Generator Field—The pole pieces, both main and commutating, will be of laminated steel, and bolted to a cast steel magnet frame. All the field windings will be wound on insulated spools, copper strip will be used in the series and commutating field construction. The pole face winding, series and commutating field windings, will all be connected on the ground side of these machines, so that the armatures will be the only portion of the direct current generators subjected to the full line potential of 2,400 volts. The shunt field of the direct current generators, and the synchronous motor field will be arranged for 125 volt excitation. This set will be equipped with a voltage limiting device to deenergize the separately excited generator fields whenever the circuit breaker is opened.

Pole Face Winding—The heavy overload capacity of this machine will be obtained by the use of a compensating, or pole face winding; this winding to be so connected as to directly oppose the armature reaction, thus ensuring satisfactory operation under any of the specified loads, or over-loads, without necessitating a machine that is normally underrated.

Motor Field—The field spider of the revolving motor field will have ample strength to resist any stresses to which it may be subjected under normal operating conditions. The field poles will be built up of steel laminations, securely fastened to the spider, while the field coils will consist of copper strip, wound on edge, and clamped firmly between the pole tip and field spider.

The Generator Armature will be of the drum type, the core being constructed of thin laminated steel, with large radial air ducts for ventilation, and mounted on a cast iron spider. Cast iron flanges will be used to hold the core together, and support the end windings. The armature windings will be made up of thin strip copper, varnished and insulated with mica and asbestos.

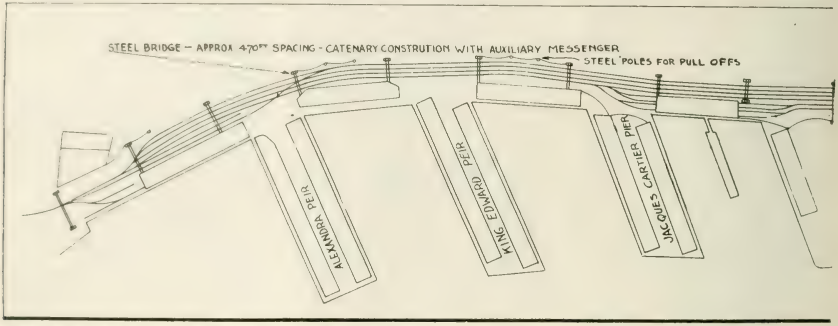
Motor Armature — The stationary armature frame will be provided with ventilating openings, so as to allow a free circulation of air through the ducts in the laminated core, and the ends of the windings. The core to be built up of the best grade of thin sheet iron, and provided with slots on the inner circumference, to receive the windings, and with dovetails on the outer circumference, by which the laminations are to be attached to the frame. The windings will be form wound and placed in open slots. The insulation will be of high dielectric strength, and of such a quality that no appreciable deterioration will take place when subjected to normal temperatures.

The Commutator will be built up of hard drawn segments of copper insulated throughout with mica, and held by iron clamping rings mounted on a cast iron shell. The armature spider and commutator will be keyed to the shaft, so that no movement between the two can take place.

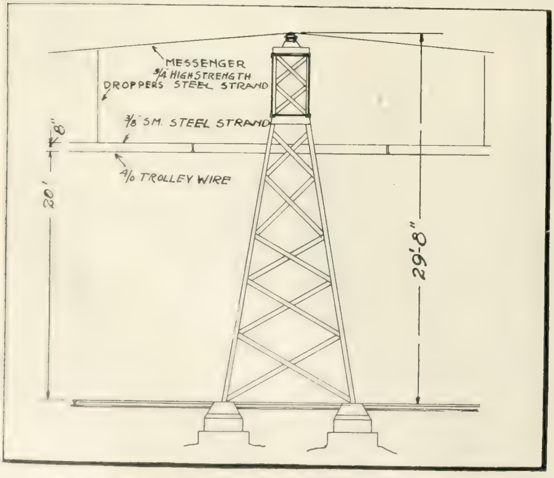
Brush Mechanism—Carbon brushes are to be used for the generators, being carried in individual adjustable holders, bolted to cast iron brackets, or arms.

The arms will be bolted to a heavy iron ring, or yoke, which, will be in place by special supports from the base, or frame.

High Speed Circuit Breaker—A special feature in connection with the installation of the motor generator set will be the use of a high speed circuit breaker. The function of this breaker, in conjunction with flash barriers installed on the commutators of the generators, being to prevent flashovers, in the event of a severe short circuit occurring outside the station from any cause. This high speed circuit breaker has been specially developed in connection with electric railway operation, and has already secured remarkable protective results when used for this work.


STEEL BRIDGE – APPROX 470FT SPACING – CATENARY CONSTRUTION WITH AUXILIARY MESSENGER
STEEL POLES FOR PULL OFFS
ALEXANDRA PEIR
KING EDWARD PEIR
JACQUES CARTIER PIER

Plan View of Steel Bridge Construction, and portion of Wooden Pole Cross Span Catenary Construction, Montreal Harbor Commissioners' Terminal Railway Electrification. See also opposite page.



Side View of Steel Bridge Construction, Montreal Harbor Commissioners' Terminal Railway Electrification.

The Switchboard will consist of 21 panels of blue Vermont marble, made up as follows:

1—charging generator set panel
1—blank distribution lighting panel
2—distribution lighting panels
1—single phase station lighting service panel
1—single phase incoming line panel
1—blank station power panel
1—3 phase station power service panel
1—3 phase recording panel
1—3 phase incoming line station power panel
1—3 phase incoming line panel
1—synchronous motor panel
1—blank synchronous motor panel
1—d.c. exciter for d.c. generator panel
1—blank d.c. exciter for d.c. generator panel
1—Tirrill regulator panel
1—d.c. generator panel
1—blank d.c. generator panel
3—d.c. feeder panels.

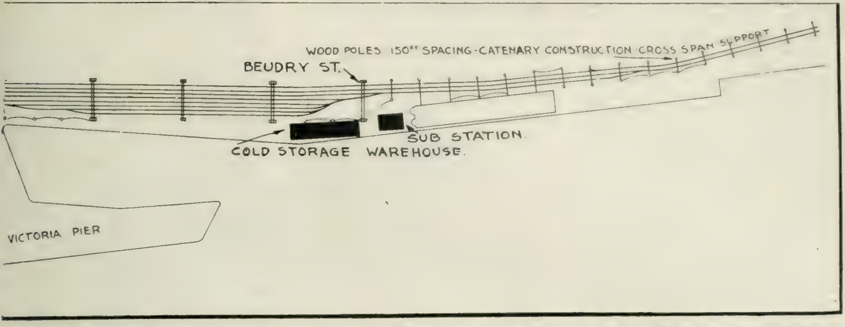
The switchboard will control:

2—3 phase, 2,300 volts, 650 amps. 63 cycles, incoming lines
1—motor generator set, consisting of one 3 phase, 2,300 volts, 1,150 k.v.a., 60 cycle synchronous motor.
2—500 k.w. 1,200 volt, d.c. generator (permanently connected in series)
1—20 k.w. 125 volt exciter (for synchronous motor)
1—15 k.w. 125 volt exciter (for d.c. generator)
1—motor generator set as above (future)
3—1,200 ampere, 2,400 volts, d.c. feeders.
1—3 phase, 2,300 volts, 73 amp., 63 cycles incoming line.
3—single phase, 2,200-1,100, 550-275 volt, 50 k.v.a., 60 cycles station power transformers.
1—single phase, 2,300 volts, 75 amps., 63 cycles incoming line
3—single phase, 2,200-1,100, 220-110 volt, 50 k.v.a., 60 cycles station lighting transformers
1—3 phase, 550 volts, 150 amperes, station power circuits
24—single phase, 110 volts, 60 amperes station lighting circuits
1—110 volts, a.c., d.c., emergency lighting feeder for station
1—motor generator set for charging batteries, consisting of: 1 3 phase, 60 cycle, 550 volt, 15 h.p., induction motor; 1 10 k.w., 125 volt, d.c. generator, compound wound
1—storage battery, consisting of 65 type E-11 E.s.b. cells, 200 ampere hours
6—125 volt 50 ampere control circuits.

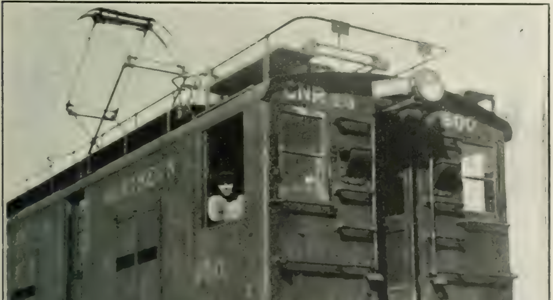
There will also be a storage battery of 240 ampere hours capacity for oil switch operation and emergency lighting, with a 10 k.w. motor generator set for charging the storage battery.

Locomotives—In order to initiate electric operation, the commissioners have leased from the Canadian National Rys. 2 of the 83 ton, 2,400 volt d.c. locomotives at present operating in the Mount Royal tunnel zone. The general features of these locomotives are as follows: The weight of the complete locomotive is 83 tons. The locomotive has 4 axles, with all of the weight of the locomotive upon the 8 driving wheels, thus securing the maximum adhesive weight on drivers. The running gear consists of two 4 wheel trucks, articulated together by a heavy hinge. The equalization of the trucks is accomplished by a heavy, locomotive type, semi-elliptic leaf spring, over each journal box, connected through spring hangers to the frame and to the equalizer bars. Practically a 3 point suspension is thus supplied through the side equalization of one of the trucks, and both cross and side aqualization of the other truck. With the friction draft gear mounted in the end frame casting of this truck, this type of construction restricts the hauling and buffing stresses to the truck side frame and articulated joint, instead of through the cab center plate.

Both the box cab and platform are built of plates, sheets, angles and heavy channels and are thoroughly reinforced throughout. The box cab is divided into 3 compartments; the apparatus compartment in the center and the 2 operator's compartments at the ends. Each operator's compartment has a full complement of apparatus, consisting of controller, control switches, meter, air brake control apparatus, air gauges, pantograph control and heaters, thus providing the locomotive with a complete double end control. All apparatus subject to 2,400 volt potential is located in the center apparatus compartment and properly screened to protect against accidental contact. The location and general arrangement of this apparatus is such as to provide easy access from all sides, for inspection, cleaning and repairs.


WOOD POLES 150FT SPACING-CATENARY CONSTRUCTION-CROSS SPAN SUPPORT
BEUDRY ST.
SUB STATION.
COLD STORAGE WAREHOUSE.
VICTORIA PIER

Plan View of Steel Bridge Construction, and portion of Wooden Pole Cross Span Catenary Construction, Montreal Harbor Commissioners' Terminal Railway Electrification. See also opposite page.



Electric Locomotive, Canadian National Railways.
Two of these locomotives have been leased by the Canadian National Rys. to the Montreal Harbor Commissioners, to be used in connection with the terminal railway electrification. A number of similar locomotives will probably be ordered by the commissioners in the near future.

The Sprague-General Electric type M multiple unit double end control equipment is used on these locomotives, all the control points being proportioned and adjusted so as to secure a smooth and even acceleration, at all times, corresponding to a current consumption near the slipping point of the wheels. The transition between series and series parallel is effected by a special electro pneumatically operated change over switch and the motor fields are always on the ground side of the armature. A motor generator set supplies 125 volt energy for the operation of the control, and a 2,400 volt air compressor of 100 cubic feet free air piston displacement is provided as part of the air brake equipment. Two air operated slider pantographs are located upon the roof.

The motor equipment consists of 4 CGE-229 commutating pole type motors, wound for 1,200 volts, and insulated for 2,400 volts, so that two may be connected permanently in series and operated on a 2,400 volt circuit. These motors are geared to the wheels through twin gears, there being one pinion on each end of are armature shaft. The CGE-229 motor is especially designed for locomotive service and is provided with forced ventilation by a blower located in the apparatus compartment. The locomotives are geared for a free running speed on tangent, level track of approximately 30 miles an hour (locomotive by itself without trailing load) and are operated by 2 speed machines with 10 points in series and 9 points series parallel.

The air brake equipment is the straight air and automatic type, so as to combine the desirable features for train operation through an equalizing reservoir and the independent operation of the brakes upon the locomotive. Provision is made for the multiple operation of the compressors upon all locomotives when operating in multiple, so as to distribute the duty upon all the compressors in the train. Each locomotive is provided with 2 2,400 volt electric heaters, one for each of the operating compartments.

The Harbor Commissioners will probably require 5 or 6 electric locomotives, which it is expected will be similar to the Canadian National Rys. ones described above, but they will probably have a higher gear ratio, to reduce speed and give greater tractive effort with corresponding current input.

The commissioners applied recently to the Board of Railway Commissioners for authority to carry a railway track along a portion of Common St. and to connect its tracks with the G.T.R. tracks on Common St., also for authority to cross the Canadian National Rys. tracks in order to reach the Canada Cement Co.'s yard at Pointe Aux Trembles, and the Imperial Oil Ltd. refinery.

The Canadian General Electric Co. has the contract for supplying the complete substation equipment and a portion of the overhead line material, and built the electric locomotives which will commence the service under electrical operation. The electrification work will be done by the commissioners' own forces.

Canadian Government Merchant Marine, Ltd., Shipbuilding, Operation, Etc.

Orders for Steamships—As stated in Canadian Railway and Marine World for August, the Minister of Marine had decided to give orders for 2 more steel cargo steamships to the Collingwood Shipbuilding Co., and negotiations were in progress with other builders. Following is the official information which is now available as to orders placed:

Marine Department contracts 46 and 47; dated Sept. 11, 1919; 2 steel cargo steamships; builder, Collingwood Shipbuilding Co., Collingwod, Ont.; builder's yard nos. 65 and 66; approximately 3,950 d.w. long tons each; price per d.w. ton, $180; type, lake, single deck, poop, bridge and forecastle; classification, Lloyd's, 100 A1; speed, 11 knots trial; approximate delivery dates, June 1 and 15, 1920.

Marine Department contracts 48 and 49; dated Sept. 2, 1919; 2 steel cargo steamships; builder, Dominion Shipbuilding Co., Toronto; builder's yard nos. 10 and 11; approximately 3,500 d.w. long tons each; price, per d.w. long ton, $180; type, lake, single deck, poop, bridge and forecastle; classification, Lloyd's, 100 A1; speed, 11 knots trial; approximate deliverly dates, May and June, 1920. The company has entered into a subsidiary contract with the department to install twin decks in each ship. The keels will probably be laid early in October.

Canadian Vickers Ltd., Montreal, are reported to have offered the Marine Department to build 4 more steel cargo steamships of approximately 8,400 d.w. tons each, at about $170 a ton, as against $188 for the contracts placed previously for very similar ships. It is said that British quotations are now only very slightly lower, viz.: about $166 a ton. We were advised, Sept. 23, that contracts were being arranged for 4 steamships, but had not been signed.

Negotiations are also said to be in progress with the Midland Shipbuilding Co., Midland, Ont.

Keels Laid—Since Canadian Railway and Marine World for September was published, we have been advised of the laying of the following keels:

Marine Department contract 30; builder's yard no. 2; approximately 8,100 tons d.w., Harbour Marine Co., Victoria, B.C., Aug. 9.

Marine Department contract 32; builder's yard no. 43; approximately 4,300 tons d.w., Port Arthur Shipbuilding Co., Port Arthur, Ont., Aug. 29.

Marine Department contract 33; builder's yard no. 44; approximately 4,300 tons d.w., Port Arthur Shipbuilding Co., Port Arthur, Ont., Aug. 29.

S.S. Canadian Fisher; Marine Department contract 15; builder's yard no. 7; approximately 5,100 d.w. long tons; Tidewater Shipbuilders Ltd., Three Rivers, Que., Sept. 20.

Launchings of Steamships—Since Canadian Railway and Marine World for September was published we have been advised of the following launching:

S.S. Canadian Adventurer; Marine Department contract 19a; builder's yard no. 41; approximately 3,400 tons d.w., Port Arthur Shipbuilding Co., Port Arthur, Ont., Sept. 8.

S.S. Canadian Settler; Marine Department contract 13; builder's yard no. 5; approximately 5,100 d.w. long tons, Tidewater Shipbuilders Ltd., Three Rivers, Que., Sept. 20.

Names of Steamships—We were officially advised Sept. 5, that no additional names for steamships had been decided on by the Marine Department, since those published in Canadian Railway and Marine World for September.

Officers of Steamships—Following is a list of captains and chief engineers of steamships appointed by Canadian Government Merchant Marine Ltd., in addition to those mentioned in Canadian Railway and Marine World for September. The first column contains the name of the vessel, the second that of the captain and the third that of the chief engineer:

Canadian Settler	M. Robertson	S. Evans
Canadian Spinner	J. Reitch	J. R. Pringle
Canadian Trooper	R. J. Fisher	F. W. Wilson

Delivery of Steamships—In addition to the steamships mentioned in Canadian Railway and Marine World for September, the following has been delivered to the Marine Department, and was transferred to Canadian Government Merchant Marine Ltd., for operation, on the date mentioned.

Aug. 30, s.s. Canadian Signaller, approximately 3,750 tons d.w., Collingwood Shipbuilding Co., Collingwood, Ont. This ship sailed from Montreal, Sept. 15 with a general cargo for London, Eng.

Canadian Voyageur put in at Halifax, N.S., Sept. 14, on account of her high pressure cylinder cover having been blown off while at sea. An emergency cover was made at sea and the damage was permanently repaired at Halifax.

Sailing of Steamships—Canadian Government Merchant Marine Ltd., has established regular freight services to Liverpool, Eng., from Montreal, Halifax, N.S., and St. John, N.B.; to London, Eng., from Montreal and Halifax, N.S.; to Glasgow, Scotland, from Halifax, N.S.; to Avonmouth, Eng., from St. John, N.B.; to Buenos Aires, from Montreal and Halifax, N.S.; to Australia, from Vancouver, B.C.; to St. John's, Newfoundland, from Montreal, to Havana, Cuba; from Montreal and Halifax, N.S.; to Barbadoes, Trinidad, and Kingston, Jamaica, from Montreal; to Barbadoes, Trinidad and Demerera, from Montreal and Halifax, N.S.; to Kingston, Jamaica, and Havana, Cuba, from Montreal and St. John, N.B.; and sailings have been announced as follows, the dates given being "on or about" and subject to change without notice:

Liverpool Service, From Montreal.

Canadian Miller	8100 tons	Sept. 25, 1919
Canadian Ranger	8100 "	Sept. 28, 1919
Canadian Seigneur	8100 "	Oct. 10, 1919
Canadian Navigator	4300 "	Oct. 20, 1919
Canadian Trooper	4300 "	Oct. 25, 1919
Canadian Miller	8100 "	Nov. 12, 1919
Canadian Ranger	8100 "	Nov. 15, 1919
Canadian Spinner	8100 "	Nov. 24, 1919

Liverpool Service, From Halifax, N.S.

Canadian Seigneur	8100 tons	Nov. 28, 1919
Canadian Rancher	5100 "	Dec. 4, 1919
Canadian Miller	8100 "	Dec. 29, 1919
Canadian Ranger	8100 "	Jan. 2, 1920
Canadian Spinner	8100 "	Jan. 10, 1920
Canadian Seigneur	8100 "	Jan. 15, 1920
Canadian Rancher	5100 "	Jan. 22, 1920

Liverpool Service, From St. John, N.B.

Canadian Hunter	5100 tons	Dec. 5, 1919
Canadian Trooper	4300 "	Dec. 10, 1919
Canadian Hunter	5100 "	Jan. 20, 1920
Canadian Trooper	4300 "	Jan. 26, 1920

London Service, From Montreal.

Canadian Voyageur	4300 tons	Nov. 15, 1919
Canadian Volunteer	4300 "	Nov. 21, 1919

London Service, From Halifax, N.S.

Canadian Voyageur	4300 tons	Dec. 31, 1919
Canadian Volunteer	4300 "	Jan. 5, 1920
Canadian Voyageur	4300 "	Feb. 15, 1920

Glasgow Service, From Halifax, N.S.

Canadian Trapper	5100 tons	Nov. 28, 1919
Canadian Navigator	4300 "	Dec. 5, 1919
Canadian Aviator	5100 "	Dec. 30, 1919
Canadian Trapper	5100 "	Jan. 12, 1920
Canadian Aviator	5100 "	Feb. 14, 1920

Avonmouth Service, From St. John, N.B.

Canadian Beaver	3750 tons	Jan. 7, 1920
Canadian Navigator	4300 "	Jan. 15, 1920
Canadian Beaver	3750 "	Feb. 22, 1920

Buenos Aires Service, From Montreal.

Canadian Settler	5100 tons	Oct. 15, 1919
Canadian Planter	8100 "	Nov. 25, 1919

Buenos Aires Service, From Halifax, N.S.

Canadian Pioneer	8100 tons	Dec. 15, 1919
Canadian Settler	5100 "	Jan. 15, 1920
Canadian Planter	8100 "	Feb. 15 1920

Australian Service, From Vancouver, B.C.

Canadian Raider	5100 tons	Nov. 15, 1919

St. John's, Newfoundland, Service, From Montreal.

Canadian Volunteer	4300 tons	Sept. 30, 1919
Canadian Adventurer	3400 "	Oct. 15, 1919
Canadian Adventurer	3400 "	Oct. 29, 1919
Canadian Sower	3400 "	Nov. 1, 1919
Canadian Adventurer	3400 "	Nov. 12, 1919
Canadian Sower	3400 "	Nov. 15, 1919
Canadian Adventurer	3400 "	Nov. 26, 1919

Havana, Cuba, Service, From Montreal.

Canadian Sailor	3400 tons	Oct. 7, 1919

Havana, Cuba, Service, From Halifax, N.S.

Canadian Voyageur	4300 tons	Oct. 7, 1919
Canadian Trader	3400 "	Oct. 26, 1919
Canadian Sailor	3400 "	Nov. 9, 1919
Canadian Trader	3400 "	Nov. 23, 1919
Canadian Sailor	3400 "	Dec. 7, 1919
Canadian Trader	3400 "	Dec. 21, 1919

Barbadoes, Trinidad and Kingston Service, From Montreal.

Canadian Recruit	3750 tons	Sept. 30, 1919

Barbadoes, Trinidad, and Demerera, Service, From Montreal.

Canadian Signaller	3750 tons	Oct. 25, 1919
Canadian Gunner	3750 "	Nov. 12, 1919

Barbadoes, Trinidad, and Demerera, Service, From Halifax, N.S.

Canadian Signaller	3750 tons	Dec. 12, 1919
Canadian Gunner	3750 "	Jan. 10, 1920
Canadian Signaller	3750 "	Jan. 29, 1920
Canadian Gunner	3750 "	Feb. 16, 1920

Kingston, Jamaica and Havana, Cuba, Service, From Montreal.

Canadian Warrior	3750 tons	Oct. 29, 1919
Canadian Recruit	3750 "	Nov. 18, 1919

Kingston, Jamaica, and Havana, Cuba, Service From Montreal.

Canadian Warrior	3750 tons	Dec. 8, 1919
Canadian Recruit	3750 "	Dec. 28, 1919
Canadian Warrior	3750 "	Jan. 12, 1920
Canadian Recruit	3750 "	Jan. 27, 1920

Canadian Vickers Ltd., Montreal, advise us that it is expected to launch 3 steel cargo steamships for the Marine Department as follows:

S.S. Canadian Navigator; Marine Department contract 23; builder's yard no. 73; approximately 4,300 tons d.w., in October.

S.S. Canadian Spinner; Marine Department contract 27; builder's yard no. 71; approximately 8,100 tons d.w., in November.

S.S. Canadian Planter; Marine Department contract 28; builder's yard no. 72; approximately 8,100 tons d.w., in November.

Collingwood Shipbuilding Co., Collingwood, Ont., having completed the s.s. Canadian Signaller; Marine Department contract 11; builder's yard no. 63; approximately 3,750 tons d.w., delivered her to the Marine Department, and she was transferred to Canadian Government Merchant Marine Ltd., Aug. 30, and sailed for Erie, Pa., for a cargo of coal, with which she arrived at Montreal, Sept. 7.

Dominion Shipbuilding Co., Toronto—For particulars of orders for 2 steel cargo steamships see under sidehead, "Orders for Steamships," in an earlier part of this article.

Harbour Marine Co., Victoria, B.C., which has contracts from the Marine Department for 2 steel cargo steamships, approximately 8,100 tons d.w. each, for Canadian Government Merchant Marine Ltd., and which laid the keel for its yard no. 1, July 14, laid the keel for its yard no. 2, Aug. 9.

Nova Scotia Steel and Coal Co., New Glasgow, N.S.—The employes at the company's shipbuilding plant struck work Sept. 5, demanding an 8-hour day, the

Halifax scale of pay, and the recognition of their union. The company has 2 steel steamships of approximately 2,800 d.w. tons capacity each, under construction for Canadian Government Merchant Marine Ltd., the keels of which were laid Mar. 27 and 31, respectively.

Port Arthur Shipbuilding Co., Port Arthur, Ont., laid keels for 2 steel cargo steamships, Marine Department contracts 32 and 33; builder's yard numbers 43 and 44; each approximately 4,300 d.w. tons, Aug. 29.

The company launched the s.s. Canadian Adventurer, Marine Department contract 19a; builder's yard no. 41; approximately 3,400 d.w. tons, Sept. 8, the christening being performed by the Prince of Wales, by request of Mrs. James Whalen, wife of the company's President, who carried the christening bouquet and presented the Prince with the bottle of champagne for the christening. As the Prince pressed the electric button which released the ship and broke the bottle over her stern, he said: "I christen this boat Canadian Adventurer. I wish it and all who may sail it good luck and God speed." The Prince is reported to have stated afterwards that this was the first launching at which he had officiated, and the first side-launching he had ever seen, and to have expressed his pleasure that it had taken place in the very heart of Canada and that the vessel is to be one of the Canadian Government Merchant Marine fleet, to carry Canadian cargoes throughout the world. He was keenly interested in the method of launching, and particularly on learning that by pressing the electric button he would trip the trigger that would release the boat. He complimented the company's General Manager, J. F. Paige, and his organization, on the success of the launching.

The Canadian Adventurer, during the launching, flew the Union Jack at her bow and the Canadian Government Merchant Marine ensign at her stern, the Port Arthur Shipbuilding Co.'s flag being in the center. Code flags, stretched from stem to stern, spelled out the name Canadian Adventurer. The ship is a full canal sized ocean freighter, approximately 3,400 d.w. tons, length over all 260 ft., breadth moulded, 43½ ft.; depth moulded, 23 ft. She is built to British Lloyd's 100 A1 classification, the fitout being in accordance with British Board of Trade rules. The propelling machinery, to develop about 1,500 h.p., will be placed amidships. The 3,400 ton ships are, generally speaking, the same as the 3,750 ton type built for the Marine Department, a full description of which was published in Canadian Railway and Marine World for September, 1918.

The company expects to launch the s.s. Canadian Sower, Marine Department contract 20a; builder's yard no. 42; approximately 3,400 d.w. tons, about the end of September or early in October.

Tidewater Shipbuilders Ltd., Three Rivers, Que., launched the steel cargo steamship Canadian Settler; Marine Department contract 13; builder's yard no. 5; approximately 5,100 d.w. long tons; Sept. 20; and immediately afterwards laid the keel for the s.s. Canadian Fisher; Marine Department contract 15; builder's yard no. 7; approximately 5,100 d.w. long tons.

The company expects to launch the s.s. Canadian Ranger, Marine Department contract 14; builder's yard no. 6; about Oct. 10; immediately after which it will lay the keel for the s.s. Canadian Forester, Marine Department contract 16; builder's yard no. 8; approximately 5,100 d.w. long tons.

Wallace Shipyards Ltd., North Vancouver, B.C., delivered the s.s. Canadian Trooper, approximately 4,300 tons d.w., to the Marine Department on Aug. 26.

Details of the Different Types of Steamships for Canadian Government Merchant Marine Ltd.

The following are comparative details of the seven different types of steamships being built for Canadian Government Merchant Marine Ltd.:

	2,800 ton.	3,400 ton.	3,750 ton.	4,300 ton.	5,100 ton.	8,100 ton.	10,500 ton
Length, overall	280 ft.	260 ft.	260½ ft.	333 ft. 7 ins.	344 ft.	413 ft. 1 in.	445 ft.
Length, bet. perpendiculars	270 ft.	251 ft.	251 ft.	320 ft.	331 ft.	400 ft.	430 ft.
Breadth, moulded	38 ft.	43½ ft.	43½ ft.	44 ft.	46½ ft.	52 ft.	56 ft.
Depth, moulded	20½ ft.	23 ft.	26 ft.	25 ft.	25½ ft.	31 ft.	38 ft.
Draft, loaded	17¾ ft.	20 ft.	22 ft. 2 in.	21 ft. 2 ins.	21 ft. 8 ins.	25 ft. 1 in.	29 ft.
Type	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	Lake, s.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	2d., p.b. & f'c's'le	3d., p. & f'c's'le
Engines—Type	Tri-compound	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion
Cylinders, diam.	17½ x 28¾ x 47 ins.	20½ x 34 x 56 ins.	18 x 30 x 50 ins.	25 x 41 x 67 ins.	25 x 41 x 68 ins.	27 x 44 x 73 ins.	29½ x 50 x 80 ins.
Stroke	33 ins.	40 ins.	36 ins.	45 ins.	45 ins.	48 ins.	54 ins.
Ind. h.p.	875	1,300	1,200	1,800	2,500	3,000	4,000
Boilers—Type	Single ended	Single ended	Single ended	Single ended	Single ended	Single ended.	Single ended
No.	2	2	2	2	3	3	4
Diam. and length	12¾ x 10¾ ft.	15 x 11 ft.	14 x 10¾ ft.	15½ x 11½ ft.	14 x 11½ ft.	15½ x 11½ ft.	15½ x 11¾ ft.
Working pressure	185 lbs.	190 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.
Furnaces—No.	2	6	6	6	9	9	12
Grate surface	80 sq. ft.	135 sq. ft.	100 sq. ft.	132 sq. ft.	156 sq. ft.	198 sq. ft.	270
Heating surface	3,000 sq. ft.	4,670 sq. ft.	3,900 sq. ft.	5,162 sq. ft.	7,275 sq. ft.	7,743 sq. ft.	10,500 sq. ft.
Speed	8½ knots	9 knots	9 knots	11 knots	11 knots	11 knots	12 knots
Classification	Lloyd's	Lloyd's	Brit. Corp.	Lloyd's	Lloyd's	Lloyd's	Lloyd's

She was transferred next day to Canadian Government Merchant Marine Ltd., loaded lumber at Fraser Mills, Vancouver, and sailed for Panama about August 13.

The company advised us Aug. 29 that it expected to launch the s.s. Canadian Aviator, approximately 5,100 tons, for the Marine Department, about Sept. 14.

The Carmichael Shipping Co. Discussed in Parliament.

J. W. Edwards, M.P., for Frontenac, Ont., in speaking in the House of Commons, Sept. 5, said among other things: "The member for Antigonish and Guysborough (J. H. Sinclair), has frequently spoken in this house on the subject of shipping, to such an extent as almost to make us believe that he was an expert on that matter. Where did he obtain his knowledge of shipping? In his part of the country there is a firm known as the Carmichael Shipping Co., and I believe he has a very direct and personal interest in its prosperity of it. That company before the war was receiving freight rates on deals and lumber of 35 shillings a standard, and during the latter part of the war it received as high as 350 to 380 shillings a standard. There are pirates in this country as well as profiteers. Some men take their profit on the land and others on the water, and I confess that I must take with a liberal amount of salt any statements made by the member for Antigonish and Guysborough to the effect that he is greatly concerned about the bleeding of the people by the profiteers. He has had considerable experience along that line. He has profited very materially in the shipping business, and who will deny that the shipping business and freights on the water have a very important effect on the cost of living? Unquestionably they do."

Mr. Sinclair rose to a question of privilege in the house on Sept. 8, quoted Mr. Edwards' remarks, as given above, and said: "This statement is untrue and has not the slightest foundation in fact. I do not say that the hon. member deliberately made a false statement, because I have no doubt that this story was told him by some malicious person. Whoever told it to him must have had some knowledge of the deal trade, because the hon. member is about correct in regard to the rates. The company in question carried no deals since the war broke out. It owned only one steamship which was commandeered by the Admiralty early in the war. She was placed on duty in the most dangerous part of the coast of Europe, carrying goods to the army at Salonika. She made five trips to Salonika and on the sixth, when bound for an Italian port, was torpedoed by an enemy submarine and is now at the bottom of the Mediterranean. Her captain and chief engineer were confined for 19 months in a German prison and during that time their wages were paid by the company that owned the vessel. This was the only steamship owned by the company and there could be no question of profiteering, for the Admiralty paid monthly freight at what was known as the blue book rate, which was less than one third of the commercial rate current at the time. I would not have troubled the house with this explanation but for the fact that the statement of the hon. member involves to some extent the reputation of an important business firm that has borne an honorable name in Nova Scotia for over 100 years."

Orders for Steel Cargo Steamships for Canadian Government Merchant Marine Ltd.

The following is a complete list of steel cargo steamships which the Dominion Marine Department has been authorized, by order in council, to place orders for, and which orders are to be carried out. The figures given in the column headed "Long tons d.w." and which are preceded by an asterisk (*) show the total deadweight capacities as determined after the ships have been completed. The other figures in that column, not preceded by an asterisk, show the approximate total deadweights, subject to modification as they may vary above or below the figures given and as may be ascertained after the ships are completed, and of course, the total prices will vary accordingly.

The following contractions are used in the column giving the type of the vessels to be built:- s.d., single deck; 2.d., two deck; 3.d., three deck; lake, lake type; p., poop; b., bridge; f'c's'le, forecastle.

Contract	Contract date	Builder	Yard no.	Long tons d.w.	Price per ton d.w.	Total price	Type	Classification	Speed, knots	Approximate delivery date	Keel laid	Launched	Name
1	Mar. 4, 1918	Canadian Vickers Ltd., Montreal	66	*4,575	$207.	$ 947,025	S.d., p., b. and f'c's'le	Lloyd's	11	Dec. 31, 1918	June 11, 1918	Nov. 23, 1918	Canadian Voyageur
2	May 22, 1918	" "	67	*8,408	180.	1,513,440	2.d., p., b. and f'c's'le	"	11	Jan. 31, 1919	July 17, 1918	Dec. 3, 1918	Canadian Pioneer
3	May 18, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	61	*3,995	205.	818,975	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	May 1, 1919	Not stated	Dec. 21, 1918	Canadian Warrior
4	Mar. 15, 1918	Wallace Shipyards Ltd., North Vancouver, B.C.	100	*4,530	207.	937,710	S.d., p., b. and f'c's'le	Lloyd's	11	Mar. 31, 1919	Oct. 1, 1918	Apr. 5, 1919	Canadian Volunteer
5	Nov. 25, 1918	" "	106	4,300	217.	933,100	S.d., p., b. and f'c's'le	"	11	May 31, 1919	Nov. 15, 1918	May 31, 1919	Canadian Trooper
6	Nov. 25, 1918	" "	101	5,100	210.	1,071,000	S.d., p., b. and f'c's'le	"	11	July 31, 1919	Apr. 5, 1919	....	Canadian Aviator
7	Nov. 25, 1918	" "	102	5,100	210.	1,071,000	S.d., p., b. and f'c's'le	"	11	Sept. 30, 1919	May 31, 1919	....	Canadian Raider
10	July 5, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	62	*3,964	205.	812,620	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	May 15, 1919	June 3, 1918	May 3, 1919	Canadian Recruit
11	Oct. 17, 1918	" "	63	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 15, 1919	Jan. 16, 1919	June 28, 1919	Canadian Signaller
12	Oct. 17, 1918	" "	64	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	Feb. 10, 1919	....	Canadian Gunner
13	Aug. 9, 1918	Tidewater Shipbuilders Ltd., Three Rivers, Que.	5	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	Lloyd's	11	Aug. 1, 1919	Jan. 8, 1919	Sept. 20, 1919	Canadian Settler
14	Aug. 9, 1918	" "	6	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Sept. 1, 1919	Jan. 10, 1919	....	Canadian Rancher
15	Jan. 24, 1919	" "	7	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 15, 1919	Sept. 20, 1919	....	Canadian Fisher
16	Jan. 24, 1919	" "	8	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	May 15, 1920	....	....	Canadian Forester
17	Sept. 4, 1918	Davie Shipbuilding & Repairing Co., Lauzon, Que.	459	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 1, 1919	Mar. 11, 1919	....	Canadian Trapper
18	Sept. 4, 1918	" "	460	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 8, 1919	Mar. 28, 1919	....	Canadian Hunter
19	Sept. 4, 1918	Port Arthur Shipbuilding Co., Port Arthur, Ont.	39	*3,341	205.	684,905	Lake, s.d., p., b. and f'c's'le	"	9	June 1, 1919	Dec. 9, 1918	May 5, 1919	Canadian Trader
19a	Mar. 1, 1919	" "	41	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Sept. 30, 1919	Mar. 31, 1919	Sept. 8, 1919	Canadian Adventurer
20	Sept. 4, 1918	" "	40	*3,357	205.	688,185	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	Dec. 10, 1918	May 31, 1919	Canadian Sailor
20a	Mar. 1, 1919	" "	42	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Oct. 31, 1919	Mar. 31, 1919	....	Canadian Sower
21	Sept. 13, 1918	Halifax Shipyards, Ltd., Halifax, N.S.	1	8,100	195.	1,579,500	2.d., p., b. and f'c's'le	"	10	Dec. 19, 1919	Feb. 24, 1919	....	Canadian Mariner
22	Sept. 13, 1918	" "	2	8,100	195.	1,579,500	2.d., p., b. and f'c's'le	"	10	Apr. 1920	Mar. 15, 1919	....	Canadian Explorer
23	Oct. 11, 1918	Canadian Vickers Ltd., Montreal	73	4,300	215.	924,500	S.d., p., b. and f'c's'le	"	11	May 27, 1919	Jan. 22, 1919	....	Canadian Navigator
24	Oct. 11, 1918	" "	68	*8,382	188.	1,575,816	2.d., p., b. and f'c's'le	"	11	May 1, 1919	Aug. 26, 1918	Apr. 19, 1919	Canadian Ranger
25	Oct. 11, 1918	" "	69	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	June 1, 1919	Nov. 30, 1918	May 7, 1919	Canadian Seigneur
26	Oct. 11, 1918	" "	70	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	July 1, 1919	Dec. 2, 1918	Aug. 16, 1919	Canadian Miller
27	Oct. 11, 1918	" "	71	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	Aug. 1, 1919	Apr. 23, 1919	....	Canadian Spinner
28	Oct. 11, 1918	" "	72	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	Sept. 1, 1919	May 10, 1919	....	Canadian Planter
29	Jan. 24, 1918	Harbour Marine Co., Victoria, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Jan. 31, 1920	July 14, 1919	....	....
30	Jan. 24, 1919	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Nov. 30, 1920	Aug. 9, 1919	....	....
31	Dec. 11, 1918	Collingwood Shipbuilding Co., Kingston, Ont.	15	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	Nov. 1, 1919	Apr. 7, 1919	....	Canadian Beaver
32	Mar. 1, 1919	Port Arthur Shipbuilding Co., Port Arthur, Ont.	43	4,300	215.	935,250	S.d., p., b. and f'c's'le	Lloyd's	10½	Nov. 1, 1919	Aug. 29, 1919	....	....
33	Mar. 1, 1919	" "	44	4,300	215.	935,250	S.d., p., b. and f'c's'le	"	10½	Nov. 15, 1919	Aug. 29, 1919	....	....
34	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	11	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	July 31, 1919	Apr. 26, 1919	....	Canadian Importer
35	Nov. 22, 1918	" "	12	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Aug. 31, 1919	May 3, 1919	....	Canadian Exporter
36	Nov. 22, 1918	" "	13	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Sept. 30, 1919	July 24, 1919	....	Canadian Inventor
37	Nov. 22, 1918	" "	14	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Oct. 31, 1919	....	....	Canadian Prospector
38	Dec. 10, 1918	Halifax Shipyards Ltd., Halifax, N.S.	3	10,500	197½	2,073,750	3.d., p., and f'c's'le	"	12	Aug. 1, 1920	....	....	....
39	Dec. 10, 1918	" "	4	10,500	197½	2,073,750	3.d., p., and f'c's'le	"	12	Nov. 1, 1920	....	....	....
40	Mar. 31, 1919	Nova Scotia Steel & Coal Co., New Glasgow, N.S.	5	2,800	210.	588,000	S.d., p., b. and f'c's'le	"	8½	Oct. 1919	Mar. 27, 1919	....	Canadian Sealer
41	Mar. 31, 1919	" "	6	2,800	210.	588,000	S.d., p., b. and f'c's'le	"	8½	Nov. 1919	Mar. 31, 1919	....	Canadian Miner
42	Feb. 21, 1919	Prince Rupert Dry Dock and Engineering Co., Prince Rupert, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Feb. 1920	....	....	....
43	Feb. 21, 1919	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	June 1920	....	....	....
44	Jan. 23, 1919	British American Shipbuilding Co., Welland, Ont.	4	4,350	215.	935,250	S.d., p., b. and f'c's'le	Brit. Corp.	10	Nov. 1919	Mar. 29, 1919	....	Canadian Otter
45	Jan. 23, 1919	" "	5	4,350	215.	935,250	S.d., p., b. and f'c's'le	"	10	June 1920	July 14, 1919	....	Canadian Squatter
46	Sept. 11, 1919	Collingwood Shipbuilding Co., Collingwood, Ont.	65	3,950	180.	711,000	Lake, s.d., p. b., and f'c's'le	Lloyd's	11	June 1, 1920	....	....	....
47	Sept. 11, 1919	" "	66	3,950	180.	711,000	Lake, s.d., p. b., and f'c's'le	"	11	June 15, 1920	....	....	....
48	Sept. 2, 1919	Dominion Shipbuilding Co., Toronto	10	3,500	180.	630,000	Lake, s.d., p., b. and f'c's'le	"	11	May 1920	....	....	....
49	Sept. 2, 1919	" "	11	3,500	180.	630,000	Lake, s.d., p., b. and f'c's'le	"	11	June 1920	....	....	....
				280,202		$55,659,626							

Control of Canadian Steamships by Great Britain.

Montreal press dispatch:—The Dominion Steel Corporation has received back three steamships from the British Shipping Control, the Lord Strathcona of 11,000 tons, and the Wabana and Kamouraska of 7,500 tons each. Two of the largest, the Rose Castle and the Daghill, are still over there, undergoing repairs, it is reported, and it may be months before they are sent back. Constant protests, it is understood, have been sent to the Shipping Control against the detention of those boats, but the time has dragged on. Meanwhile the Steel Corporation is prevented from carrying any but a small portion of the coal it mines to Montreal, as its own fleet is required on the coast. There is beginning to be an impression among the various companies thus handicapped, either by Canadian vessels being detained so long overseas, or British vessels under control in Canada, that the higher profits made overseas by those who had control of the vessels, may have had some influence on their return to Canada. The three boats now received by the Dominion Steel Corporation will help, of course, to provide a market for the coal that is produced.

The President of the Privy Council, Hon. N. W. Rowell, said in the House of Commons, Sept. 10: "For a considerable time the Canadian Government have had under consideration the question of securing the transfer to Canadian registry of Canadian owned ships at present on the United Kingdom registry. Many Canadian owners wish to make this transfer, but in view of the pressing need for tonnage the Minister of Shipping has heretofore refused to sanction such a course. As a result, however, of representations recently made by the Canadian Government, the government of the United Kingdom have consented to alter their policy in this respect, and they have agreed to the announcement of the change in the following terms set forth in a telegram from the Colonial Secretary, dated Aug. 16:

" 'Subject to adequate safeguards of the maintenance of our present rights in regard to the carriage of government cargo by liners, it is proposed that all ships that were Canadian owned before the war, and any ships transferred to Canadian owners during the war, are now to be transferred to Canadian registry if their owners desire it.'

"A subsequent telegram from the Colonial Secretary, dated Aug. 19, explains that the above proposal concerning transfer to Canadian registry is not intended to apply to cases where there has been a special stipulation to the contrary. This refers to cases of the sale by British owners to Canadian purchasers of ships of British registry. Owing to the great demand it was found necessary to retain rigid control of British ships and no British owners were permitted to transfer their ships without definite stipulation that such a transfer should not carry with it any rights other than those of the seller. The purchaser, therefore, in that case would receive the ship, subject to the government right of requisition, and of preventing transfer to another registry."

Mr. Rowell, also said in the House of Commons on the same day: "The leader of the opposition asked me yesterday if I could give any information whether ships not British, which were under charter to Canadian companies, and which were commandeered by the British Government, will be returned to the former charterers, and I promised to enquire and make answer today. The question doubtless refers to ships owned in Great Britain and registered there, under long term charter, to Dominion Coal Co. These ships were requisitioned during the period of the war by the British Government. Immediately following the termination of the war, representations were made by the Canadian Government to the British Government, requesting that these vessels should, with the least possible delay, be returned to the chartering company. In a dispatch from the Secretary of State for the Colonies to the Governor General dated June 26, the contents of which dispatch were communicated to the House of Commons by the Prime Minister on July 1, it is stated that the 5 vessels in which the Dominion Coal Co. are interested, 3 have been released from requisition and returned to the owners, and the remaining 2 are to be released as soon as present cargoes are discharged. It is understood that these 2 were undergoing extensive repairs, and if they have not already been released to the owners, they will be as son as they are ready to be placed in commission. We have not heard that they have not been released."

London, Eng., press cable, Sept. 12, Hon. N. W. Rowell is reported as having stated in the Canadian House of Commons that the British Ministry of Shipping had agreed to transfer to Canadian registration all Canadian-owned ships now under British registration. W. Grant Morden told the Canadian Press today that this was incorrect. He had seen a copy of the cable sent by the Colonial Secretary, which said that they would be transferred after August, 1920, but that in the meantime the British Ministry's control over the ships would not be affected, "which means," said Mr. Morden, "we are no better off than before."

A. R. McMaster, M.P., for Brome, Que., in speaking in the House of Commons recently, said in part: "Canada could improve her constitutional position by insisting upon all those sovereign rights which she does not now possess, the acquisition of which will make her a sister nation equal with the United Kingdom of Great Britain and Ireland. What are those rights? Great Britain has complete command of her own ships; we have not. While the war was on the British Admiralty commandeered Canadian ships without, I think, obtaining the consent of this parliament. Am I wrong in that?"

Hon. N. W. Rowell, President of the Privy Council: "I think my hon. friend is mistaken. I think the Dominion Government took the position that the British Government had no right to commandeer our ships, that that action could only be taken by this government; and I think we co-operated in the action taken."

Mr. McMaster: "The government has not continued to co-operate. It has asked for the return of those ships. They are being returned subject to certain obligations placed upon them when they were under the control of the British Government."

Mr. Rowell: "I speak subject to correction, because I am not familiar with the details of the matter which my hon. friend is now discussing. But I think that the hon. gentleman is incorrect in that. Certain ships are being returned subject to certain conditions imposed by the British Admiralty, but these are ships that were transferred from British registry to some other registry, the British Admiralty imposing the condition on the transfer that they should be subject to all obligations to which they would have been subject had they not been transferred."

Mr. McMaster: "As I understand it, these ships which are being transferred from British to Canadian registry are Canadian ships, owned by Canadian companies or individuals. I am not criticizing the government for this action. I am merely pointing out that if we are to have a status equal to that of Great Britain, we should absolutely control the fate of our own ships."

Sales of Imperial Steam Wooden Drifters.

The Anderson Co. of Canada, Montreal, advise us that they have made the following sales of steam wooden drifters, built in Canada during the war for the British Government through the Canadian Naval Service Department.

Nos. 30 and 46 6to Empreza de Pesca Vianese Limitada, Portugal. On Sept. 16 the ships were being outfitted at Halifax, and were expected to sail within a few days thereafter.

No. 35 to Job Bros., St. John's, Nfld.

Nos. 90 and 92 sold through the Anderson Co.'s New York office to the W. R. Grace Co.

No. 50, sold by the Naval Service Department to the Marine Department.

The Great Lakes Dredging Co. Ltd., the incorporation of which was announced in our last issue, with office at Union Bank Building, Ottawa, is, as stated, an amalgamation of the Great Lakes Dredging and Contracting Co. and the Thunder Bay Contracting Co. The officers are: President, Senator M. J. O'Brien, Renfrew, Ont.; Vice President, J. A. O'Brien, Ottawa; Managing Director, Lt.-Col. L. T. Martin, Renfrew, Ont.; other directors, W. O. Matthews, Ottawa, and J. L. Murray, Renfrew, Ont.; Secretary-Treasurer, T. Fisher, with office at Port Arthur, Ont. The company is carrying on dredging at Port Arthur and is building a slip at Ojibway, which will be the largest on the Great Lakes, for the Canadian Steel Corporation. The company's plant consists of 8 dipper dredges, 1 hydraulic dredge (Shuniah), 9 tugs, one of which, the E. C. Whalen, is suitable for ice breaking, 2 single derrick barges, and 1 double derrick barge, together with a number of steel and wood scows, barges, floating pile driver, etc.

The Dredge P.W.D., No. 106, was offered for sale by tender, Sept. 25, as she lay at the Marine Department's shipyard at Sorel, Que. The dredge is owned by the Public Works Department, and is equipped with two 9 x 12 engines and one upright boiler 4½ x 7 ft. The dimensions of the vessel are length, 54.8 ft.; breadth, 24.1 ft.; depth, 4.9 ft.; tonnage, 110.

Canada Steamship Lines Ltd. is reported to have earned over $1,000,000 more on its excursion business during the past season than in 1918. The overseas freight business is also reported to be in excess of 1918. J. W. Norcross, President, is reported to have stated in London, Eng., Sept. 18, that the company is preparing plans for large expansion.

Additional Canal Lock at Sault Ste. Marie.

A fourth lock in the United States Sault Ste. Marie canals, was opened for traffic Sept. 18, making, with the lock on the Canadian side, five locks for handling traffic through the St. Marys River.

The first canal was built on the Canadian side of the river in 1798, with a lock 38 ft. long, 8¾ ft. wide with a lift of 9 ft., and with a tow path alongside for the oxen utilized in hauling boats through. This was destroyed by U.S. troops in 1814.

The first ship canal was built on the U.S. side in 1855, and was 1½ miles long, 64 ft. wide at bottom and 100 ft. wide on the water surface. There were 2 tandem locks, each 350 ft. long, 70 ft. wide. with a lift of about 9 ft., a canal depth of about 13 ft.; and a lock depth of about 11½ ft. These locks were razed in 1888 during the excavations for the present Poe lock.

The first of the existing U.S. locks, the Weitzel lock, was completed in 1881, and is 515 ft. long, 8 ft. wide in the chamber, and 60 ft. wide at the gates, with 17 ft. of water on the sills. At that time the canal was deepened and widened to 160 ft.

The Canadian canal, 1⅛ miles long, was completed in 1895, and is 150 ft. wide, and 23 ft. deep. The lock is 900 ft. long, 60 ft. wide, with 22 ft. of water on the sills. The second U.S. or Poe lock, was completed in 1896, and is 800 ft. long, 100 ft. wide, with 23 ft. of water on the sills.

The third U.S. lock was opened for traffic Oct. 21, 1914. It is 1,350 ft. long, 80 ft. wide and has 24½ of water on the sills.

While the third U.S. lock was under construction, it was decided to duplicate it, and this, the fourth lock, is the one just opened for traffic, and which has been named Sabin, after the Superintendent of the canal. The second (Poe) lock, was 100 ft. wide, so as to enable two vessels to be locked through side by side, but in operation this was found to cause delay in getting the vessels into position, and passing them through the gates, so it was decided not to follow the same course in the later locks.

The traffic passing through these canals is greater than passes through any other canal in the world, the volume for 1918 being 85,680,327 tons. There were 20,610 vessels passages, the vessels having a registered tonnage of 661,100,244. Prior to 1881, the U.S. canals were operated by the State of Michigan and tolls were charged to cover operating expenses, but since that year, when control was taken over by the U.S. Government, no tolls have been charged, vessels of all nations being granted free use, as on the Canadian canal.

Mainly About Marine People.

Sir H. Montagu Allan, formerly of the Allan Steamship Co., made a trip from Montreal to the Pacific coast recently, with other directors of the Merchants Bank of Canada, of which he is President.

Hon. C. C. Ballantyne, Minister of Marine, who, as stated in Canadian Railway and Marine World for September, after returning from recuperating at St. Andrews, N.B., had to re-enter the Royal Victoria Hospital in Montreal, on Aug. 7, was able to be removed to his house early in September, but he had to return to the hospital again in a few days, as he missed the treatment which he had been receiving there and was not making satisfactory progress without it. We were advised Sept. 20 that he hoped to be able to leave the hospital in about a week thereafter. The date on which he will start for the Pacific coast depends largely on circumstances which may arise after his return to Ottawa, which is hoped to be early in October.

Lieut.-Col. A. E. Dubuc, D.S.O., is reported to have been appointed Superintendent of Canals for the Province of Quebec, vice E. Marceau, deceased.

Capt. Bertram Hayes, commander of the White-Star Line's s.s. Olympic, has been made a Knight Commander of the Order of St. Michael and St. George in recognition of his services, while in command of this vessel which acted as a troop transport during the war. During his services, while the vessel was under government requisition, thousands of troops were conveyed across the ocean without a life being lost.

Mrs. F. S. Isard, wife of the Director of Finance, Canada Steamship Lines, and her family, returned to Montreal recently after spending the summer at Elizabethtown, N.Y.

J. W. Norcross, President, Canada Steamship Lines, and W. Grant Morden, M.P., a member of the company's London, Eng. advisory board, are reported to have made a record air trip from Paris to London recently, in an hour and 55 minutes.

Jno. Barton Payne, heretofore General Counsel, United States Railroad Administration, has been appointed Chairman of the U.S. Shipping Board, and President of the Emergency Fleet Corporation.

S. McC. Smith, who died at Victoria, B.C., Sept. 7, was associated with shipbuilding and ship repairing work on the Pacific coast for over 40 years. He was born at Maitland, N.S., and went first to San Francisco, Cal., and later settled in Victoria, B.C. He was for some time before starting business on his own account, Superintendent, B.C. Marine Railway Co., Esquimalt, and supervised the building of several of the larger vessels used in the Pacific coasting trade.

E. K. Spinney, M.P., for Yarmouth and Clare, N.S., was elected chairman of the House of Commons Committee on Marine and Fisheries, at the recent session, replacing Hon. W. S. Fielding.

Mrs. Thom, widow of James Thom, formerly Manager of the White Star-Dominion Line at Montreal, has returned there, after spending some four years in England, while her sons, Lieutenants Balfour and Gordon Thom, were in Belgium and France.

Robert Weddell, harbor and marine contractor, Trenton, Ont., died there Sept. 11.

F. A. Weiss, Passenger Agent, Canadian Pacific Ocean Services Ltd., Shanghai, China, was found murdered, in the outskirts of that place, Aug. 24. He went from Montreal to Shanghai in March, 1917, and was appointed Passenger Agent there in June last.

The Louisburg Drydock and Shipbuilding Co., is stated, in a dispatch from Sydney, N.S., to have been incorporated to build a dry dock at Louisburg, N.S., to cost approximately $5,000,000. J. W. Maddin, who is said to be interested in the project, is reported to have stated that the plans and specifications have been completed and placed in the hands of the government, with an application for aid under the Dry Docks Subsidies Act. We have been officially advised that an application has been made to the Public Works Department for a subsidy, for the construction of a drydock at an approximate cost of $2,500,000. The dimensions of the proposed dock are: length, 650 ft.; width, 85 ft.; depth, of sill at high water spring tide, 30 ft.

British Shipbuilding experienced a rather healthy improvement during the second quarter of 1919; 782 vessels, of a gross tonnage of 2,524,050, being under construction. This was an increase of 269,000 tons on the amount under construction at the end of March and 709,000 tons more than the amount building a year ago. Records show that 181 vessels of 514,240 tons were launched during the second quarter, which compares with 72 vessels of 203,966 tons launched during the first quarter of 1919.

United States Shipbuilding—The Bureau of Navigation states that during the 12 months ended Aug. 31, the output of U.S. shipyards reached 4,187,670 gross tons of merchant vessels officially numbered by the bureau. The bureau also reports 236 sailing, steam, gas, and unrigged vessels of 454,887 gross tons, built in the U.S., and officially numbered during August.

Bonus for Shipbuilding Steel—The Welland, Ont., Board of Trade has passed a resolution in favor of the Dominion Government granting a bonus of $10 a ton on all steel entering Canada, during the next 10 years, for use in building vessels.

The Canadian Towing and Wrecking Co.'s steam tug James Whalen, which has been operating under lease in the lower St. Lawrence and on the Atlantic coast, for the last two or three years, returned to Port Arthur, Sept. 16.

Vessels Added to and Deducted From the Canadian Register During July and August, 1919.

	Steam.			Sailing.		
		—Tonnage—			—Tonnage—	
Added.	No.	Gross.	Registered.	No.	Gross.	Registered
Built in United Kingdom	1	592	302	..	....	....
Built in Canada	51	20,753	12,632	34	6,862	6,257
Purchased from foreigners	10	10,066	6,767	8	2,155	2,090
[illegible]	6	9,152	6,095	1	62	62
Total	68	41,025	27,800	43	9,079	8,409
Deducted						
Wrecked or otherwise lost	5	896	415	2	160	160
Broken up or unfit for use	7	251	145	13	965	916
[illegible]	7	1,877	1,305	3	1,919	1,854
Transferred to United Kingdom	2	5,642	2,907	..	....	....
Transferred to British possessions	1	52	35	1	392	306
[illegible]	1	231	149	5	143	140
Totals	23	8,949	4,956	24	3,579	3,460

Customs Requirements re Coastwise Clearances and Entries.

As stated in Canadian Railway and Marine World for March, in the report of the Dominion Marine Association's annual meeting, a letter was read from C. H. Nicholson, Manager, Grand Trunk Pacific Coast Steamship Co., Vancouver, inviting general support in a movement for relief from alleged unnecessarily onerous customs requirements, in the matter of coastwise clearances and entries, and it was decided to advise Mr. Nicholson that there was fairly general satisfaction with existing conditions on the Great Lakes in respect of the matters mentioned, and to ask for particulars of difficulties experienced on the Pacific coast.

We are now advised that the proposal from the Pacific coast for the abolition of the requirements for clearing ships at customs, where the business is purely coasting, meets with the general approval of the Dominion Marine Association's members, who believe the requirement, enforced as it is, for purely statistical purposes, throws a much heavier burden upon ship owners than is justified by the benefits received, and it is desired that, as in many countries, transires be issued good for an extended period.

United States Shipping Board Notes.

The board announces that of the 512 steamships which it requisitioned for war purposes, it had, up to Sept. 2, released 478 with total tonnage of 2,727,421 d.w. This does not include 87 Dutch ships, aggregating 579,975 tons d.w., which were released some time ago.

The board has issued a statement giving analysis of commerce carried in vessels under the board's control. A fleet of 293 freighters steamed from U.S. ports during June, carrying 1,177,444 tons of cargo. Of these 243 went out of Atlantic ports, 33 from Gulf ports and 17 from Pacific.

P. A. S. Franklin, President, International Mercantile Marine, expressed himself recently, as optimistic about the outlook for U.S. shipping if the Federal government will turn over steamships it controls to private firms for operation in passenger and freight business to all parts of the world.

The U.S. War Department announced Sept. 11 that during August 151,000 d.w., tons of shipping were redelivered to commercial owners and 74,000 tons to the U.S. Shipping Board, making a total of 225,000 for the month. This brings total redeliveries to 3,282,000 tons. There are in operation in the army's transatlantic fleet 519,000 d.w. tons of shipping.

New York press dispatch, Sept. 8:—Local shipowners were inclined today to interpret the announcement by the Shipping Board that less than 35 privately owned ships remain under its requisition, as further indication that government operation of ships will eventually cease. Recent reports that the chairmen of both the Senate and House committees are opposed to government competition with private shipping concerns were well received and sentiment is much improved over the general outlook. Of course, most shipowners realize that new shipping legislation must await the disposition of such matters as the ratification of the peace treaty and the framing and enacting of a new railway bill, but shipping affairs have started to shape toward a definite end, and there are many who believe that a real solution of the U.S. merchant marine problem will come much sooner than had been generally expected.

Proposed Control of Steamships by Board of Railway Commissioners.

In the House of Commons, Sept. 12, J. E. Armstrong, M.P., for Lambton, Ont., introduced a bill to amend the Railway Act, in reference to which he said: "This bill is for the purpose of bringing under the control of the Board of Railway Commissioners, ships plying on our inland waters and engaged in coastwise trade. At present only a few ships connected with the railways are under the control of the commissioners. The intention is to make such ships as I have mentioned subject to that control as regards tariffs, tolls, trade agreements, time of call, duration of stay. and many things of public importance connected with transportation on our waters. There are 4,500 ships on the Canadian register, and they employ 45,000 people. The bill is pretty nearly the same as the one I presented last year. Then I asked that the board should have control as regards maximum freight rates. That is embodied in this bill. But there is another clause which exempts sailing vessels and small boats."

At the time of writing (Sept. 23), the bill had been read a first time, and it was not considered likely that it would make much further progress without being referred to a committee, probably the railway committee, so that evidence of interested parties might be heard. The bill, like its predecessors, is meeting with the continued opposition of the leading boards of trade, commercial organizations, shippers and water carriers throughout the country, and of the Dominion Marine Association.

The Sydney Dry Dock and Engineering Co. has applied to the Dominion Government under the Dry Dock Subsidies Act for aid in the construction of a dry dock of 15,000 tons lifting capacity at Sydney, N.S. The application is being dealt with by the Public Works Department's engineering branch, and it is not expected that a decision will be announced for some little time. In this connection the Sydney Foundry & Machine Co. has applied to the Dominion Government for the granting of a water lot at Anderson's Point, Sydney, N.S., for the construction of a dry dock, and the Sydney Dry Dock and Engineering Co. is, apparently, a subsidiary company for the carrying out of the work.

Wireless Telegraph Installations—The 40 wooden steamships which are being built at the Pacific coast, for the French Government, are being equipped by the Marconi Wireless Telegraph Co. of Canada. The sloop Alverine, sold recently by the Dominion Government to the Pacific Salvage Co., and which has been remodelled for use as a salvage vessel, by Yarrows, Ltd., has been equipped with a Canadian Marconi 2 k.w. installation.

Ocean Cargo Carriers Co. Ltd., has been granted supplementary letters patent converting it from a private company into a public company.

Cargo Shipbuilding in Canada for British Government.

J. Coughlan & Sons, Vancouver, B.C. With the launching of the s.s. War Chariot at this yard, September 24, the last of the steel steamships ordered on the Pacific coast by the Imperial Munitions Board for the British Government, was floated and, on its equipment, the contracts with the Imperial Munitions Board will have been completed. These steel steamships were of approximately 8,800 tons d.w. capacity each, and 9 of this type were ordered for the British Government, and in addition, the s.s. Alaska, a vessel of a similar type and capacity, which was under construction in the early stages of the war for Norwegian interests, was taken over by the British Government.

Shipbuilding in Australia.

The Australian Government's shipbuilding programme covers the construction of 14 steel steamships of the shelter deck type, from 5,500 to 6,000 d.w. tons, of the following approximate dimensions: length, between perpendiculars, 331 ft.; breadth, moulded, 48 ft.; depth, moulded to shelter deck, 33 ft. 7 ins. It is reported that the cost of these vessels is about $141 a d.w. tn, the prices during May, averaging from $140 to $165 a d.w. ton. The contract price of the 5,100 ton steel steamships which are under construction in Canada for Canadian Government Merchant Marine Ltd., is $210 a d.w. ton for those being built on the Pacific coast, and $200 a d.w. ton for those building on the St. Lawrence. No figures are available as to wages paid in Australia, so that it is not possible to make any comparisons, but in one sase cited, the rate in Canada is nearly double that paid in Australia.

The Frontenac Dredging Co. Ltd., has been incorporated under the Ontario Companies Act with $75,000 capital, and office at Toronto, to carry on a general dredging, contracting and construction business, to own and operate dredges and dredging plants, and to take over the dredging and contracting business formerly carried on by Manley and Co.

Port Colborne Elevator Disaster—At the inquest into the cause of the explosion at the Dominion Government elevator at Port Colborne, Ont., Aug. 9, which caused the death of 8 men, it was stated that the explosion was caused by sparks from a defective motor setting fire to an accumulation of dust in a confined space. During the parliamentary recess, a Governor General's warrant for $400,000 was issued, for the reconstruction of the elevator.

The Motor Schooner Neophyte, owned by the Railways and Canals Department which was offered for sale by tender, as she lay at Port Nelson, Hudson Bay, has not been sold, only one tender being received and it was considered too low. Owing to the lateness of the season, it will not be possible to get the schooner out until next year.

The Easton Fish Co. Ltd., has been incorporated under the Manitoba Companies Act to carry on a general fishing and fish dealing business, and to own and operate steam trawlers, steamships and vessels, of all descriptions, wharves, docks and works for the improvement of navigation. The head office is at The Pas, Man., and the authorized capital is $40,000.

Proposed Development of St. Lawrence River Navigation and Power.

Ottawa press dispatch, Sept. 18. Preliminary steps in the direction of the preparation of an international scheme for the improvement of facilities for navigation on the St. Lawrence River and also for the development of the vast power potentialities of that stream, have been taken by both the Canadian and the United States Governments. Inasmuch as the St. Lawrence from Lake Ontario to Cornwall, a distance of 113 miles, is a boundary river, joint action by the two countries is necessary in this important enterprise. The U.S. Government, acting upon an instruction from Congress, has asked Canada to be a party to the submission of the question to the International Joint Commission, composed of representatives of both countries, for a report upon the feasibility, desirability and cost of such an undertaking. Canada, through her government, has consented to associate herself with the reference. Both governments have, therefore, named representatives, whose duty will be to prepare the questions to be laid before the International Joint Commission. The U.S. Government has appointed as its representative, Lieut.-Col. Charles Kellar, of the War Department. The Canadian Government has selected W. J. Stewart, of Ottawa, Dominion Hydrographer.

Mr. Stewart and Lieut.-Col. Kellar will meet shortly, probably at Washington, to consider the scope of the reference to the International Joint Commission. F. H. Keefer, M.P., who was formerly counsel for the Canadian and the Ontario Governments before the commission, and who is now Parliamentary Secretary for External Affairs, when questioned as to the progress of the negotiations looking to the development of the St. Lawrence for navigation and power purposes, spoke of the appointments which have been made and expressed the opinion that the question should be ready for submission to the commission within a month. The commission, he said, will then be in a position to proceed with its enquiry. In the meantime in anticipation of the investigation, certain surveys have been carried on on behalf of the Dominion Government. The Hydro-Electric Power Commission of Ontario, too, has been securing data and preparing plans, according to a recent announcement by its chairman, Sir Adam Beck.

The course of action being taken through the International Joint Commission is entirely in accord with the policy which has been laid down on behalf of Canada by Sir Robert Borden and his government. On several occasions, notably last year, when an application was made to the Joint Commission by a U.S. corporation for permission to construct a weir at the Long Sault Rapids, to increase the head of water in its power canal, the government declared itself opposed to piecemeal development by private interests, but announced its willingness to enter into negotiations with a view to the adoption of a general scheme of development of both the navigation and power possibilities of the river by the two governments. Several of the Canadian ministers at that time went to Washington to impress this view upon the U.S. Government. The result of the application was that the corporation was authorized to erect a temporary weir, because it was engaged in the manufacture of war materials. This weir, it was decided, should be removed when the war was over.

The U.S. Government made no pronouncement upon the proposal that a joint scheme of development be undertaken. Within the past year, however, a new factor has entered into the question. Many interests in the interior states realized the importance to them of a deep waterway from the head of Lake Superior to the Atlantic. They saw that with the completion of the new Welland Ship Canal by Canada the barrier which prevented ocean freighters from penetrating to the heart of the continent could be removed by the deepening of the St. Lawrence route between Lake Ontario and Montreal. They have formed an organization, known as the Great Lakes-St. Lawrence-Tidewater Association, with official and civic support in ten states, to educate public opinion to the importance of the project they have in view and to press for action by the U.S. Government. As a result, in some measure at least, of the activity of this association, Congress took official action last spring. To the Rivers and Harbors Appropriation Act, approved on March 2, 1919, Congress added a section directing "that the International Joint Commission be requested to investigate what further development of the St. Lawrence River between Lake Ontario and Montreal is necessary, to make the same navigable for ocean going vessels, together with the estimated cost thereof, and to report to the Canadian Government of Canada and to the U.S. Congress with its recommendation for co-operation between the U.S. and Canada in the improvement of the said river."

Upon this enactment, the U.S. Government acted in requesting a joint reference to the International Joint Commission. The project which the commission will consider will have, as has been indicated, two aspects: first, the improvement of navigation on the St. Lawrence, and, second, the development of water powers in the stream. Both aspects are of immense importance to Canada. If an arrangement was made whereby the St. Lawrence waterway would conform in depth to the new Welland Ship Canal which is to have 25 ft. of water with 30 ft. on the sills, nine-tenths of the seagoing vessels of the present time would be able to steam from the Atlantic to the head of the Great Lakes. Any ordinary ocean going ship would thus be able to travel 2,100 miles inland from the Gulf of St. Lawrence and the Great Lakes would be transformed into an American Mediterranean, discharge their cargoes at any of the Great Lakes' ports.

Furthermore, the 500-ft. grain carriers which ply on the upper lakes and which now can proceed seaward only as far as Port Colborne, the Lake Erie terminus of the Welland Canal, would be able to carry their half million bushel cargoes to Montreal, there to be discharged into ocean going ships. Hitherto large lake freighters have been compelled to discharge their cargoes into the government elevator at Port Colborne, from which it has been loaded into smaller boats capable of passing through the St. Lawrence Canals. A waterway which would permit large vessels to carry the grain from the head of the lakes to sea-board would, it is contended, materially reduce carrying charges and facilitate the movement of the western wheat crop. It would also provide water transportation for other products of the great inland territory tributary to the Great Lakes and westward and for the manufactured articles of the industrial centres at less than rail rates.

As a power proposition, the project is also a great one. It has been estimated that the water powers of the St. Lawrence could generate 3,000,000 h.p. of electricity, if not more. As yet a comparatively small proportion of this has been developed. The value of this for industrial and other purposes is not difficult to realize. Between Lake Ontario and Cornwall, where the St. Lawrence constitutes the International Boundary line, it is estimated that 1,000,000 h.p. of electricity could be delivered for the common use of the two countries. The International Joint Commission will be called upon to consider by what method the navigation and power of the river should be developed, whether by canalization of the river channel itself by the construction of storage dams at two or three points with lock gates, or by a system of canals parallel to the river after the fashion but on a larger scale than the existing St. Lawrence Canals.

The commission's report will be submitted to the Dominion and U.S. Governments, each of which will be free to approve or reject the plan it proposes. The undertaking would, no doubt, involve a large investment. It will be some time, however, before the details of the scheme can be worked out by the engineers and be reported upon by the International Joint Commission, probably several years.

Navigable Waters Protection Act Amendment.

The Minister of Public Works, Hon. A. L. Sifton, introduced a bill in the House of Commons on Sept. 16, to amend the Navigable Waters Protection Act, in reference to which he said: "The bill has reference to an amendment which was made a year or so ago in the Navigable Waters Act in connection with permission given by the Public Works Department for the construction of bridges or wharves upon navigable waters. The act that was passed provided for this permission, but not for the removal of obstructions if people should build without having obtained permission. The purpose of this bill is to authorize the department, in the event of the violation of the law, to remove obstructions from navigable waters."

The bill was read a third time and passed in the Commons, Sept. 24.

Princess May Steamship Co. Ltd. has been incorporated, under the Dominion Companies Act, with authorized capital of 10 shares without nominal or par value, but with the proviso that the business shall be carried on with a capital of $125,000 and with office at 701 Dominion Express Building, Montreal. The President of the company is S. Di Giorgio, President of Di Giorgio, Inc., fruit merchants, New York, and the Secretary is J. Fechtig, Jr., New York. The company has been formed to own and operate the s.s. Princess May, purchased recently from the C.P.R., as mentioned in our last issue.

General Shipbuilding Matters Throughout Canada.

Acadia Shipbuilding Co., Saulnierville, N.S., launched the tern schooner Nettie C., Sept. 16. She has been classed in Bureau Veritas for 12 years. Her dimensions are: length, over all, 150 ft.; breadth, 33.4 ft.; depth, 13.1 ft.; tonnage, 515 gross, 450 net.

Annapolis Shipbuilding Co., Annapolis, N.S., launched a 3 masted schooner, 287 tons gross at the end of August, which was named Peaceland. Her dimensions are: length, over keel, 100 ft.; beam, 29 ft.; depth of hold, 10½ ft.; tonnage 261 register. She was launched fully rigged with all masts and top masts.

Canadian Vickers Ltd., Montreal—The s.s. Alsace was launched at this yard, Sept. 27. She is being built for French interests.

I. M. Comeau & Co., Little Brook, N.S., launched the schooner Charlotte Comeau, 799 gross tons, at the end of August. She is classed in Bureau Veritas for 12 years, and is equipped with a 12 h.p. engine for hoisting, pumping, etc. Her dimensions are: length, over all, 172 ft.; length, over keel, 150 ft.; breadth, 37.4 ft.; depth, 13.4 ft.; tonnage, 728 register.

J. Coughlan & Sons, Vancouver—A press report stated recently that J. J. Coughlan was in Ottawa negotiating for further orders for steel cargo steamships. He has advised Canadian Railway and Marine World that his firm is open to accept orders for its standard steel cargo steamships, approximately 8,800 d.w. tons; length, over all, 427 ft.; beam, 54 ft.; depth, moulded, 29¾ ft.; three Scotch marine boilers, 15½ x 11 ft.; triple expansion engines, 27 x 44 x 73 x 48 in.; stroke, sea speed 11¼ knots; delivery March, April and May, 1919, and one a month thereafter.

Davie Shipbuilding and Repairing Co., Lauzon, Que., is building a new bow section to the stern end of the s.s. North West. The work is expected to be completed within the next few weeks and is being supervised by N. E. McClelland & Co., Ltd., naval architects, marine engineers, etc., Montreal. The s.s. North West was owned formerly by the Northern Steamship Co., Buffalo, N.Y., and was taken over by the U.S. Shipping Board for ocean service, and cut in two at Buffalo for passage through the various canal locks. While passing through the lakes, the bow end of the vessel was lost during a storm and the stern end was taken on to Quebec and drydocked at Lauzon.

Dominion Shipbuilding Co., Toronto—The s.s General Williams, which was completed by this company, and delivered to the owners, Sept 25, is one of 6 similar type vessels built and under construction She is of steel, with 2 holds, and 1 screen and 4 watertight bulkheads, double bottom fore and aft peak for 672 tons; 4 cargo hatches, each 22 x 18 ft She is of the single deck type, with poop, bridge and forecastle, steel texas on bridge, with wing deckhouses, chart room and pilot house above, and is constructed on the transverse system. Her dimensions are: length, over all, 261 ft.; length, between perpendiculars, 251 ft.; breadth, moulded, 43½ ft.; depth, moulded, 24 ft 2½ in.; tonnage, 2,489.79 gross; 1,518.56 net; cargo capacity, 181,793 cu. ft. grain with bridge: 150,197 cu. ft. grain without bridge; deadweight capacity, including bunkers, 3,550 tons; draft loaded, 21 ft.; draft light, 7 ft. 2 ins. The propelling machinery consists of triple expansion engines with cylinders 20, 33 and 54 in. diar. by 40 in. stroke; 165 n.h.p.; 1,250 i.h.p., at 87.5 r.p.m., placed amidships, and supplied with steam by 2 Scotch boilers, each 14½ ft. diar. by 11 ft. long, at 180 lb. under forced draft; heating surface, 2,730 sq. ft. in each boiler, coal consumption in 24 hr., 23½ tons for an average speed of 10.2 knots an hour. The bunker capacity is 436 tons with bridge, and 186 tons without bridge. She is equipped with 8 reversible single drum, 2-speed, 7 x 12 in. cargo winches, and an 8 x 8 in. anchor windlass, and 7 x 7 in. steam steering gear. The crew's accommodation is arranged in the bridge and the poop decks, for 35 officers and men.

William Lyall Shipbuilding Co., North Vancouver, B.C.—It is announced that this yard is to close down, Oct. 1, on the completion of the contract with the French Government for 8 wooden steamships. The yard was established chiefly to build wooden steamship hulls under orders from the Imperial Munitions Board for the British Government, and since completing these orders, the company has built several for the French Government, and also some on its own account.

A. McLellan, Campbellton, N.B., launched the 4 masted schooner, Harry A. McLellan, 719 tons gross, at the end of August. She is to be rated at Lloyd's in the first class for her type of vessel. Her dimensions are: length over all, 186 ft.; length, over keel, 157½ ft.; beam, 35 ft.; depth of hold, 14 ft.; tonnage, 643 net. This is the first vessel launched at Campbellton since 1860.

Miramichi Construction Co., Newcastle, N.B., launched a 4 masted schooner, 600 tons register, at the end of August, she was completed and ready for sea by the end of September.

The National Shipbuilding Co., Goderich, Ont., has commenced the reconstruction of the lake freight steamship Lehigh at its shipyard at Levis, Que., for Cuban shipowners, for which purpose the ship was taken out of the water on the company's marine railway and has since been dismantled. The work consists of removing and replacing all damaged shell plates and frames, the construction of new poop and forecastle of steel, with new accommodations throughout, construction of new main deck with cargo hatches, new masts, cargo booms, with all standing and running rigging, new rudder post and rudder stock, etc. The contract calls for the delivery of the vessel completed and ready to sail for Cuba before the close of this navigation season. The company is preparing plans and estimates for considerable extensions to the Levis yard in view of important contracts now under negotiation.

Nova Scotia Shipbuilding and Transportation Co., Liverpool, N.S., launched the tern schooner, Audrey Brown, Sept. 13. Her dimensions are: length overall, 138 ft.; breadth, 28 ft.; depth of hold, 11½ ft.; tonnage, 240 net She is owned by Ritcey Bros., Riverport, N.S. The company is laying keels of two similar schooners for delivery during the winter.

Port Arthur Shipbuilding Co., Port Arthur, Ont. In connection with the launching of the s.s. Canadian Adventurer on Sept. 8 for the Marine Department, this company states that it is the largest shipbuilding company and has the largest drydock on the Canadian Great Lakes. In 1918 it built and delivered six ocean freight steamships, aggregating 21,400 d.w. tons for the British Government, 6 trawlers, aggregating 1,767 gross tons, for the Naval Service Department, and an ocean going tug of 240 gross tons for private owners. This output is said to have been second only to Canadian Vickers Ltd., for the whole Dominion. The company built the largest bulk freighter on the great lakes, the W. Grant Morden, 14,000 tons d.w., of the Canada Steamship Lines freight fleet; also the Northern Navigation Co.'s s.s. Noronic, the largest Canadian passenger steamship on the Great Lakes.

The Sorel Shipbuilding & Drydock Co., which was incorporated recently with $350,000 capital and office at Sorel, Que., has taken over the plant of the Leclaire Shipbuilding Co., which had a contract from Christoffer Hannevig, Inc., New York, for building a number of trawlers at $160,000 each. The Sorel Shipbuilding & Drydock Co. is controlled by C. Hannevig, who is President, and who is chiefly interested in the Dominion Shipbuilding Co., Toronto, and Pusey and Jones Co., Wilmington, Del.

Three Rivers Shipyards Ltd., Three Rivers, Que., is reported to have received an order to build 4 steel steamships. The company, which was organized originally to build wooden steamship hulls under orders from the Imperial Munitions Board for the British Government, was sold subsequently to the National Shipbuilding Corporation, of Delaware, which latter company completed and remodelled the yards to enable steel vessels to be built. Orders were received for 2 wooden steamship hulls 3,080 tons d.w. capacity for the British Government and these were launched Oct. 15 and Nov. 2, 1918, and named War Mingan and War Radnor, respectively. Another order was received for the construction of 10 wooden steamships of 1,500 tons d.w. capacity each for the French Government.

Yarrows, Ltd., Victoria, B.C., which was reported to be tendering for the construction of steel freight steamships suitable for the fruit trade between the West Indies and New York, for the Di Giorgio Co., of New York, had not, we were advised recently, submitted any tender for such vessels, and very little has been done so far as the proposal to build them was concerned. The s.s. Princess May, owned formerly by the C.P.R., and which was purchased recently by the Di Giorgio Co., as stated before, is being altered and overhauled at Victoria. Extensive alterations are being made, which will convert her into a fruit carrying steamship, and the hull, engine and boilers are being thoroughly overhauled. Yarrows, Ltd., has made 2 manganese bronze propellers to replace the old built up cast iron propellers, thus giving her greater speed. The existing fuel oil burning system on the vessel is being changed from the steam atomizing system to the Dahl pressure system. When the alterations, which will cost approximately $70,000, are completed, the vessel will be classed in the American Bureau of Shipping.

Atlantic and Pacific Ocean.

The s.s. Kerry Range, owned by the [illegible] Co. of Canada, Montreal, has had its name changed to Blossom Heath.

Canadian Pacific Ocean Services Ltd. has commenced an ocean steamship service between Canada and Norway. The Canadian summer port will be Montreal; the winter port, St. John, N.B., and the Norwegian port, Christiania.

S. McRae of Vancouver, second engineer of the s.s. Melville Dollar and [illegible] firemen of the same vessel were reported to have been killed on board while the steamship was on the Chinese coast, Sept. 4. The nature of the accident has not been reported.

The Royal Mail Steam Packet Co.'s s.s. Chaudiere ran ashore at Bermuda towards the end of August while navigating the Two Rock Passage and tore a hole in her starboard side. She was able to reach her dock safely and remained there until some repairs were made.

Toyo Kisen Kaisha Steamship Line announces acquisition of 7 more steamships. One is a 20,000 ton passenger ship for Orient and Yokohama service; 3 for South American trade and 3 for other points. British Columbia ports are reported to have shipped 19,776,814 ft. of lumber in August.

The s.s. Imperator, owned formerly by the Hamburg-American Steamship Co., and one of the steamships forfeited by Germany according to the terms of the armistice, will in future be operated by the Cunard Line, in conjunction with the steamships Aquitania and Mauretania, in a weekly service between Southampton, Eng., Havre, France, and New York.

The three steamships which Canadian Pacific Ocean Services Ltd. is having built for its Atlantic service are expected to be ready in about a year. They will be named Montcalm, Metapedia and Montmorency, and the approximate dimensions will be: length, b.p., 566 ft.; breadth, 70 ft.; depth, 51½ ft.; tonnage, 16,000 gross. The first two steamships are under construction by John Brown & Co., Clydebank, and the third one by Fairfield Shipbuilding & Engineering Co., Govan, Scotland.

Maritime Provinces and Newfoundland.

The Pauline Martin Shipping Co. Ltd., St. John's, Nfld., is being wound up voluntarily, with E. R. Watson as liquidator.

White Point, N.S., harbor limits, have been fixed as from Cape Egmont to Cape North, including all the navigable waters in Aspy Bay.

The Dominion Public Works Department will receive tenders to Oct. 6, for the construction of a grain conveyor without equipment, at West St. John, N.B.

The St. Lawrence, N.S., harbor limits, have been [illegible]ed as extending from [illegible]rth, N.S., to the division line [illegible] and Inverness counties.

[illegible] Halifax, N.S., have [illegible] between North Sydney, N.S., and St. John's, Nfld., with the s.s. Sable leaving North Sydney [illegible].

Bowring Bros., are reported to have arranged to build a steamship to replace the s.s. Stephano of the Red Cross Line which was sunk by a German submarine while on a short visit to the Canadian Atlantic coast.

The St. John Drydock and Shipbuilding Co. has purchased the dredge Leaconfield for use on its improvement work in Courtenay Bay. It had previously been sold to an English company, and was about to be removed to England.

St. John Steamship Co.'s stockholders were informed at a meeting at St. John, N.B., Sept. 3, that the damage to the company's s.s. Glenhome, which ran ashore at Spencers Island recently, was not extensive, and that the vessel would soon be able to resume service to Minas Bay points.

The British s.s. Chelston, owned by the Waverley Shipping Co., Glasgow, Scotland, was reported badly aground on St. Paul's Island, between Cape Breton and Newfoundland, Sept. 12. She was stated to be in a precarious position, being on a rocky bottom and exposed to high seas. She was en route from Chatham, N.B., to Glasgow.

The United States s.s. Westmoreland, was towed into Halifax, Sept. 8, in a disabled condition, owing to a breakdown of her turbines, while en route from Baltimore to Rotterdam with coal. The s.s. Mackinaw towed the Westmoreland about 400 miles, both vessels being heavily laden, and subsequently continued her voyage to London, Eng.

Two channels have been dredged to a depth of from 11 ft. at the outer end to 5 ft. at the inner end, on the east and west sides of the head of Queen's wharf, Alberton, P.E.I., the channel on the east side of the wharf is 110 ft. long with a least width of 60 ft. at the shore end, and 70 ft. at the outer end. The channel on the west side is 150 ft. long and otherwise of the same dimensions.

A board of conciliation has been appointed by the Labor Department to deal with the dispute between the Bedford Construction Co., sub-contractors for the St. John Drydock & Engineering Co.'s harbor and drydock works at St. John, N.B., and their employes. Brig.-Gen. C. L. Hervey, D.S.O., represents the company, J. E. Tighe, the employes, and Sir Ezekiel McLeod is chairman.

Sir Edgar Bowring, High Commissioner for Newfoundland, in London, Eng., and of the firm of Bowring & Co., in a speech at a Board of Trade dinner at Smithville, Nfld., Sept. 2, said that an offer had been made in London to build a breakwater between Newfoundland and Labrador at a cost of £500,000 to prevent Arctic ice from passing down the straits of Belle Isle and thereby improve the climate in the neighbourhood of the Dominion.

The Quebec Salvage and Wrecking Co. has salved the s.s. Admiral Hastings, which was wrecked on Bagots Bluff, Anticosti Island, recently, and taken her to Halifax for overhaul and repair. The damage is not so serious as was at first anticipated, but it is stated that she was driven about 3 ft. bow on, on the rocks. During the salving operations about 1,000 tons of her grain cargo was jettisoned, to hasten the salving operation, as the vessel was exposed on all sides to the severity of the weather.

The s.s. Codorus, owned formerly by the Anchor Line, Buffalo, N.Y., and taken over by the U.S. Shipping Board for war purposes, and which was wrecked at Escuminac Point, N.B., while on the way from the Great Lakes to the ocean about two years ago, has been salved by the Maritime Wrecking and Salvage Co., and taken to Halifax. She appears to be in good condition, but whether she will be repaired at Halifax or taken to a U.S. port had not been decided upon at the time of writing.

Province of Quebec Marine

The s.s. Captain Dan, which was wrecked at the Louise docks breakwater, Quebec, recently has been sold to The National Shipbuilding Co., Levis, who will probably salve the vessel before the winter sets in.

Canada Steamship Lines' s.s. Syracuse, completed her summer service Sept. 9, and has been berthed at Sorel for the winter. She was formerly known as Geronia, and is one of the vessels taken over when the Ontario and Quebec Navigation Co. was absorbed.

The National Shipbuilding Co., Levis, who have purchased the wreck of the Dominion Government s.s. Montmagny, which has been lying submerged off the Isle of Orleans for the past four years, were working on the salvage of the vessel recently, and it was expected that it would be raised and placed in their yard during September.

The Quebec Harbor Commission is carrying out a number of improvements and repairs to the Louise docks, a new roadway is being laid to the recently erected freight sheds, and the freight sheds are being reinforced with concrete facings. Shed 27 is being raised 18 in. and other sheds will be similarly raised along the breakwater.

A green spar buoy has been placed on the west side of the wrecked barge Bengalore, which lies on the east side of the Richelieu River, below Ste. Victoire wharf, and a red spar buoy has been placed on the west side of the channel opposite, to mark the width of the navigable channel. As soon as the wreck is removed the buoys will be discontinued.

Sincennes - McNaughton Line, Ltd., Montreal, has put into service the steam tugs Andree Dupre, Fredmac and Virginia, which have been built at Sorel. The Andree Dupre is screw driven, by engine of 66 n.h.p., and her dimensions are: length, 109.2 ft.; breadth, 25.5 ft.; depth, 10.8 ft.; tonnage, 233 gross, 30 net. The Fredmac is screw driven by engine of 54 n.h.p. and her dimensions are: length, 81.1 ft.; breadth, 23.5 ft.; depth, 10.7 ft.; tonnage 159 gross; 44 net. The Virginia is screw driven by engine of 54 n.h.p., and her dimensions are: length, 80.8 ft.; breadth, 23.5 ft.; depth, 10.8 ft.; tonnage, 159 gross; 14 net.

Ontario and the Great Lakes.

The Northern Navigation Co. has denied the report that it had purchased land in Sarnia for park purposes.

The Canadian Towing and Wrecking Co., Port Arthur, has purchased the s.s. Vulcan from the U.S., and has changed her name to Vinmount.

The Dominion Towing & Wrecking Co.'s steam tug Strathbell, was running during August in excursion service between Fort William, Port Arthur and Silver Islet.

The s.s. Imperial, owned in Montreal, commenced a weekly freight and passenger service between Montreal and Trenton, Sept. 18. Capt. H. Rinfret, formerly of the s.s Alexandria, has been appointed master

Masters of steamships are advised to exercise care in passing the shoal near the international boundary in the St. Clair River, between the mouth of the Black River, Mich., and Sarnia, Ont., as a dredge will at times be working in that neighbourhood.

The Detroit and Windsor Ferry Co. has been granted a supplementary license under the act respecting extra provincial corporations, authorizing it to use in Ontario a capital of $1,000,000, provided that if it uses any larger amount than authorized the license may be suspended or revoked.

The G.T.R. is reported to be conducting negotiations for the organization of a coal terminal at Prescott, and in connection therewith to operate a car ferry service to connect with the New York Central Rd., at Ogdensburg, N.Y. At present coal is carried across the St. Lawrence River to the G.T.R. at Cobourg by the Ontario Car Ferry Co.'s vessels from Charlotte, N.Y.

The United States Lake survey reports the stages of the Great Lakes in feet above mean sea level for August, as follows: Superior, 602.59; Michigan and Huron, 581.14; St. Clair, 575.92; Erie, 573.14, and Ontario, 247.33. Compared with the average Aug. levels for the last ten years, Superior was 0.03 ft. above; Michigan and Huron, 0.29 ft. above; Erie, 0.52 ft. above; Ontario, 0.84 ft. above.

The wooden steamship Toltec, owned in Detroit, Mich., was destroyed by fire near Prescott, after having been beached. She was en route from Montreal to Buffalo in ballast. The crew were saved and taken ashore by the Dominion Government s.s. Alert. The Toltec was built at Marine City, Mich., in 1889, and was extensively repaired in 1911. She was of the following dimensions: length, 191 ft.; breadth, 32½ ft.; depth, 15 ft.; tonnage, 767 gross; 621 net.

The Pittsburg Steamship Co.'s s.s. Charles R. Van Hise, which was taken over by the U.S. Shipping Board, last year, and which was cut in two to pass through the Welland Canal to the ocean, has been sold to the Morrow Steamship Co., Cleveland, Ohio. Owing to her width, 50 ft. beam, it was decided to attempt to pass her through the Welland Canal on her side, but the experience gained in passing the first section through the first lock, was sufficient to cause the abandonment of the scheme. The two sections have since been towed to Buffalo, where they are to be rejoined.

Canada Steamship Line, Ltd., has purchased the s.s. Cherokee, owned formerly in Saginaw, Mich., and has transferred her to the Canadian register under the name of Maplegrove. She was built at Marine City, Mich., in 1889, and underwent extensive repairs in 1913. She is of the well deck type, with oak hull, with diagonal strapping on frames, steel arches, and bow sheathed for navigation in ice. Her dimensions are: length, b.p., 208 ft.; breadth, moulded, 35¾ ft.; depth, moulded, 14 ft.; tonnage, 1,177 gross; 636 net. The propelling machinery consists of a fore and aft compound engine with cylinders 25 and 50 in. diar, by 40 in. stroke, 575 h.p. at 86 r.p.m., supplied with steam by a single fire box boiler, 11 ft. 4 in. diar. by 16 ft. long at 124 lb.

The s.s. Cabotia, which ran aground at the Main Ducks near Kingston, recently, has been abandoned, having broken in two. She was owned by the Cabotia Steamship Co., Montreal, and was built at Gibraltar, Michigan, in 1880, when she was named Hiawatha. She had an oak hull, with diagonal strapping on frames, and steel boiler house. She was equipped with fore and aft compound engines, with cylinders 21 and 50 in. diar., by 46 in. stroke, 700 i.h.p., 85 r.p.m., supplied with steam by one Scotch boiler 12 x 12½ ft. at 125 lb. Her dimensions were: length, 234 ft.; breadth, 36 ft.; depth, 30 ft.; tonnage, 1,530 gross, 932 net. The wreck is reported to have been sold to the Donnelly Wrecking & Salvage Co., and to have been refloated.

The s.s. F. P. Jones, owned formerly by the Geo. Hall Coal Co., Ogdensburg, N.Y., and latterly under requisition by the United States Shipping Board has been sold to Jas. Playfair, President, Great Lakes Transportation Co., Midland, Ont. She was built at Wyandotte, Mich., in [illegible], and is of steel construction, on the channel system, with steel tank top where no wood ceilings are fitted, 5 watertight and 2 non watertight bulkheads, steel boiler house, steam pump wells, electric lighting equipment, and with hatches spaced 24 ft. centres. She is equipped with triple expansion engine, with cylinders 18, [illegible] and 48 in. diar. by 40 in. stroke, [illegible] i.h.p. at [illegible] r.p.m., and supplied with steam by two Scotch boilers, 12 x 11½ ft. at 170 lb. Her dimensions are: length, 244 ft.; breadth, 43 ft.; depth 21 ft.; tonnage 1,706 gross, 1,059 net. She was wrecked off Connecticut during the war, and was repaired at the U.S. navy yard, Brooklyn, N.Y.

The Cleveland-Erieau Steamship Co., has notified the London and Port Stanley Ry. that an all winter freight and passenger service will be maintained between Cleveland, Ohio, and Port Stanley, Ont., commencing, Sept. [illegible], passengers and package freight will be handled. It is announced that the s.s. Pere Marquette No. 8 has been secured from the Chicago and South Haven Steamship Co. for the service. The Pere Marquette No. 8 was built at South Haven, Mich., in 1888, and rebuilt in 1897. She is of the awning deck type, with oak hull, wooden boiler house, windlass between decks, with no efficient bulkhead abaft same, electric lighting equipment, and was formerly known as Tennessee. Her dimensions are: length, 171 ft.; breadth, 35 ft.; depth, 20 ft.; tonnage, 691 gross, 548 net. She is equipped with fore and aft compound engine, with cylinders 18 and 36 in. diar. by 30 in. stroke, 375 i.h.p. at 100 r.p.m., and supplied with steam by a single Scotch boiler 11 x 12 ft. There is cabin accommodation for 60 passengers and large freight carrying capacity.

British Columbia and Pacific Coast.

The Grand Trunk Pacific Coast Steamship Co. is reported to be considering the establishment of a ferry service between Prince Rupert, B.C., and Ketchican, Alaska.

The C.P.R. s.s. Princess Mary has been overhauled and repaired at Victoria, and was placed on the Alaska route, Sept. 9, the s.s. Princess Alice being transferred to the Gulf route.

The C.P.R. s.s. Princess Ena left Victoria at the end of August, after having been repaired by the Victoria Machinery Depot Co., subsequent to grounding on Ripple Rock early in August.

The British Columbia Express Co.'s s.s. B.X. was wrecked near Woodpecker Island recently, the vessel and cargo being a total loss, but the crew were saved. She was a paddle wheel steamship, with engines of [illegible], and was built at Victoria in 1910, her dimensions being: length, [illegible] ft.; breadth, [illegible] ft.; depth, [illegible] ft.; tonnage, [illegible] gross, [illegible] net. The service is being continued by a sister vessel.

With reference to the report mentioned in our last issue that the C.P.R. was contemplating the building of additional and larger steamships for its British Columbia coast service, we are officially advised that no additional plans have been made and no expenditure authorized. It is very likely that a decision will be arrived at about the end of the year.

The s.s. Blue Queen has been [illegible]

Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marie Canals during August, 1919:

Eastbound.

ARTICLES.		Can. Canal	U.S. Canal	Total
Lumber	m. ft. b. m.	1,132	[illegible]	[illegible]
Flour	Barrels	399,040	[illegible]	[illegible]
Wheat	Bushels	1,068,001	[illegible]	[illegible]
Grain, other than wheat	Bushels	3,089,867	[illegible]	[illegible]
Copper	Short tons	1,340	[illegible]	10,213
Iron Ore	Short tons	63,456	[illegible]	4,727,994
Pig Iron	Short tons	175		[illegible]
Stone	Short tons	[illegible]	[illegible]	[illegible]
General Merchandise	Short tons	[illegible]	[illegible]	[illegible]
Passengers	Number	[illegible]	3,075	9,720

Westbound.

ARTICLES.		Can. Canal	U.S. Canal	Total
Coal, soft	Short tons	[illegible]	[illegible]	[illegible]
Coal, hard	Short tons	[illegible]	[illegible]	[illegible]
Iron Ore	Short tons		[illegible]	[illegible]
Mfd. Iron and Steel	Short tons	17,411	[illegible]	[illegible]
Salt	Short tons	[illegible]	[illegible]	[illegible]
Oil	Short tons		[illegible]	[illegible]
Stone	Short tons		[illegible]	[illegible]
General Merchandise	Short tons	[illegible]	[illegible]	[illegible]
Passengers	Number	[illegible]	[illegible]	[illegible]

Summary.

ARTICLES.		Can. Canal	U.S. Canal	Total
Vessel passages	Number	[illegible]	[illegible]	[illegible]
Registered tonnage	Net	[illegible]	[illegible]	[illegible]
Freight—				
Eastbound	Short tons	[illegible]	[illegible]	[illegible]
Westbound	Short tons	[illegible]	[illegible]	[illegible]
Total Freight	Short tons	[illegible]	[illegible]	[illegible]

by Wallace Shipyards, Ltd., North Vancouver, on a claim for $17,600 for repairs and supplies between Aug. 26 and Sept. 4. There is also litigation between two parties in Vancouver on a claim for $1,000 commission on the sale of the vessel, which has had a rather romantic career. She was formerly a motor driven ship named Bowler, and prior to that she was known as Zafiro, and under this last name was utilized as a coaling vessel for Admiral Dewey's flag ship at Manila Bay during the Spanish-American war. After the war was over she was bought by Capt. S. McKenzie, Vancouver, and remodelled, but was idle for a number of years.

Resumption of Normal Passenger Business.

Montreal press dispatch, Sept. 18—Indications point to an early ending of the requisition of passenger space for government requirements on both the Canadian and United States routes, and from British ports. A circular was received today at the White Star offices advising that third-class bookings could now be accepted on the steamships Lapland and Adriatic, sailing from Southampton to New York, beginning with the sailing of the Lapland from Southampton, Sept. 16. This is taken as the beginning of the end of war activities, and will open the way to the resumption of normal ocean travel. It was stated that the indications are that plenty of space on all lines will soon be available for civilian travel, on both the New York and Canadian lines to British ports. Probably the end of October will see the close of the military monopoly of passenger service, which has caused so much dislocation during the war.

Port Wade Shipbuilding Co., Port Wade, N.S., has launched the schooner Jean F. Anderson, 443 net tons. Her dimensions are: length, 140 ft.; breadth, 33.3 ft.; depth, 12.7 ft.

Vessels Registered in Canada During July and August, 1919.

In compiling the following lists of vessels registered, steamboats and motor boats, operated by engines of less than 10 n.h.p., are eliminated, as also are sailing vessels of less than 100 tons register.

STEAM.

No.	Name	Port of Registry	Where and when built	Length	Breadth	Depth	Gross Tons	Reg. Tons	Engines, Etc. N.h.p.	Owners or managing owners
141145	Algerine (1)	Victoria, B.C.	Devonport, Eng. 1895	188.8	32.5	14.6	592	302	104 sc.	Pacific Salvage Co., Victoria, B.C.
[illegible]	Andree Dupre	Montreal	Sorel, Que. 1919	109.2	25.5	10.8	233	30	66 sc.	Sincennes McNaughton Line Ltd., Montreal.
141477	CanadianSailor (1)	"	Port Arthur, Ont. 1919	251.0	43.8	20.7	2186	1283	157 sc.	Minister of Marine and Fisheries, Ottawa
141468	Can. Seigneur (1)	"	Montreal 1919	400.6	52.3	28.4	5757	3554	266 sc.	" " "
141479	Can. Signaller (1)	"	Collingwood, Ont. 1919	251.0	43.6	23.6	2415	1455	124 sc.	" " "
141476	Canadian Trader (1)	"	Port Arthur, Ont. 1919	251.0	43.8	20.7	2186	1283	157 sc.	" " "
141442	Can. Trooper (1)	"	North Vancouver, B.C. 1919	320.0	44.2	22.9	3180	1953	226 sc.	" " "
130226	E. D. M. Purvis	Owen Sound, Ont.	Gore Bay, Ont. 1918	71.0	18.0	8.0	87	59	14 sc.	J. Purvis, Gore Bay, Ont.
141471	Fredmac	Montreal	Sorel, Que. 1919	81.1	23.5	10.7	159	14	54 sc.	Sincennes McNaughton Line, Ltd., Montreal.
141996	General Turner (1)	Toronto	Toronto 1919	251.0	43.6	21.2	2490	1519	146 sc.	Dominion Shipbuilding Co., Toronto.
138217	Glenbrae (2)	Midland, Ont.	Buffalo, N.Y. 1890	276.0	40.0	21.3	2350	1423	136 sc.	Great Lakes Transportation Co., Midland.
138216	Glencairn (3)	" "	" " 1893	266.0	41.0	22.4	2152	1633	117 sc.	" " "
138218	Glenstriven (4)	" "	" " 1889	274.0	42.2	20.5	2152	1585	114 sc.	" " "
113497	Iver Heath	Montreal	Wallsend, Eng. 1901 Halifax, N.S. 1919	469.5	56.2	31.9	9170	5853	406 sc.	Bishop Navigation Co., Montreal.
[illegible]	John Rugee	"	Milwaukee, Wis. 1888	223.5	35.3	18.8	1261	765	69 sc.	A. Hutchinson, Montreal.
[illegible]	Maplegrove (5)	Montreal	Marine City, Mich. 1889	208.0	35.9	14.0	1057	637	104 sc.	Canada Steamship Lines, Ltd., Montreal
141269	Merle C.	Parrsboro, N.S.	Fox River, N.S. 1919	124.6	30.5	11.0	277	217	24 sc.	K. J. Cochrane, Fox River, N.S.
141480	Virginia	Montreal	Sorel, Que. 1919	80.8	23.5	10.8	159	14	54 sc.	Sincennes McNaughton Line, Ltd., Montreal.
[illegible]	Weldon	Ottawa	Aylmer, Que. 1919	88.4	19.0	6.9	107	65	24 sc.	Chats Falls Navigation Co., Ottawa.
117073	Westerian	Montreal	Buffalo, N.Y. 1871 Montreal 1913	217.5	32.6	14.0	988	672	81 sc.	Thomas Hall, Montreal.
[illegible]	Winona	Midland, Ont.	Port Stanley, Ont. 1902 Wiarton, Ont. 1919	110.0	22.0	8.9	233	158	24 sc.	James Purvis, Gore Bay, Ont.

(1) Equipped with wireless. (2) Formerly Brazil. (3) Formerly Granville A. Richardson. (4) Formerly America. (5) Formerly Cherokee.

SAILING.

No.	Name	Port of Registry	Rig	Where and when built	Length	Breadth	Depth	Gross Tons	Reg. Tons	Owner or Managing Owner.
[illegible]	Alonzo F. Burt	Montreal	Scow		96.2	17.5	7.8	125	125	Century Coal Co., Montreal.
[illegible]	Amy G. McKeen	Halifax, N.S.	Schr.	Tufts Cove, N.S. 1919	141.4	33.3	12.4	465	465	W. K. McKeen, Halifax, N.S.
[illegible]	Beatrice Robert	Montreal	Scow	Whitehall, N.Y. 1903	96.1	17.7	7.5	127	112	Richelieu Transportation Co., Montreal.
[illegible]	Charles No. 19	Vancouver, B.C.	"	Portland, Ore. 1913	138.4	36.7	9.3	330	330	Whalen Pulp and Paper Mills, Ltd., Vancouver, B.C.
[illegible]	Charles No. 20	" "	"	" " 1913	138.1	36.7	9.3	329	329	" " "
[illegible]	County of Richmond	Sydney, N.S.	Schr.	Johnstown, N.S. 1919	107.3	31.0	12.4	263	245	Cape Breton Shipbuilding Co., North Sydney, N.S.
[illegible]	D [illegible]	Port Arthur, Ont.	Dry dock	Superior, Wis. 1909	100.0	70.0	8.0	774	774	Great Lakes Dredging Co., Port Arthur, Ont.
[illegible]	Dollar VI	Vancouver, B.C.	Scow	Dollarton, B.C. 1919	136.2	39.0	9.6	452	452	Canadian Robert Dollar Co., Vancouver, B.C.
[illegible]	E. C. Adams	Lunenburg, N.S.	Schr.	Bridgewater, N.S. 1919	126.2	30.9	11.2	388	330	Howard G. Corkum, M.O., Lunenburg, N.S.
[illegible]	[illegible]	" "	"	Mahone Bay, N.S. 1919	128.6	28.6	11.0	225	169	Henry W. Adams, M.O., Lunenburg,
[illegible]	Eva A. Danenhower	St. John, N.B.	"	Camden, N.Y. 1882	116.6	30.2	8.7	226	199	C. T. White & Son, Apple River, N.S.
[illegible]	General Plumer	Liverpool, N.S.	"	Allendale, N.S. 1919	102.4	26.6	10.3	177	149	G. C. Harris Grand Bank, Nfld.
[illegible]	Gordon E. Moulton	LaHave, N.S.	"	Dayspring, N.S. 1919	122.6	27.6	10.7	224	195	J. T. Moulton, Bergeo, Nfld.
[illegible]	Harry A. McLennan	Chatham, N.B.	"	Campbellton, N.B. 1919	178.4	35.5	14.4	719	644	McLennan Foundry and Machine Works, Campbellton, N.B.
[illegible]	J. Duffy	Yarmouth, N.S.	"	Saulnierville, N.S. 1919	115.0	26.9	10.6	115	115	Duffy Blinn Shipbuilding Co., Saulnierville, N.S.
[illegible]	Jean F. Anderson	Digby, N.S.	"	Port Wade, N.S. 1919	140.0	33.3	12.7	499	443	Port Wade Shipbuilding Co., Port Wade, N.S.
141270	[illegible] Merriam	Parrsboro, N.S.	"	Port Greville, N.S. 1919	156.4	35.0	12.8	503	454	R. A. McInnis, Parrsboro, N.S.
[illegible]	[illegible]	Montreal	Scow	Champlain, N.Y. 1907	96.8	17.9	7.2	118	109	Richelieu Transportation Co., Montreal.
141401	[illegible]	Lunenburg, N.S.	Schr.	Lunenburg, N.S. 1919	122.3	27.3	10.6	193	155	J. B. Young, Lunenburg, N.S.
[illegible]	[illegible]	Halifax, N.S.	"	Chezzetcook, N.S. 1889 East Jeddore, N.S. 1919	63.1	19.6	8.7	62	62	I. A. Hopkins, Halifax, N.S.
[illegible]	[illegible]	Vancouver, B.C.	Scow	New Westminster, B.C. 1919	97.1	33.9	8.2	229	229	McNeil, Welch and Wilson, Vancouver, B.C.
141290	[illegible]	LaHave, N.S.	Schr.	Ship Harbor, N.S. 1919	135.0	32.2	12.0	416	416	M. J. Parks, M.O., LaHave, N.S.
[illegible]	Mary G. Duff	Lunenburg, N.S.	"	Chester Basin, N.S. 1919	143.0	32.5	11.6	393	349	Mary G. Duff Shipping Co., Lunenburg, N.S.
[illegible]	[illegible]	Parrsboro, N.S.	"	Spencers Island, N.S. 1919	149.5	35.8	13.0	504	457	H. Gillespie, Parrsboro, N.S.
[illegible]	[illegible]	" "	"	Parrsboro, N.S. 1919	154.0	35.0	12.4	458	418	C. T. White & Son, Sussex, N.B.
[illegible]	Wm. C. Bloom[illegible]	Montreal	Scow	Champlain, N.Y. 1897 St. Hilaire, Que. 1919	96.3	17.8	7.4	126	112	Richelieu Transportation Co., Montreal.

Grain Shipping Statistics.

The following statements, prepared by the Board of Grain Commissioners, show the total quantities of each kind of grain, shipped in vessels from Fort William and Port Arthur, during the crop year 1918-1919, according to the ports at which the cargoes were discharged, and also the comparative figures for the crop year just before the war, and for the five war years. In addition to the figures given below, 16,171,288 lbs. of sample mixed grain was shipped to Canadian ports in Canadian vessels, 9.749-0700 tons of elevator screenings in Canadian vessels, and 18,178-1870 tons of elevator screenings in U.S. vessels, to Canadian and U.S. ports.

	Wheat. Bush.	Oats. Bush.	Barley. Bush.	Flax. Bush.	Rye. Bush.
To Canadian ports					
Collingwood	266,820 30				
Depot Harbor	6,071,743 30			27,500 00	
Goderich	10,118,483 30	1,854,207 16	100,863 13	455,088 04	
Kingston	176,828 30		60,685 20	81,419 03	
Montreal	331,893—30	975,147—26	1,395,234—14	105,937 16	
Midland	10,858,938—30	1,068,608—10	618,157—11		326,271 16
Port Colborne	20,323,288—40	504,690 29	3,621,140 15		58,907—11
Port McNicoll	23,286,128—20	589,109—31	1,121,387—08	50,972 38	6,519—04
Port Stanley	136,679—50				
Tiffin	14,505,829 20	184,723 08	1,350,995—09		
Total	86,076,634—10	5,176,487—18	8,268,763 27	720,947 05	391,697 34
To United States ports—					
Buffalo	2,797,037—30	1,406,418—26	833,313 30	281,561—14	29,684—14
Chicago					
Cleveland				34,150 00	
Detroit	121,673 30				
Duluth-Superior	988,285—50			387,518 49	273,737 38
Port Huron	58,000—00				
Total	3,964,996—50	1,406,418—26	833,313 30	713,230—07	303,421—52
Lost in wreck	390,151—40				
Grand total	90,431,782—10	6,582,906—10	9,102,077—09	1,434,177—12	695,119 30
Crop year 1913-1914—					
788 cargoes in Canadian vessels	64,121,076—43	25,276,164—16	5,942,638—35	2,218,179—14	
350 cargoes in U.S. vessels	62,105,746—00	14,351,323—22	4,031,185—25	9,927,058 05	
	126,226,822—43	39,627,488 04	9,973,824—12	12,145,237—19	
Crop year 1914-1915—					
617 cargoes in Canadian vessels	58,732,476—50	15,505,597—22	1,837,021—32	1,448,747—42	
95 cargoes in U.S. vessels	18,813,926—40	1,130,202—21	690,854—07	3,035,977—01	
	77,546,403—30	16,635,800—09	2,527,875—39	4,484,721—43	
Crop year 1915-1916—					
1019 cargoes in Canadian vessels	109,516,553—00	42,622,650—33	5,852,179—18	1,033,999—34	
830 cargoes in U.S. vessels	147,613,134—30	17,171,859—08	3,102,635—44	3,650,649—20	
	257,129,687—30	59,794,510—07	8,954,815—14	4,684,648 54	
Crop year 1916-17—					
683 cargoes in Canadian vessels	76,749,071—10	32,342,495—12	4,000,267 42	1,698,326—04	
451 cargoes in U.S vessels	61,824,965—40	15,344,189—30	2,810,565—36	1,659,769 45	
	138,574,036—50	47,686,685 08	6,810,833—30	6,358,095 49	
Crop year 1917-1918—					
390 cargoes in Canadian vessels	47,029,045 20	9,420,105—26	4,352,101—46	1,009,518 49	
270 cargoes in U.S. vessels	52,700,813—30	8,422,003—13	676,867—46	2,322,023 17	63,685 11
	99,729,858 50	17,842,109 05	5,028,969 11	3,331,542 40	63,685 11
Crop year 1918-1919—					
457 cargoes in Canadian vessels	67,880,062—00	8,266,933 11	8,268,763 27	908,524 02	440,211 43
102 cargoes in U.S. vessels	22,551,720—40	315,972 33	833,313 30	525,653 10	254,907 43
	90,431,782—40	6,582,906 10	9,102,077 09	1,434,177 12	695,119—30

The German Submarines which were allotted to the Japanese Navy arrived in Japan recently after a voyage of over 10,000 miles under their own power. It is said that almost no difficulty was encountered on the voyage which speaks volumes for the durability of the Diesel engine as built for the Germany Navy.

The Northern Navigation Co., recently offered to moor one of its steamships at the foot of Brush St., Detroit, Mich., for use as a winter hotel to relieve hotel congestion there. We have been officially advised that this matter was duly considered, but owing to difficulties, which were considered insuperable, the proposal will not be carried out by that company.

The Public Works Department received tenders during September for the rebuilding of the lock and dam at Bobcaygeon on the Trent Canal. This work has been rendered necessary on account of the worn out and leaky condition of the existing lock. The new lock will be 175 ft. long; 33 ft. wide and with 8 ft. 4 ins. of water on the miter sills, the same as the other locks on the Ontario-Rice Lake Division. Both the lock and dam will be of concrete, and the work will include some dredging at both the upper and lower entrances.

British Columbia vs. Great Britain for Shipbuilding.

The Canadian Gazette, London, Eng., says: "Englishmen will be wise if they look facts in the face and realize the possibilities of their displacement in leadership on the sea. Harold E. Yarrow, of the famous Scottish-Canadian shipbuilding firm, tells the Briton quite bluntly in the London Evening Standard that he is profoundly mistaken in supposing that Americans cannot build ships because of want of experience. He says the truth is that Americans are building ships not less efficiently than we are, and that their costs of construction are slowly but surely approximating to our own. They are being greatly helped by the 'ca' canny' policy of British trade unions and their passive resistance to pneumatic tools and other labor-saving appliances. Yarrow & Co. have no illusions on the subject. 'We have,' says Mr. Yarrow, 'a yard on the Canadian Pacific coast as well as one on the Clyde, and are therefore in a position to know exactly how costs of production compare. We are ready to increase our output in British Columbia and reduce it here if and when the circumstances demand. Our yard at Scotstoun is one of the best equipped on the Clyde, and, given a chance, it can turn out work as well and as cheaply as any yard in the country. But we have no intention of waiting until the business there gives us up. We shall give it up before it gives us up.' There is no mistaking the tone and meaning of that warning."

Marconi Wireless Telegraph Co. of Canada's Annual Meeting.

The report for 1918 was presented at the annual meeting held at Montreal, Sept. 17. The profits were $138,647, compared with $114.953 for 1917. After providing for interest on advances, $25,057, and reserve for depreciation, $19,216, a balance of $293,787 was carried forward, compared with $198,413 from 1917. It was announced that the company had a contract with the Dominion Government for equipping 40 of the steamships built and under construction in Canada for Canadian Government Merchant Marine Ltd. Ship rentals increased from 44 in 1913 to 132 in 1918. A tribute was paid Hon. C. C. Ballantyne, Minister of Marine, for his services in securing permission to resume commercial operation of the trans-Atlantic wireless telegraph service.

The President, J. N. Greenshields, K.C., in dealing with the action of the Canadian and British governments with regard to the company's stations during the war, said: "No settlement has been arrived at with the Canadian Naval Service Department in respect of the company's claim for compensation for the closing down of east coast stations for the period subsequent to Aug., 1916. Claim has also been presented against the British Admiralty for loss of revenue owing to the closing down of the company's high power stations at Glace Bay and Louisburg, and steps have been taken to press for an early settlement of same. Your company had still to contend with adverse traffic conditions during practically the whole year, and government restrictions on wireless working deprived the company of much traffic revenue. After the signing of the armistice on Nov. 11, 1918, a gradual [illegible] of war restrictions took place. [illegible] coast stations, which had been closed [illegible] to be taken over by the Canadian Naval Service Department, were turned back to the company for operation, and every effort made to rebuild a profitable [illegible]. During the concluding weeks of the year, revenue from this source showed good progress and your directors look forward confidently to increased returns in the future."

J. N. Greenshields, K.C., was re-elected President; Thos. Robb, heretofore General Manager, was elected Vice President, and A. H. Morse, heretofore representative of the English company, was appointed Managing Director, with a seat on the board, vice E. J. Nally, New York, who retired.

Following the annual meeting, a special meeting of shareholders was held to ratify a bylaw reducing the amount of the common stock from $5,000,000 to $2,500,000, by reducing the par value of the shares from $5 to $2.50, and providing for the issue of $1,250,000, additional shares of stock. The English company is taking $1,000,000 of the new issue.

Among the Express Companies.

The Dominion Ex. Co. has added a number of 5 ton motor trucks to its equipment in London and Liverpool, Eng., owing to the remarkable increase of package traffic there, to and from Canada.

The Canadian National Ex. Co. has opened a waybill office at Neelin, Man., and an agency at Dropmore, Man. The offices at East Selkirk, Scanterbury, Grand Beach, and Victoria Beach, Man., were closed for the season Sept. 3.

The Canadian National Ex. Co. has opened offices at Graysville, Sandy Lane, and Erickson, Man., and temporary offices at Dropmore, Man., and Kylemore, Sask., for the rush of grain traffic. The offices at Port Carling and Rosseau, Ont., and Alberta Beach, Alta., were closed Sept. 1, and Sept. 17, for the winter.

The Winnipeg Board of Trade Shippers' Bureau requested the Board of Railway Commissioners recently to postpone the going into effect of the new express rate schedule from Sept. 1. to Oct. 1, it being claimed that the new rates discriminate against the west and that they contain many discrepancies.

The Board of Railway Commissioners passed order 28,784, Sept. 18 as follows: Re application of Central Canada Express Co., under section 323 of the Railway Act, for approval of bylaw 10, passed at a meeting of the directors, Sept. 6, authorizing C. Hope, Assistant Superintendent of the company, to prepare and issue all tariffs of tolls to be charged by the company for the carriage of express, upon the report and recommendation of the board's Chief Traffic officer, it is ordered that the said bylaw be approved, and that order 26,419, Aug. 14, 1917, approving the company's bylaw 7, be rescinded.

The Board of Railway Commissioners passed order 28,717, Aug. 29, as follows: Re application of Express Traffic Association of Canada on behalf of Canadian, Canadian National, and Dominion Express companies, for approval of a special tariff on cream in cans, with or without jackets, to be charged by those companies [illegible], between points [illegible] Fort William, Ont. [illegible] that the said tariff [illegible] rates 5c a can lower than formerly in effect, which rates do not include waggon service; with the option to the consignee of requiring waggon delivery by the express companies at an additional charge of 5c a can, subject to notice to that effect by the consignee as set out in the tariff, it is ordered that the said tariff C.R.C., no. ET-672, published to take effect Sept. 1, 1919, be approved. And it is further ordered that order 14,594, Aug. 21, 1911, be rescinded.

Express companies operating in Canada put into force Sept. 1 a new set of tariffs and a classification, applying on Canadian traffic only, and not on business to or from the U.S. A joint directory of express stations throughout Canada has been issued, giving a complete list of express offices arranged alphabetically by provinces. An important change has been made in connection with the collection and delivery of express matter, the companies not now being required to collect or deliver above the ground floor of any building, any articles of such size or weight as cannot be handled by one man, unless elevator facilities are available; companies are also not required to collect or deliver shipments of extraordinary weight or bulk, such as boats, pianos, live animals not in crates, etc. Such shipments may be delivered to the company by an independent carter. In the special commodity tariffs thus provided, no cartage will be performed on commodities at special carload rates; on l.c.l., carried at such rates, no collection service will be given, but delivery will be made at destination where a cartage service is maintained, and companies will not be required to collect returned empty cream cans.

Express Rates on Fish From Selkirk to Chicago.

In 1916 Booth Fisheries Co. complained to the U.S. Interstate Commerce Commission of the express rates on fresh fish from Selkirk, Man., to Chicago, Ill., and the following decision was given recently:

Complainant is a corporation engaged in the business of catching and selling fish. By complaint filed May 3, 1916, it is alleged that the rates of $3 and $3.20 per 100 lb., charged for the transportation of fresh fish, in less than carloads, from Selkirk, Man., to Chicago, Ill., in Oct., 1914, and June, 1915, were excessive, unreasonable, unjust, and unduly discriminatory, in violation of sections 1, 2, 3, and 4 of the act to regulate commerce in so far as said rates exceeded $2.60. It asks for reparation on 4 shipments, 2 of which moved in Oct., 1914, and 2 in June, 1915. That portion of fourth section application 4,306 of American Express Co., by which authority is sought to continue to charge lower rates on shipments of fresh fish from Selkirk to Detroit, Mich., and Buffalo, N.Y., than to Chicago and other intermediate points was assigned for hearing with the complaint.

The shipments moved via Dominion Express to Emerson, Man., on the International Boundary, thence via Western Express to St. Paul, Minn., and American Express to Chicago. The Western Express Co. was not made a defendant. The transportation performed by the Dominion Express Co. was beyond the boundaries of the U.S.

In their answers and at the hearing the defendants questioned our authority to award the reparation sought. We have held that our jurisdiction over through rates from points in Canada to points in the U.S. is limited to the portion of such transportation performed by the carriers from the port of entry. No evidence was submitted by complainant to show that the portion of the rate which accrued to the U.S. lines was unreasonable, unjustly discriminatory, or unduly prejudicial. It relied solely on the lower rate to Buffalo applicable over the route through Chicago.

At the time the shipments moved the American Express Co. concurred in a rate of $2.60 per 100 lb. from Selkirk to Detroit, and Buffalo, and this rate was applicable over the route through Chicago and intermediate points. A fourth section application was filed for authority to maintain the rate of $3 to Chicago, but no further application was filed for authority to increase the rate to that point to $3.20, and to thereby increase the spread between Chicago and the farther distant pints. It is asserted for the defendants that the rate to Detroit and Buffalo is controlled by the Dominion Express Co., which performs all the transportation from and to those points over routes almost entirely outside of the boundaries of the U.S. In a letter filed subsequent to the hearing, complainant admitted that no shipments have been forwarded to Detroit and Buffalo through Chicago by express, such shipments as may have moved via that route were by freight. Since this case was submitted the fourth section departure as to Chicago has been removed. At the hearing witness for complainant stated that no shipments were then being made by express to Chicago, but that they were handled by freight from Selkirk to Winnipeg and thence by express to Chicago. The complainant's interest in the case is therefore solely on the question of reparation on the particular shipments which had moved.

We find that the rates assailed are not shown to have been unreasonable or unduly prejudicial. There is no proof of damage by reason of the maintenance of a lower rate to Detroit and Buffalo than to Chicago, and, following Appalachia Lumber Co. v. L. & N.R.R. Co., 25 I.C.C., 193-197, and Iten Biscuit Co. v. C.,B. & Q.R.R. Co., 50 I.C.C., 724, ante 729, reparation is denied.

No evidence was offered in justification of departures from the provisions of the fourth section, and since they have been corrected an order will be entered denying the application to the extent that it is involved.

Commissioners McChord and Meyer dissented.

W. H. Burr represented the Dominion Express Co.

Armament on Canadian Steamships—Ship owners are instructed that guns which have been mounted on steamships during the war need not now remain. The policy with regard to British register vessels is as follows: On removing the guns, the gun seating is to remain in vessels of 3,000 tons gross, and stiffening to remain in all cases, except in vessels under 1,600 tons, where, in the opinion of the naval authorities, it materially affects cargo or passenger accommodation; the stiffening for howitzers may also be removed if it interferes with cargo or passenger accommodation. A similar policy is recommended for Canadian vessels and the Naval Service Department requests vessel owners to advise as to what action they propose to take in the matter.

The Telegraph Profession.

By H. Hulatt, Manager of Telegraphs, Grand Trunk Ry., and Grand Trunk Pacific Ry., Montreal.

The head of a telegraph organization is very frequently asked by parents: "What prospects has a young man entering the telegraph service?" Personally my invariable reply has been that prospects are good, provided the applicant aims to become something more than an ordinary operator, by taking steps through constant study to equip himself for the bigger positions, thereby keeping abreast of the times. In this connection it is well for us all to realize that today the telegraph profession is entering a period of new development and of great changes.

Not so many years ago, if a railway superintendent of telegraph could use the Morse code, had a knowledge of wire testing, understood the proper care of gravity batteries, how to set up a duplex or quad, coupled with a rough and ready knowledge of construction matters, he, to use a common expression, filled the bill. Needless to say such requirements did not call for highly trained technical men, and as a result salaries could not be said to be attractive. Are prospects today any brighter?

It can probably be stated without fear of contradiction that the first move to place the railway telegraph profession on a higher plane, was the inauguration of telephone train dispatching, necessitating apparatus developed mainly, not by telegraph men, but, by the highly trained technical men of the telephone profession, and affiliated manufacturing interests. As a result of this development, railway telegraph men have gradually been obliged to study and be able to intelligently and efficiently handle simplexes, private long distance telephone circuits, also the phantoming of circuits, the installation and maintenance of motor generators, installation and care of printer telegraphs, telautographs, and other types of electrical and mechanical labor and time-saving devices. These developments have also as a result brought prominently before superintendents of telegraphs and their staffs that most complex problem "inductive interference," and necessity for close study of same by keeping posted on the results of the various researches made by experts making a specialty of such problems.

A perusal of the report of committee no. 5, of the Telegraph and Telephone Division of the American Railroad Association, presented at the Chicago meeting of the division in June last, covering as it does recent developments in telegraph and telephone practice and apparatus, indicates very clearly that we are just entering an era of great changes. There is little doubt that in the near future such problems as multiple telephony, wireless telephony and telegraphy, also many new methods of multiplying the use of existing facilities without the erection of additional outside plant will have to be considered by the men of the railway telegraph departments.

While there are undoubtedly exceptions, and some extremely bright ones, —as a general rule are the employes of railway telegraph departments technically equipped to meet the everchanging conditions? Frankly, I think it must be admitted that they are not, and in their own interests, and particularly in the interests of their employers they should undoubtedly take prompt steps to remove the disability under which they are laboring. Such action on their part will be to the benefit of their companies, and incidentally do much toward improving their own financial status.

Our profession has entered into what may be termed the higher technical field, and the necessity is present for us all, whether we be officers or privates, to endeavor to equip ourselves mentally for the much greater problems and responsibilities we shall undoubtedly be called upon to study and assume in the coming years. If we fail to measure up to requirements, our employers can easily replace us by securing from the outside men having the requisite technical training; consequently I am writing this article from a selfish point of view, feeling as I do that the plums from the tree should be for those who are members of the family, therefore we, who are in the profession or family, should ensure that we have the ladder to reach the fruit, and that ladder, to my mind, is better education and technical training.

H. Hulatt,
Manager of Telegraph, Grand Trunk Ry., and Grand Trunk Pacific Ry.

I can imagine some old timer (and by the way we of the younger generation have a great deal to thank the old timers for) on reading this, saying: "Technical training only creates theorists; what we need is practical men." This prejudice against theory is out of date; the law of gravitation is a theory—no man ever saw it actually in operation. As Dr. J. F. Johnson, Dean of the New York University School of Commerce, Accounts and Finance, states in his really wonderful book, "Business and the Man":

> "Our railways, steamships, bridges and factories with all their machinery have been constructed in harmony with theories that have been carefully thought out and tested. If man theorized no more and began to forget what theory has already taught him, in a few generations the human race would again be in a state of barbarism."

What we need is a thorough knowledge of theory, and the best method of applying it in practice.

It is possible I have in the foregoing looked upon the dark side, but it has always seemed to me, especially within the past eight to ten years, that the rank and file and also subordinate officers of railways, in so far as promotion is concerned, have been satisfied to adopt a policy of watchful waiting, in the hope that the man above them would retire, be promoted, or transferred, and that if they were lucky possibly they might be promoted to the higher position.

The majority of such men are doing their level best to give their company one hundred cents or more for every dollar of salary they receive, yet, it has not seemed to dawn upon them that a much more rapid promotion awaits them provided they equip themselves mentally over and above their competitors by studying not only the technical features of their work, but, what is even more important, by securing a thorough knowledge of the laws and principles governing business phenomenae, and the practical application of same.

The executive today (and to be one should be the ultimate aim of the latest messenger boy added to the pay roll), must be an intellectual power, aggressive, and broadminded. Such attributes he can only attain by practical experience backed up by thorough and ever progressive education.—Telegraph and Telephone Age.

Telegraph, Telephone and Cable Matters.

The British cable ship Colonia has completed the laying of a new telegraph cable between England and Brazil.

Mrs. W. M. Camp, wife of the Assistant Manager, C.P.R. Telegraphs, Montreal, spent part of the summer at Sharbot Lake, Ont.

Senatore Marconi is reported as saying that wireless telephony, when less expensive, will speedily become a necessity to business.

Miss M. B. Campbell has been appointed local manager, Western Union Telegraph Co., Glace Bay, N.S., vice Mrs. P. H. Roach, resigned.

G. G. Ward, Vice President, Commercial Cable Co., is reported as stating that a second cable from San Francisco to Japan, by way of Midway Island, is practically assured.

By means of the "Great Voice," a wireless magnifying telephone, installed at the direction of the Chief Signal Officer, United States Army, the address of Vice President Marshall, delivered at Trinity Church [illegible], Washington, recently, was heard throughout a radius of approximately 4 miles.

The Board of Railway Commissioners' general order [illegible], Aug. 29, amending order [illegible], Dec. 6, 1906, as amended by order 8,897, Dec. 11, 1909, substituting a new clause, providing that tariff and telephone tolls hereafter filed with the board shall be printed on sheets, or in books, of a size not to exceed 11 in. long by 8½ in. wide. Order 8,897, Dec. 11, 1909, has been rescinded.

The Commercial Cable Co. is reported to have decided to lay a second cable across the Pacific Ocean from San Francisco, Cal., to Japan, via Midway Island. It is stated that the company is not asking any financial assistance or guarantee from the U.S. or Japanese governments, merely asking landing rights. It is also announced that Japanese interests at Tokio have formed a company, with a capital of $25,000,000, to lay a cable between Japan and the U.S.

The British House of Commons, has, it is stated, voted $850,000 for the commencement of an Imperial wireless telegraph service for commercial messages. Construction of the terminal station in England is said to have been commenced at Leafield, Oxfordshire, and the first eastern station is said to have been located in Egypt. This report should be treated with some reserve, on account of the comparative smallness of the vote mentioned, and of the reported location of the terminal station in England.

The Great North Western Telegraph Co. has opened offices at Summit, N.B., Langlade, Pointe a la Fregate, Que., Allandale, Banning and Glenorchy, Ont.; Dropmore, Ericksdale, Fork River, Graysville, Neelin and Sandy Lake, Man.; Hamton, Sask.; and Radway Center, Alta.; and has closed its offices at Bellevue Jct., Clarenceville, Manoir Richelieu, Mount Johnson, Sabrevois, St. Barnabe, St. Demase, and St. Louis de Bonsecoeur, Que., Minataree, Queen's Royal Hotel, Royal Muskoka Hotel, Shakespeare, Smithville and Vankleek Hill, Ont.

The 36th annual meeting of the Old Time Telegraphers and Historical Association was held at Cleveland, Ohio, Sept. 18. G. D. Perry, General Manager, Great North Western Telegraph Co., was elected President; and E. R. Wood, President, Dominion Security Corporation, J. J. Seitz, President, United Typewriter Co., and Allan Purvis, General Superintendent, Ontario District, C.P.R., all of Toronto, were elected vice presidents for the current year. Following the usual custom of holding the meeting at the home town of the President, the 1920 meeting will be held at Toronto.

R. N. Young, Superintendent of Telegraphs, British Columbia District, C.P.R., is reported to have stated at Penticton, early in September that the C.P.R. intended completing a commercial telegraph line between Penticton and Princeton, B.C., in order to give Similkameen a direct wire outlet to the coast, that in the meantime the section to Princeton will be completed and the Princeton business handled via Penticton and Vernon, and that when the portion to Hope is erected, the Princeton business will go that way and Penticton will have its own commercial wire, as well as one north to Vernon and thence to the coast.

Sir Charles Bright in addressing the British Association in London, Eng., Sept. 12, urged the need for Imperial cable communication to be established on a satisfactory basis. He said that the present Atlantic link in the proposed all-red route is the old German cable which was seized during the war and which at best is a poor affair. He [illegible] the duplication of the Pacific cable and said that the only satisfactory method of communication to Australia would be a direct line from London to Melbourne, and he considered that the government should lay a cable. He also [illegible] the establishment of an all British wireless chain, with every Imperial cable supplemented by wireless.

[illegible] of the Canadian Pacific Ry.'s telegraph lines has been practically

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ANNUAL REPORT

OF

The Quebec Railway, Light, Heat and Power Co., Limited

FOR THE
FISCAL YEAR ENDING 30TH JUNE, 1919

Submitted at the Annual Meeting held in Montreal on the 9th September, 1919.

TO THE SHAREHOLDERS:—

Your Directors beg to submit the following report and Financial Statement of the Company's operations for the fiscal year ended 30th June, 1919.

The Gross Earnings from Operation for the year were $2,077,621.43 as compared with $1,797,852.83, being an increase of:

$279,768.60

The Operating and Maintenance Expenses were $1,444,516.08 as compared with $1,235,724.33, being an increase of:

$208,791.75

leaving a Net Revenue of $633,105.35 as compared with $562,128.50, being an increase of:

$70,976.85

After adding Miscellaneous Income $27,722.61, not including earnings on Quebec & Saguenay Railway Company's securities, and deducting Fixed Charges, Taxes, Depreciation on Cars, etc., of $726,101.55, there remains a deficit of $65,273,59, leaving a balance at the credit of Surplus Account to date of:

$682,464.29

The line of railway between St. Joachim and Nairn's Falls under construction for the Quebec & Saguenay Railway Company—one of this Company's subsidiaries—has been acquired by the Dominion Government. This sale took place under date of March 4th, 1919, and the Trustees are now in possession of the funds for disposal in accordance with the bondholders' instructions. The construction of the road is now being continued by the Government and, when completed, should prove a valuable source of revenue for the Montmorency Division of the Quebec Railway, Light & Power Company.

The accounts of the Company have been duly audited and certified to by Messrs. P. S. Ross & Sons, Chartered Accountants, Montreal.

In conclusion, the Directors desire to express their appreciation of the efficient services rendered by the officials and staff of the Company.

Respectfully submitted on behalf of the Directors,

LORNE C. WEBSTER, President.

Statement of Assets and Liabilities at 30th June, 1919.

ASSETS

Investments, Stocks, Bonds and Interest in other Corporations	$19,212,318.70
Treasury Bonds	1,487,800.00
Advanced to Controlled Companies for Construction, etc	1,734,834.18
General Construction, etc.	531,817.14
Bond Discount	177,730.55
Cash on hand and in Banks	247,762.34
Accounts and Bills Receivable	897,359.84
Stores and Supplies on hand	236,400.76
Prepaid Expenses, etc.	29,006.08
	$24,555,029.59

LIABILITIES.

Capital Stock		$10,000,000.00	
Less: Unissued		500.00	
			9,999,500.00
Bonds		$14,600,000.00	
Less: In escrow to redeem bonds of subsidiary Companies	$3,411,000.00		
Less Cancelled	144,000.00		
		3,555,000.00	
			11,045,000.00
Bills Payable			648,633.29
Accounts Payable, etc.			486,790,81
Sundry Loans			223,218.23
Accrued Interest			108,995.40
Deferred and Unclaimed Interest			1,034,920.63
Accrued Charges			62,877.63
General Suspense and Reserves			262,629.31
Surplus			682,464.29
			$24,555,029.59

Certified correct:

(Signed) H. G. BOSSE,
Comptroller.

(Signed) A. E. LABELLE,
Director.

(Signed) L. G. MORIN,
Director.

Quebec, 4th September, 1919.

Audited and verified as per Report of September 4th, 1919, annexed.
(Signed) P. S. ROSS & SONS, Chartered Accountants.

For Sale and Classified Advertising

Under this heading Canadian Railway and Marine World will place advertisements for Positions Wanted, positions Vacant, Equipment for Sale, Tenders Wanted, Dividend, Annual Meeting, Legal Notices, etc.

ADVERTISING RATES.

Rates for advertisements set in uniform style in six point under
Positions Wanted and Positions Vacant, 3c per word.
Equipment for Sale advertisements, 4c per word.

Allow five words where replies are to be sent to a box number. Minimum order—$1.

Rates under other headings and for display advertisements on application.

FOR SALE

Str. Frank B. Stevens
146'-0" x 29'-3"
x 11'-0" depth
Oak—carries 600
tons coal.

The American Box Co.
1900 West Third St., Cleveland, O.

Non-Sweating Railway Lamps
We manufacture
SWITCH MARKER CLASSIFICATION SEMAPHORE
to R. S. A. Specification.
The Hiram L. Piper Company, Limited, Montreal
Our No. 31 Catalogue illustrates them all.

IMPERIAL BANK
OF CANADA

Capital Authorized..........$10,000,000
Capital Paid up.......... 7,000,000
Reserve Fund.......... 7,500,000

Head Office: Toronto.
Letters of Credit, Travellers' Cheques and Drafts issued, available in all parts of the World.
Sterling and New York Exchange bought and sold.
Savings Department: Interest allowed on deposits at best current rates.
Branches throughout the Dominion of Canada.

GRIFFIN & BRINKERHOFF
P.O. Box 97, Windsor, Ont.
Canadian manufacturers of the Celebrated Wheel Truing Brake Shoe. Best Wheel Grinders in the World.

in abeyance for the past few years on account of war conditions, but the company has now commenced extending its system. On the prairie sections, extensions to branches of 208 miles of pole line carrying 2 wires, have been authorized. On existing lines 6,275 miles of 210 lb. copper wire has been authorized and most of the stringing has been completed This includes wires from Halifax to Montreal, 2 from Montreal to Winnipeg, 1 from Toronto to Winnipeg, 1 from Toronto to Port Arthur and Fort William, Toronto to Windsor, Ont., etc. The company is also installing a telephone despatching circuit between Port Arthur, Ont., and Winnipeg (including the Molson Branch), covering 468 miles of track. This fills in the last gap in telephone train dispatching on the line between St. John, N.B., and Vancouver, B.C. The company has also authorized considerable sums for reconstruction and renewals.

Trade and Supply Notes.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers distinctly to understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

B. J. Coghlin Co. Ltd., railway supplies, etc., Montreal, has been granted supplementary letters patent under the Dominion Companies Acts, authorizing it to increase its capital from $200,000 to $500,000 by the issue of 3000 shares of $100 each.

Davis Bournonville Co., Niagara Falls, Ont., has developed a number of mechanically operated welding and cutting oxy-acetylene torches. The latest development is the camograph no. 2, an automatic hole cutting machine, for boiler shops, fabricating plants, shipyards, and other users of steel plates.

Edison Storage Battery Co. — John Kelly, who for a number of years was New York District Manager, Edison Storage Battery Co., and who on July 1 was appointed Assistant General Sales Manager, has been appointed General Sales Manager, at Orange, N.J. He was a salesman for Westinghouse Storage Battery Co. for two years; for Swinehart Tire & Rubber Co., for three years; for Firestone Tire and Rubber Co. for two years, and for New York Edison Co. for nearly four years, and was District Manager, Edison Storage Battery Co.'s New York office for 9½ years.

Mudge & Co., Chicago, have arranged with Canuck Supply Co., Montreal, to represent them in the sale of Mudge motor cars in Canada.

Nova Scotia Steel & Coal Co.—A press dispatch says that large extensions at Sydney mines are under consideration, including a plant to handle by-products which will cost some $2,000,000. New ovens now being erected will call for an enlargement of the present plant, and a new blast furnace that will cost about $1,500,000.

Canadian Pacific Ocean Services, Ltd., has moved its Chicago passenger offices from 140 South Clark St. to 40 North Dearborn St. R. S. Elworthy is General Agent, Passenger Department, there.

Transportation Conventions in 1919

Oct. 6-10.—American Electric Railway Association, Atlantic City, N.J.

Oct. 21-23.—American Railway Bridge and Building Association, Cleveland, Ohio.

Oct. 21-23.—Maintenance of Way and Master Painters' Association, St. Louis, Me.

Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries unless otherwise stated:

Belleville Railway Men's Educational Club. Meets each Tuesday, 7.30 p.m. F. A. Pingston, Belleville, Ont.

Canadian Car Service Bureau—W. J. Collins, Manager, 401 St. Nicholas Building, Montreal.

Canadian Electric Railway Association—Acton Burrows, 70 Bond Street, Toronto.

Canadian Freight Association (Eastern lines)—G. C. Ransom, Canadian Express Building, Montreal.

Canadian Freight Association (Western lines)—W. E. Campbell, 305 Boyd Block, Winnipeg.

Canadian Railway Club—J. Powell, St. Lambert, Que. Meetings at Montreal 2nd Tuesday, each month, 8.30 p.m., except June July and August.

Canadian Railway War Board—W. M. Neal, Montreal.

Dominion Marine Association—F. King, Counsel, Kingston, Ont.

Canadian Ticket Agents' Association—E. de la Hooke, London, Ont.

Eastern Canadian Passenger Association—G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Montreal—R. W. H. Smith, 9 Beaver Hall Square, Montreal.

Engineers' Club of Toronto—R. B. Wolsey, 94 King Street West, Toronto.

Engineering Institute of Canada—F. S. Keith, 176 Mansfield St., Montreal.

Express Traffic Association of Canada—C. N. Ham, Montreal.

Great Lakes and St. Lawrence River Rate Committee—James Morrison, Montreal.

Hydro-Electric Railway Association of Ontario—T. J. Hannigan, Guelph, Ont.

International Water Lines Passenger Association—M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee—James Morrison, Montreal.

Quebec Transportation Club—A. F. Dion, Quebec.

Shipping Federation of Canada—Thos. Robb, Manager, 42 St. Sacrament Street, Montreal.

Toronto Transportation Club—W. A. Gray, 148 Yonge Street, Toronto.

Transportation Club of Vancouver—H. W. Schofield, 556 Church Street, Vancouver, B.C.

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Steel Rails
Splice Bars
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BASIC & BESSEMER

MARK OF ALGOMA O.H. QUALITY
CONCRETE REINFORCING BARS

Structural Shapes
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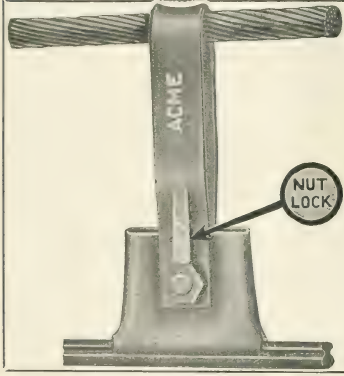
BLOOMS BILLETS & SLABS

SAULT STE. MARIE, ONT. CANADA.



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Hamilton, Ont.

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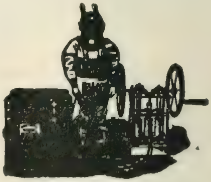
JOLIETTE,
MONTREAL, TORONTO



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Manufacturer of
Diving Apparatus
For Sale or Hire
Brass Founder and Coppersmith
13-15 Concord St., Montreal.

Canadian Railway and Marine World

November, 1919

The Canadian Engineers' First Tramways Company's Work in France.

By F. E. Collinson, Mechanical Engineer, Motive Power Department, Grand Trunk Pacific Ry., Transcona, Man., formerly Lieutenant, Canadian Engineers, and Adjutant, Canadian Engineers First Tramways Co.

Among all the various units engaged on railway work in France, the Canadian tramways companies did their share with the best, though their work is not very generally known and they are often confused with the "Railway Troops," which were army troops, while the tramways companies were throughout their history Canadian Corp Troops.

The 1st and 2nd Tramways Companies, Canadian Engineers, were among the few units which were authorized, formed, worked, and finally were demobilized in France, and never existed as units in any other place than the forward area. The early history of the first company from its inception in May, 1916, was briefly as follows: On May 19, 1916, the Composite Pioneer Company, Canadian Corps, was formed to construct and operate light railways in the Ypres sector and the personnel was drawn from the 1st, 2nd, and 3rd Canadian Pioneer Battalions and the Canadian Overseas Railway Construction Corps, the total number being approximately 280, all ranks, under Capt. D. H. Williams; Major Goldie, D.S.O., being Field Engineer, and Major R. P. Rogers being Assistant Field Engineer.

The company built and operated about 14 miles of 60 c.m. track, and the first power for operating was two small locomotives salvaged from Dickebusch Lake. On Sept. 3, 1916, the company left Vlamertinghe and moved south to Albert, with the Canadian Corps, for the Somme battle, and did good work on the lines from Albert to Becourt Wood, and Pozieres, working with tractors up to Gordon dump, and from there the trains were taken forward by horse or mule power until sufficient ballast became available to make the track fit to use tractors forward of that point. The company left the Somme on Oct. 26, 1916, and returned to the Lens front, locating at the Bois-de-la-Haie, and extending the line, that already ran to Carency, forward to Souchez and across Zouave Valley to Dingwall tunnel at the west foot of Vimy Ridge. On the return from the Somme a section of the company, under Lieut S. F. Workman, proceeded to Bois-de-Bray to form a second company, which eventually became the Canadian Engineers 2nd Tramways Company.

Before the Vimy show in April, 1917, the average daily tonnage hauled was about 125 tons, but after the taking of the ridge the tonnage steadily increased, when the new lines were pushed through.

Construction was carried on steadily throughout 1917, and the ground won in the battles of Vimy Ridge, Hill 65, Avion, and Hill 70, was covered with 60 c.m. tracks, so that by the end of the year, by which time the 2nd Tramways Co. was located to the north of the 1st Tramways Co., the Canadian front was better served by light railways than any other sector on the British front, and all classes of traffic were handled.

About June, 1917, the transport of guns was inaugurated, and all sizes from 18 pr. to 8 in. Howitzers were moved; a number of batteries choosing positions which were entirely dependent on the tramways for getting in their guns, ammunition, and all other supplies.

Lieutenant and Adjutant F. E. Collinson.

After the battle of Vimy Ridge, the company's headquarters were located at Lens Junction, between Souchez and Ablain St. Nazaire, and remained there for over 15 months, and with the advantage of a permanent location the company got forward area railroading nearly to a peace basis; all tracks were heavily ballasted, steel renewed, road crossings fixed up, grades revised and the control system made thoroughly efficient, though the whole territory was exposed to shell fire at all times, and forward of Vimy Ridge, operation was only possible at nights.

The British system of handling trains on the single tracks was from a central control, similar to dispatching on Canadian railways, whereas the 1st Tramways Co.'s system in France was station to station control, similar to the English railway system of control from one signal cabin to the next.

Before the end of 1917, due in large measure to Major R. P. Rogers' energy in getting business for the tramways, the company was handling close to 700 tons, and making over 2,000 ton miles daily.

Traffic was worked as far as the tramways' yards at Lens Junction by the Army Light Railway, with steam and from there the company worked it forward in army cars by tractor. The three types of tractor used were:

20 h.p. simplex, capable of handling	15 tons
40 h.p. simplex, capable of handling	30 tons
45 h.p. petrol electric, capable of handling	35 tons

The army cars generally were double bogie flats and gondolas, with a tare of 2½ tons and a capacity of 10 tons. In addition the company had for local traffic on its own lines a considerable number of small springless cars, capacity 1½ tons, and captured German cars with a capacity of 5 tons.

Troops movements were next undertaken, and the passenger traffic in the winter of 1917-1918 grew to considerable dimensions, and on a number of occasions, two battalions were moved close up to the front line and 2 battalions brought out in a night; and regular night trains were run to take working parties to and from their work on the defense lines; the regular schedule handling about 1,200 men nightly. Hospital trains were also run on a regular schedule from the forward dressing stations.

The company's organization at this time consisted of a headquarters at Lens Junction, including tractor repair sheds, blacksmiths and carpenters shops, quartermasters stores, etc., with the operating department, under the Chief Traffic Officer, also at headquarters. The construction department was divided into three sections, which were quartered at Whiz-Bang corner, in Lievin, in Cite de Caumont, Angres, and at Kootenay Camp, on the east face of Vimy Ridge. The two latter camps, though pretty well forward, were lucky locations, but at Whiz Bang the section lived constantly alongside the infantry in support, and on two occasions practically the whole section became casualties, through shell fire. Trains could be operated as far as Lievin in daylight, and a considerable number of batteries on this line could be served by day, but forward of this and the whole of the territory south of Givenchy could only be served at night. The record for one night was 37 trains going forward from Lens Junction, and the average was about 25 trains.

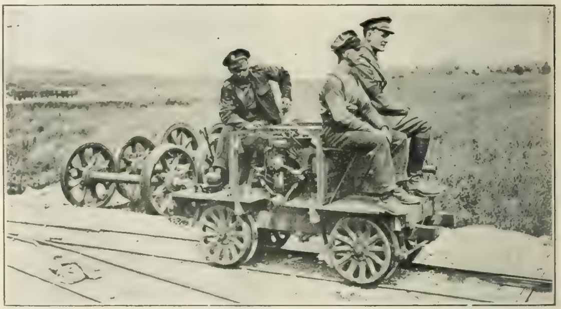
In Nov., 1917, an establishment was authorized, and the company was given the name of No. 1 Section, Canadian Corps Tramways, but in Mar., 1918, a complete establishment was approved and the name changed to Canadian Engineers, 1st Tramways Company, all attached personnel was then transferred to the engineers, and the company brought up to establishment of 20 officers and 142 other ranks, and was reorganized into headquarters and four sections, under the command of Major R. H. Winslow. Road transport was supplied to the company, consisting of 4 motor lorries, 2 motor cars, 23 horses, and 7 wagons, with 21 Canadian Army Service Corps personnel. In the spring of 1918, the company, in addition to its regular work, reclaimed and cultivated a was the largest farm of any in the Canadian Corps.

Lens Junction Yard.

This yard was located on the old French metre gauge station grounds, and the line followed the metre gauge right of way forward to Cite de Caumont. A petrol electric tractor is shown switching in the yard. The black line running up the hill in the background is the Y of the old French Bajolle line.

Gas warfare was extensively carried on in the spring of 1918, and a heavy traffic in gas projectors was handled, the tramways company also undertook cloud gas work. In this latter case the gas cylinders were loaded on cars, and worked up forward, and when all the trains were delivered just behind the front line, the cylinders were electrically connected and detonated, releasing the gas from about 1,500 cylinders at once.

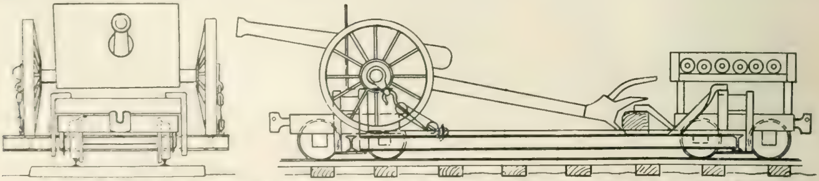
Another phase of the company's activity was providing cars, from which 18 pr. guns could be fired. Two of these were made up at the company's shops, from steel army gun cars, and were known as 'International No. 1 and 2," They were turned out at nights with a 20 h.p. tractor, and a small car for ammunition, for the use of sporting field artillery batteries, which provided gun crews and went away up forward, and from just behind the front line spent the night harassing the Hun, moving to avoid retaliation and retiring before daylight, leaving no trace.



The Adjutant's Speeder.

This inspection car, known as the "Mechanical Bug," was built at Lens Junction from salvaged material. The Douglas motor cycle engine was found in a shell hole, other parts were obtained from the remains of a reaping machine and a French automobile, and the counter shaft from the ruins of Ablain St. Nazaire sugar refinery.

When the Canadian Corps moved south in April, 1918, the company remained on the old front, with the 8th and 18th British Corps until July, when it moved by rail to the Scarpe and rejoined the corps, and maintained and operated 30 miles of lines on the north side of the river, with 70 acre farm at Lens Junction, which headquarters at Artillery Corner near Anzin.



International No. 1 Gun Car, converted by Canadian Engineers, First Tramways Co., for 18 in. Moving Guns, on 60 c.m. Light Railway.

On Aug. 10, 1918, the company received orders to move to Amiens on Aug. 11, and left Anzin by road to entrain on the standard gauge, reaching Longeau on Aug. 12. From there it was a 15 mile march to Cayeux-en-Santerre, which was reached in the afternoon. By the 14th the company had the line repaired up to Rosieres, a distance of about 6 miles, had acquired tractors to operate it, and had started construction of a new line through Vrely, towards Mehanicourt. Railway troop battalions and engineer battalions were also working on construction, and by the 19th the company was operating about 14 miles of track, when orders were received to pull out.

After a 10 days rest at Boves, the company was ordered to rejoin the Canadians at Arras, and reached there by standard gauge on Sept. 2, and located headquarters at Wancourt. The 2nd Tramways Company was then at Arras and had already followed up the corps across the old no-man's land, and with the help of engineer battalions, had joined up to the German steel and repaired the track almost to Vis-en-Artois.

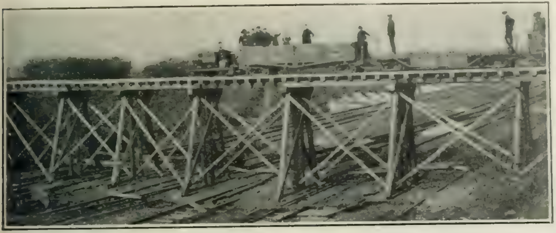
From this time until the armistice, the two tramways companies worked unceasingly to keep railhead up with the corps throughout the advance, and it is believed that the Canadians were the only corps that were served by light railway through this period. To cope with the work two Canadian infantry works companies were attached to the tramways companies, the 4th C.I.W. Co., operating with the 1st Tramways throughout. While at Wancourt Major Winslow was unfortunately wounded while reconnoitering up forward, and later died of his wounds. Capt. S. F. Workman took over the command of the company.

The 2nd Tramways jumped ahead of the 1st just previous to the attack on the Canal du Nord and followed up this advance, moving forward from Hendecourt to Inchy, and then to Sailly, on the outskirts of Cambrai; while the 1st Tramways undertook the operation and improvements of the lines behind it and followed up at each successive move.

On the old settled front the army light railways acted as the connecting link between the standard gauge and the tramways companies in the forward areas, but in the advance of 1918, the standard gauge kept so well up that the tramways companies were handling ammunition direct from the standard gauge to the ammunition dumps. During Sept., 1918, the average daily tonnage was 723 tons and 4,003 ton miles, rising in October to 1,243 tons and 7,268 ton miles, with a record for one day of 1,782 tons and 10,325 ton miles.

On Oct. 19, 1918, the 1st Tramways Co. moved up to Oisy-le-Verger, at which point the Hun 60 c.m. tracks ended and behind this was the metre gauge zone, though the metre gauge through a part of this zone was fitted with a third rail for 60 c.m. gauge. On Oct. 18 and 19 the

Huns retired very quickly for about 16 miles to the outskirts of Denain, and on the morning of Oct. 20 the 1st Tramways Co. got orders to push ahead by road to Roeulx, 4 miles West of Denain. A hard march in heavy rain brought the company into Roeulx 30 hours after the Huns had blown up the cross roads, and evacuated the town, and work was commenced at once to work back, closing in the metre gauge tracks to connect with 2nd Tramways Co.'s tracks, which was done in 3 days. This was the first place where the Hun had left civilians behind and the company had a great welcome.



Roeulx Trestle.

Built in two days, to carry a light railway over a standard gauge yard. On the trestle are a 20 h.p. Simplex tractor and two classes of 10-ton army cars. Every frog and switch in the standard gauge yard had been blown up by the Huns.

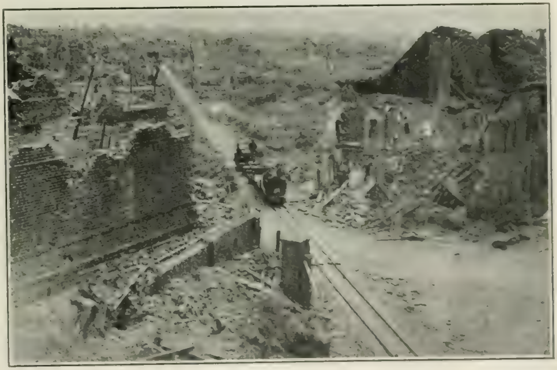
The big obstacle ahead was the bridge over the standard gauge cut, 6 tracks wide, which was completely demolished. A diversion had to be made, and a trestle put across, and to do this, all bridge timber had to be salvaged from the surrounding country, as supplies could not be brought up from the rear. However, in two days sufficient had been collected, and in 23 working hours, from 6 a.m. on Oct. 24 to 5 p.m. on Oct. 25, a trestle 130 ft. long, with 7 bents, 20 ft. high, was constructed, under the supervision of Lieut. C.E.V. Daveney, C.E., and the railhead was into the western suburbs of Denain the same night.

By Nov. 3, the end of steel was at the western suburbs of Valenciennes, while the Hun was just beyond the eastern edge of the town, and the officers detailed for reconnaissance of a way through Valenciennes were carrying on their work with the front line infantry. To get track through this sector, metre gauge lines, street car tracks and standard gauge tracks were closed in to 60 c.m. gauge, and in addition, Hun 60 c.m. steel and British 20 lb. steel was shipped forward and French steel salvaged in the surrounding country. Owing to the inundations and the demolition of the bridges into Valenciennes a grade could not be made quickly into the town and the street car lines were therefore followed round the north of Valenciennes through Buray-sur-Escant, and Thiers, and thence standard gauge was followed to Vicq and a new line 2,500 yards was graded and laid to connect to the street car tracks on the Valenciennes-Mons road, east of Quarouble.

On Nov. 11, 1918, our advance parties were at Quievrain, the first town on the Belgian side of the border, and the company had located billets and was preparing to move there, when orders were received that steel was not to be pushed ahead of Quarouble, and at that point on the Mons road the war activities of the tramways companies ceased.

Between Sept. 2 and Nov. 11, 1918, in 70 days, the tramways companies repaired, laid, or converted to 60 c.m., 50 miles of main line, and approximately as much in branch lines, keeping up with the corps throughout, with a move on an average of once every 5 days, and while so doing, handled a daily average of 1,000 tons.

After the armistice the company prepared to march into Germany with the Canadian Corps, but when it was finally decided that only the 1st and 2nd divisions were to go, the company was transferred to the 1st Army Troops, and was sent back to the devasted area on the old front, to work salvaged material from that area for shipping to the base. The move from Valenciennes was made by road, a three days march bringing the company to Henin Lietard, east of Lens, on Dec. 5, 1918. After working in that area for a short time, the company returned to the old territory and located east of Souchez, as the Lens Junction yards and camp had been demolished. The company worked in that area from Dec. 14, 1918 until Jan. 24, 1919, when relieved by the 231st Forward Light Railway Company, and proceeded to Etaples, where the unit was demobilized on Feb. 1, 1919; the personnel returning by drafts to the engineers' reserve battalions at Seaford, Sussex, England, and thence to Canada.



Lievin.

The main line through the town. The construction sub-section men were billetted in the cellars in the foreground.

First Tramways Company's Water Train, Loading at Souchez Dump.

This train ran every afternoon from Souchez to Lievin and Angres, to supply batteries and other troops with water. Vimy Ridge is seen in the background, across Zouave Valley.

Canadian Engineers Tramways Company—War Establishment.

	Major	Capts.	Lieuts.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Co. Headquarters										
O. commanding	1									
O. i/c construction		1								
O. i/c operation		1								
Adjutant			1							
Co. sergt. major				1						
Co. Q.M. sergt.					1					
Ord. room sergt.						1				
Clerks and draftsmen							2	2		1
Transport [illegible] men										[illegible]
Tailors, shoemakers, barbers, etc.										4
Cooks									1	
Postal, mess, and gas men									[illegible]	
Batmen										4
	1	2	1	1	1	1	2	3	4	14
Total 30										

Work Shop Section.									
Shop foreman						1			..
Blacksmiths							1		3
Carpenters							1		3
Machinists				.				2	2
Painters									1
Car repairers									2
Laborers									5
Cooks									1
Transport									1
						1	2	2	18
Total [illegible]									
Signal Section.									
Linemen and operators						1	1	1	10
	1	2	1	1	1	3	5	6	42
Total. 1[illegible]									
Total headquarters. 66									
Attached.									
Paymaster		1							.
Medical officer		1							
C. A. S. C. Horse Transport									11
C. A. S. C. Motor Transport									10
		2							21
Total attached 23									

Co. Headquarters

	Major	Capt.	Lieut.	S.-Sergt.	Sergt.	Corp.	2nd Corp.	L.-Corp.	Sapper	Total
O. C. commanding		1						..		
Supt. construction			1							..
Section staff sgt.				1						..
Clerks							1		1	
Stretcher bearer..									1	
Mess cook								.	1	..
Batmen									2	..
		1	1	1			1		5	9
Construction Sub-Section.										
Supt. of track			1							..
Track foreman....	..	..	..	..	2	..	.			.
Asst. track foreman				.		2	4		..	..
Trackmen									25	.
Surveyor .							.	1	.	..
Storeman								1	..	..
Carpenter .				.				1	..	..
Transport								.	1	..
Cook								..	1	..
Batman				.				.	1	.
			1		2	2	4	3	28	40
Operating Sub-Section.										
Traffic supt			1		..		.	.		..
Yard foremen	.		.		1	1		..	..	..
Train crew foreman					1	.		..	.	..
Traction drivers							1	1	3	..
Conductors				.	.	.	1	1	3	..
Brakemen					..	.		..	3	..
Checker			.		.	.	.	1	.	..
Control men								.	4	..
Mechanic						.		.	1	..
Cook								.	1	..
Batman									1	..
			1		2	1	2	3	16	25
Total section		1	3	1	4	3	7	6	49	74
Summary of company, including attached	1	8	13	6	19	17	34	28	259	385

Editor's Note—F. E. Collinson was born at Halifax, Eng., Apr. 28, 1883, and entered railway service Feb. 13, 1901, since when he has been, to Apr. 28, 1904, apprentice, North Eastern Ry., Gateshead-on-Tyne, Eng.; May, 1904 to Mar., 1905, Assistant Foreman, Motor Car Shop, same road, Darlington and York, Eng.; May to Nov., 1907, Locomotive Foreman, same road, Botanic Gardens, Hull, Eng.; Nov., 1907 to Feb., 1908, Locomotive Foreman, same road, Dairycoates, Hull, Eng., Feb., 1908 to June, 1911, Locomotive Foreman, same road, Tweedmouth, Eng.; June, 1911 to May, 1912, Inspector for the Crown Agents for the Colonies, Birmingham and Manchester, Eng.; May, 1912, to June, 1915, Mechanical Engineer, Grand Trunk Pacific Ry., Transcona, Man.; June, 1915, to Dec., 1916, Mechanical Engineer and Chief Draftsman, same road, Transcona, Man. He enlisted as a private in the 203rd Battalion, Feb. 19, 1916, and became subsequently Sergeant Major, then Lieutenant and then Assistant Adjutant in that battalion. He joined the 44th Battalion in France, June 19, 1917, and was with C. Company until Sept. 30, 1917, after which he was Battalion Transport Officer. He joined the Tramways, Jan. 19, 1918, as Traffic Officer, transferred to the Canadian Engineers, Mar. 4, 1918, and became Adjutant of the Canadian Engineers' First Tunnel Co., May 13, 1918. He returned to Winnipeg, May 5,, 1919, and resumed his old position as Mechanical Engineer, Motive Power Department, Grand Trunk Pacific Ry., Transcona.

Project for All Rail Connections Between Canada and Newfoundland and Damming of Belle Isle Straits.

Attention is being directed to a project, which it is claimed is possible from an engineering point of view, the object being to dam the Strait of Belle Isle, and build a railway through Labrador and across the dam to Newfoundland. The proposal was originally made many years ago, but nothing has been heard of it for the last 20 years or so. It is reported that Dr. Pelletier, Agent General for Quebec in London, Eng., and Z. A. Cannon, M.L.A., Quebec, have been in Ottawa recently discussing the matter with Dominion Government officials and that a plan will be submitted for consideration shortly. The project is being reviewed, it is said, by English capitalists, who are prepared to invest considerable money.

The Strait of Belle Isle is about 9 miles wide and comparatively shallow, so that, in the light of the construction many years ago of the Plymouth breakwater in England, and in more recent years of the railway construction along the Florida Keys, from an engineering point of view the building of a dam to connect the Labrador coast with Newfoundland is claimed to be quite within the region of possibilities. The railway projected in connection with the dam, would run along the north shore of the St. Lawrence River—probably in continuation of the Quebec and Saguenay Ry., to the starting point of the dam, across the dam to Newfoundland, and thence to some point on the north coast of the island, where it is projected to establish a port for trans-Atlantic trade. Such a port would undoubtedly be the nearest one to Europe, but as against the attraction of the short ocean trip, there would have to be taken into consideration the long railway trip from present centers of population. The port would have to depend almost entirely for its trade on passenger traffic, as the long railway haul from the sources of production to the port could not compete, in rates with the railway hauls to the ports at present existing.

Another consideration put forward as an argument for the building of the dam, is its possible effect on the climate of the Maritime Provinces, and the St. Lawrence Valley. It is claimed that the building of the dam would deflect the Arctic current from the coast, and permit the Gulf stream to reach Canadian shores, opening up for all the year round navigation many ports on the Atlantic coast, and the St. Lawrence River as far as Quebec, if not Montreal. Dr. Dawson, Chief Dominion Hydrographer, in a report on the hydrographic survey of Belle Isle Strait, some ten years ago, stated that the Arctic current does not sweep down the Strait into the Gulf of St. Lawrence, that there is no great constant stream of water coming in from the north, and that the prevailing winds in the Maritime Provinces are off shore. Under such circumstances it does not seem at all likely that the suggested alteration of climatic conditions in the Maritime Provinces and the Gulf of St. Lawrence are likely to be realized.

The building of a dam across the Strait, the building of a railway to connect with existing railways in Canada, and the laying out of a port in Newfoundland, may be all practicable, but their utility when built is another question.

Transportation Companies' Splendid Work in Demobilizing Troops.

The Minister of Militia, Major General Mewburn, said in the House of Commons, Oct. 1: "I desire to give the following information with regard to the progress of demobilization:

"Total C.E.F. troops embarked from overseas from Nov. 11, 1918, to Sept. 30, 1919, 264,045.

"Total troops discharged from C.E.F. in Canada up to Sept. 15, 1919, 70,731.

Siberian force returned to Canada and demobilized, 4,057.

"Total troops demobilized to Sept. 30 (including those still at sea, about 367), 338,833.

"Total number of hospital patients still overseas to be returned to Canada as of Sept. 19, 126. All other military patients have been returned to Canada. The total number of hospital cases now in military hospitals in Canada is 6,598. We have now reached our peak load and there will be a very rapid clearing of the hospitals.

"It is gratifying to know that in the handling of this large number of men, not a single life has been lost through accident at sea. Three casualties occurred by derailment of a train in Dec., 1918. The rapid handling of the troops by the Canadian Pacific, Canadian National, and Grand Trunk Railways, has been carried out with the greatest possible efficiency."

Railway Mechanical Conventions—The American Railroad Association's Mechanical Section General Committee has decided to hold the 1920 and 1921 conventions at Young's Pier, Atlantic City, N.J., the dates for 1920 being June 9 to 16. The first three days will be devoted to papers on locomotive subjects and the last three to car subjects, consolidated committees reporting on June 14. An invitation was extended to section 6, Purchases and Stores, to hold its convention simultaneously with section 3, in order that members might avail themselves of the opportunity to visit the exhibit. A number of new committees were appointed and important changes were made in the personnel of others. The Railway Supply Manufacturers' Association will hold its usual exhibit.

Italian-Greek Railway Connection—A London, Eng., cablegram states that an Italian-Greek convention has been concluded for direct railway communication between Rome and Athens, through Otranto and Valona, on ferry boats.

German railway officials are reported to be preparing to increase transportation rates 100%.

Railway Mechanical Methods and Devices.

Device for Milling Teeth in Quadrants and Latches.

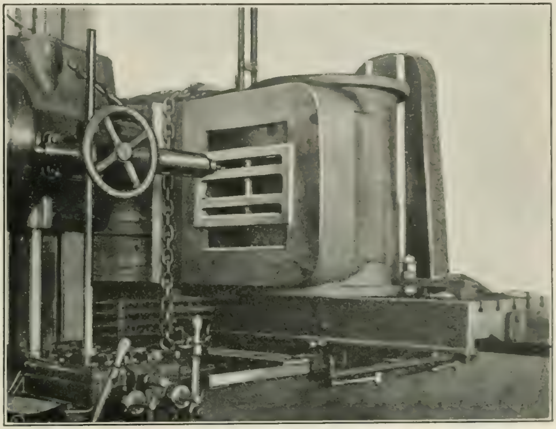
The accompanying fig. 1 shows a device for milling the teeth in quadrants and latches. The latch is clamped to the frame and the teeth are cut with a cutter of the desired shape. The radius bars are fastened to the same frame as the latch. The spacing is regulated by the teeth in the frame shown in fig. 1.

In cutting the quadrant the bars are fastened to the ends of the quadrant, which are clamped on top of a device in which there is a dog to engage in the tooth of the quadrant. This is clamped to the table of the miller. The first tooth is shaped by moving the table and for the succeeding teeth the dog is used. The clamp on the quadrant is loosened and the quadrant is moved to engage the dog.

Fig. 2 shows a jig for drilling the piston heads and follower plates, the proper holes and bushings being used corresponding to the different heads and followers.

Milling Cylinder Ports.

One of the uses to which the horizontal boring machine is put in railway shops is shown in the accompanying illustration. Here a locomotive cylinder and half saddle are mounted on the table of a no. 32 Lucas horizontal boring machine, while the valve seat is being machined.



Milling Ports in Locomotive Cylinder.

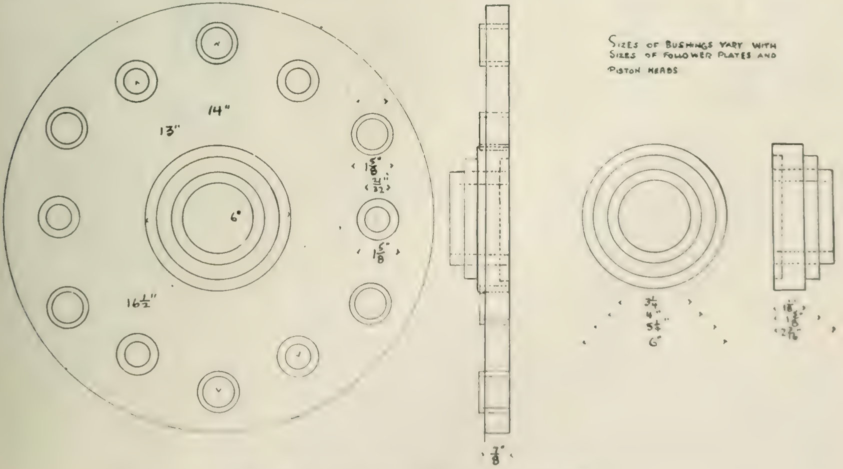

14"
13"
6"
16½"
1 5/8"
21/32"
1 5/8"
7/8"
SIZES OF BUSHINGS VARY WITH SIZES OF FOLLOWER PLATES AND PISTON HEADS
3¼
4"
5¼"
6"
1 5/8"
1 3/8"
2 3/16"

Fig. 2. Jig for drilling holes in follower plates and piston heads.

The valve seat itself is surfaced with a large inserted tooth milling cutter, while the small cutter shown is used to mill the outside of the raised portion forming the seat and also to clean out the valve ports as shown.—I. B. Rich, in American Machinist.

Extension Staybolt Tap.

All railway shops have use for staybolt taps, with pilots of sufficient length to extend through the water space and inside sheet of firebox, whilst thread is being cut on the outside sheet and then sufficient length of shank to permit the threading of inside sheet without removing the tap from the hole. When it is considered that taps for this purpose are required to be as much as 60 in. long and are only handled by the manufacturer as "special" it will be understood that the cost of such taps would be a matter worthy of consideration. The following practice is reported to have proved very satisfactory:

Take a standard staybolt tap 21 in. long, which is carried in stock, and with the aid of the electric welder, attach a connection 2 in. long without annealing the tap. The tap is then put on the lathe, held with draw in or bar chuck and the welded connection turned and threaded ⅝ x 1 in.—12 threads, using the ⅝ in. taper boiler tap as the guide. The extension end can then be drilled and threaded allowing ¼ in. for draw to keep tight and in line. Any length of extension can be used on taps. The shank end can be pieced out to the desired length by welding as before to soft steel bar and squaring end.

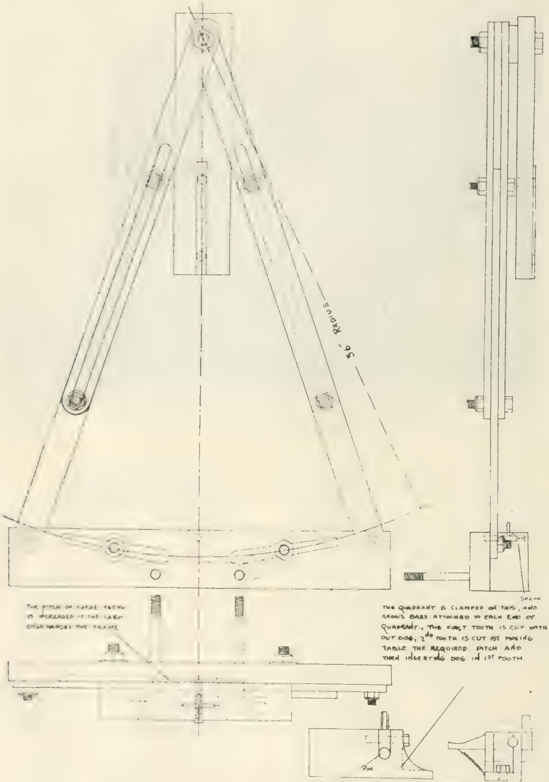

RADIUS 36"
THE PITCH OF THESE TEETH IS INCREASED IF THE LATCH OVERHANGS THE FRAME
SPRING
THE QUADRANT IS CLAMPED ON THIS, AND RADIUS BARS ATTACHED TO EACH END OF QUADRANT., THE FIRST TOOTH IS CUT WITHOUT DOG, 2ND TOOTH IS CUT BY MOVING TABLE THE REQUIRED PITCH AND THEN INSERTING DOG IN 1ST TOOTH
PIN
DEVICE TO BE ATTACHED TO BED OF MILLING MACHINE TO MILL TEETH IN QUADRANT

Fig. 1. Jig for milling teeth in reverse lever latch and quadrants.

Railwaymen's Union's Dispute at Winnipeg—Proceedings were taken in a court at Winnipeg, Oct. 3, by the Brotherhood of Railway Shopmen, local branch, against the One Big Union unit of Railway Shopmen, Section B, for $11,000 damages for wrongful appropriation of funds, and for illegal detention and conversion of the property and documents of the international branch. The men forming the defendant order split from the international organization in April.

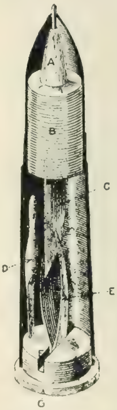
Preheating Reamers and Taps.

A correspondent reports splendid success with large reamers by preheating, by simply laying the reamer on top of a heating furnace for a day previous to placing inside the furnace. This process seems to relieve the strain of the intense heat necessary for the tempering process when the reamer is brought up to the proper heat, then it is plunged into a bath of tepid water for 10 or 15 seconds, depending on the thickness of the flute and weight or bulk of the reamer, the reamer should be quickly removed to oil bath and allowed to remain there until perfectly cooled. This process hardens the flutes to the necessary degree of hardness by the body of the reamer retaining heat sufficiently to draw the flutes to the proper temper. Thus having tempered flutes and a soft center makes a very strong and durable reamer. This process applies to reamers 1½ in. up to any size crosshead knuckle pin or other reamers coming within this range of sizes.

The same process applies to taps large enough to hold sufficient heat to draw the flutes in the tap to the required hardness and at the same time leave the center of the tap soft, which is very desirable when the strain of tapping comes upon it. The best results are obtained with taps running from 1½ in. diameter up to any size. Smaller sizes will not retain sufficient heat after the water plunge to draw them to the proper temper while in the oil bath.

A Useful Combination.

A small but useful combination, which I have used for the last two years, contains four articles which are continually required in any machine shop; viz.: a pair of tweezers E, a knife C, an eye magnet D, and a pencil A. The case was made from an ordinary 0.303 rifle cartridge. To make one, remove the bullet and melt out the lead from the jacket. Then drill a hole in the nose end, say 1-16 in., for the pencil point to project through, and tap out rear end. Next get a ¼ x ¾ in. headless setscrew, and make the slot deeper with a hacksaw. Out of an old hacksaw blade grind the knife blade and sweat it into the slot in the screw. The bottom of the shell G should be cut off with as thin a tool as possible, say 1-32 in. (before cutting off see that the cap has been fired). This leaves a disc ½ x 1-16 in. which is put aside till later. The remainder of the shell still has a solid bottom. This is drilled out to ⅜ in. until it meets the powder chamber. Turn a piece of brass rod to ⅜ x ¼ in., drill a 1-16 in. hole in the position shown in the sketch for the eye magnet. Also saw a slot across the middle and sweat on to the disc C. The tweezers are of spring steel, made in any shape desired and sweated into the slit in F. The eye magnet is of 1-16 in. drill rod hammered out in the middle to the flat shape shown in the sketch. This flat serves two purposes, first as clearance for the tweezers, and second as a grip when in use. The knife slides down between the tweezers. As the pencil gets worn it can be sharpened and by screwing up the screw B the point is always ready for use. The bottom of the shell should be pressed slightly in a vise and a few thousandths of an inch filed off the sides of the plug F. The bottom will then be found to go on easily one way and by a twist will tighten up and so prevent any tendency to drop out.—N. Renwick, Lithgow, New South Wales.



Canadian Railway Club—Major S. P. Robins, General Manager, Dearborn Chemical Co. of Canada, delivered a lecture before the club on Oct. 14 on competition, combination and co-operation.

Birthdays of Transportation Men in November.

Many happy returns of the day to—

J. O. Apps, General Agent, Mail, Baggage and Milk Traffic, C.P.R., Montreal, born at Tara, Ont., Nov. 9, 1877.

H. E. Beasley, General Superintendent, Esquimalt & Nanaimo Ry., Victoria, B.C., born at Hamilton, Ont., Nov. 10, 1862.

W. C. Blake, Division Accountant, Canadian National Rys., Winnipeg, born at Liverpool, Eng., Nov. 28, 1865.

C. C. Bonter, General Baggage Agent, Canada Steamship Lines, Ltd., Montreal, born at Toronto, Nov. 13, 1884.

G. B. Burchell, Managing Director, Bras d'Or Coal Co., Ltd., North Sydney, N.S., Nov. 1, 1877.

J. R. Cameron, Assistant General Manager, Western Lines, Canadian National Rys., Winnipeg, born at Truro, N.S., Nov. 5, 1865.

F. H. Clendenning, Assistant Foreign Freight Agent, C.P.R., Vancouver, B.C., born at Mntreal, Nov. 9, 1881.

F. Conway, City Freight and Passenger Agent, C.P.R., Kingston, Ont., born at Ernestown, Ont., Nov. 19, 1850.

W. L. Crighton, General Advertising Agent, Canadian National Rys., Toronto, born at Derby, Eng., Nov. 9, 1871.

E. C. P. Cushing, Purchasing Agent, C.P.R., Calgary, Alta., born at Ottawa, Ont., Nov. 13, 1886.

W. R. Davidson, General Superintendent, Eastern Lines, G.T.R., Montreal, born at Everton, Mo., Nov. 8, 1871.

W. R. Devenish, Superintendent, Moncton Division, Maritime District, Canadian National Rys., Moncton, N.B., born in County Tipperary, Ireland, Nov. 21, 1882.

A. C. Douglas, acting Assistant General Purchasing Agent, C.P.R., Montreal, born at Montreal, Nov. 10, 1881.

W. Downie, ex-General Superintendent, Atlantic Division, C.P.R., now of Whitby, Ont., born at Rock Currie, Ireland, Nov. 12, 1850.

Jos. Dubrule, Jr., Manager, Canadian Pacific Car & Passenger Transfer Co., and President, Prescott & Ogdensburg Ferry Co., Ltd., Prescott, Ont., born at Spencerville, Ont., Nov. 14, 1872.

R. L. Fairbairn, General Passenger Agent, Eastern Lines, Canadian National Rys., Toronto, borrr at Stillwater, Minn., Nov. 24, 1880.

J. E. Gibault, Resident Engineer, Quebec District, Canadian National Rys., Quebec, Que., born at St. Jerome, Terrebonne County, Que., Nov. 16, 1887.

Grant Hall, Vice President, C.P.R., Montreal, born there, Nov. 27, 1863.

W. E. Ladley, Superintendent of Motive Power, Reid Newfoundland Co., St. John's, Nfld., born at Leeds, Eng., Nov., 1875.

J. McMillan, Manager of Telegraphs, C.P.R., Montreal, born at Liverpool, Eng., Nov. 2, 1866.

A. B. McNaughton, Superintendent, Grand Trunk Ry. Lines in New England (U.S.R.A.), Portland, Me., born at Arnprior, Ont., Nov. 10, 1877.

C. Murphy, General Manager, Western Lines, C.P.R., Winnipeg, born at Prescott, Ont., Nov. 20, 1865.

G. H. Nowell, Master Mechanic, Revelstoke Division, British Columbia District, C.P.R., Revelstoke, born at Montreal, Nov. 13, 1885.

W. J. Quinlan, District Passenger Agent, Grand Trunk Pacific Ry., Winnipeg, born at Montreal, Nov. 21, 1883.

J. J. Rose, ex-General Agent, Union Pacific System, Toronto, born there, Nov. 22, 1878.

G. H. Shaw, ex-General Traffic Manager, Canadian Northern Ry., Toronto, born at Smiths Falls, Ont., Nov. 25, 1859.

P. D. Sutherland, General Agent, Passenger Department, Canadian Pacific Ocean Services, Ltd., Hong Kong, China, born at Toronto, Nov. 2, 1879.

L. C. Thomson, ex-General Storekeeper, Eastern Lines, Canadian National Rys., Toronto, now General Storekeeper, Canadian Car and Foundry Co., Montreal, born at Kingston, Ont., Nov. 25, 1882.

H. P. Timmerman, Industrial Commissioner, Eastern Lines, C.P.R., Montreal, born at Odessa, Ont., Nov. 6, 1856.

Guy Tombs, ex-Assistant Freight Traffic Manager, Eastern Lines, Canadian National Rys., now Traffic Manager, Canadian Export Paper Co., Montreal, born near Lachute, Que., 22, 1877.

T. W. White, District Engineer, Canadian National Rys., Edmonton, Alta., born at Clinton, Ont., Nov. 29, 1880.

W. A. Whyte, District Freight Agent, Canadian National Rys., Calgary, Alta., born at Hornsey, Eng., Nov. 24, 1890.

Canadian Pacific Railway Honor Roll 44.

Ancelle, Leon Henry	Draughtsman	Calgary	Wounded
Angus, Robert	Officer	S.S. "Calgarian"	Drowned
Bell, George Herbert	Locomotive fireman	Winnipeg	Wounded
Bernier, Alexander	Machinist	Angus	Wounded
Bonner, Harry J.	Helper	Winnipeg	Wounded
Brundrett, George Fredk.	Chief clerk	Calgary	Died of wounds
Chalus, C.	Chauffeur	Brooks	Wounded
Doodson, Frank	Brakeman	Cranbrook	Wounded
Estes, Errol John	Trainman	Brownville Jct.	Wounded
Foran, James Francis	Yardman	West Toronto	Wounded
Gauthier, Charles	Helper	Angus	Wounded
Gay, Marwood Ralph	Locomotive fireman	Moose Jaw	Wounded
Gill, James	Clerk	Montreal	Wounded
Glenn, Norton William	Operator	Winnipeg	Wounded
Graham, Thomas	Locomotive fireman	Calgary	Wounded
Hardy, Roy	Brakeman	Schreiber	Wounded
Harrington, John Harold	Trainman	Minnedosa	Wounded
Hoerder, Max Eric	Timber inspector	Brooks	Wounded
Hubbard, Joseph	Sectionman	St. Mary's	Wounded
Hughes, Richard	Checker	Winnipeg	Wounded
Jackson, Alfred	Watchman	Nelson Division	Wounded
Kay, Abel	Carman	Alyth	Wounded
Lee, Arnot Brown	Clerk	Regina	Wounded
McClain, Walker, B.	Porter	Brownville Jct.	Gassed
McDougall, Reginald St. Clare	Clerk	Regina	Wounded
McInnis, Alexander	Trainman	Revelstoke	Wounded
McKinnon, Donald	Section foreman	Whitewood	Wounded
Martin, Albert	Helper	Angus	Wounded
Milne, Robert	Fitter	Angus	Wounded
Mole, Charles Addney	Clerk	Vancouver	Wounded
Morgan, Wm. Clement	Clerk	Montreal	Gassed
Morris, Charles Eric	Clerk	Montreal	Died of wounds
Mossman, William Smith	Weighman	Fort William	Wounded
Munro, Neil	Painter	Sudbury Division	Wounded
Palmer, Charles Duncan	Trainman	Revelstoke	Wounded
Price, Charles Edward	Brakeman	Cranbrook	Wounded
Purton, Fred. Thos.	Locomotive man	Woodstock Division	Wounded
Reeves, Wm. Hodgson	Apprentice	Ogden	Wounded
Rheaume, Joseph Elzear	Porter	Terrebone	Wounded
Scotland, Alexander	Helper	Kenora	Wounded
Smith, James Albert	Yardman	Toronto	Wounded
Staves, Edward	Assistant lineman	Strathmore, Alta.	Wounded
Tidy, William Halmond	Messenger	Edmonton	Gassed
Wadsworth, William	Yardman	Moose Jaw	Wounded
Watson, William	Machinist	Ogden	Wounded
Wells, Frank Thomas	Coppersmith	Winnipeg	Wounded
Zavitz, Gordon Eugene	Locomotive fireman	London	Wounded
Zetterland, John	Conductor	Brandon	Died of wounds

Shown on honor lists to Oct. 1: Killed, 908; wounded, 1,995, total, 2,903.

Following is a partial list of officers and employes who enlisted for active service in Europe, to whom the King has awarded decorations and medals for bravery, gallantry and devotion to duty in the field:

Victoria Cross:
†Robertson, John Peter, Locomotive man, Medicine Hat.

Distinguished Service Order:
Leask, Thas. McCrae (a), surgeon, Moose Jaw.
Maitland, Oliver Mowat, clerk, Moose Jaw.

Military Cross:
Double, Thomas Henry, constable, Montreal
*Hertzberg, Olaf Phil, levelman, North Toronto.
Jennings, Alfred William, cashier, Toronto.
*McKillop, Donald, conductor, Cranbrook
May, Frank Randolph, inspector, Angus.

Distinguished Flying Cross:
Hallonquist, Jos. Eskil, clerk, Moose Jaw.

Distinguished Conduct Medal:
Bain, James, section foreman, Bredenbury.
Collis, William Orme, Trackman, Sudbury
*Holmes, W. Jackson, Locomotive fireman, Calgary.
McMahon, Frank, Brakeman, Smiths Falls.
*Malkinson, Wilfred, helper, Ogden Shop.
*Rhoades, Rupert, [illegible], Ignace
Thorpe, Percy, constable, Winnipeg
*Townsend, Gordon James, constable, Fort William

Military Medal:
Ba[illegible] James, section foreman, Bredenbury
*Campbell, John Charles, machinist, Ogden
*Cassidy, Thomas Joseph, porter, Campbell's Bay
*Costigan, Patrick, trainman, West Toronto
*Crawford, Edward [illegible], constable, Fort William
Daum, Alfred Lester, Yardman, Swift Current
Ferguson, Robert John, brakeman, [illegible]
Flett, Charles Joseph, assistant agent, [illegible]
Gordon, John Lawson, clerk, Toronto
Hewitt, Clarence S., operator, Glen [illegible]
Jackson, George [illegible], carpenter, Winnipeg
McMahon, Frank, Brakeman, Smiths Falls.
McMorran, Roy, clerk, Vancouver
*Malkinson, Wilfred, helper, Ogden shops.
Nelson, Frederick William, fireman, B.C. Lake and River steamboats
Sellen, Charles, checker, Toronto
*Staves, Edward, assistant lineman, Strathmore.
Taylor, Wesley Alexander, operator, Hazel Hill.
Thomson, Stewart, clerk, [illegible]
Thorne, Percy, constable, Winnipeg.
Wilson, George [illegible], fitter, Lethbridge
Yeates, Charles, trainman, [illegible]

Second Bar to Military Medal:
*Lawson, Frederick, fireman, Revelstoke

Meritorious Service Medal:
*Gardner, Charles Robert, clerk, London, Ont.
Graham-[illegible], Thomas H., clerk, Antwerp
Kearney, Thomas William, clerk, Moose Jaw
[illegible], Charles, clerk, Winnipeg
Smith, Charles Arthur, clerk, [illegible]

The following decorations have also been presented to employes by governments of allied nations:

Collis, William Orme, trackman, Sudbury, Croix de Guerre.
[illegible], Gordon Wesley, [illegible] agent, Montreal, [illegible] Medal for Valor.
[illegible], Robert H[illegible], [illegible], Vancouver, [illegible]
Hallonquist, Joseph Eskil, clerk, Moose Jaw, Italian Medal for Valor.
[illegible], William, checker, Fort William, Croix de Guerre.

Military Cross (a) with bar. †Killed in action. * Wounded.

Orders by Board of Railway Commissioners for Canada.

Beginning with June, 1904, Canadian Railway and Marine World has published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed the paper have a continuous record of the Board's proceedings. No other paper has done this.

General order 271. Sept. 10.—Ordering procedure and form to be used in submitting proofs of Canadian Freight Classification or Express Classification for Canada or any supplement thereto.

General order 272. Sept. 19.—Ordering terminal carriers not to issue bill of lading for entire movement of freight which is interswitched, but to give shipper local bill of lading covering movement by interswtiching service to point of transfer to line carrier that issues the bill of lading to destination.

28,762. Sept. 4.—Ordering C.P.R. to install distant signals where it crosses at Canadian Northern Ontario Ry. at Central Jct., Bonarlaw.

28,763. Sept. 5.—Relieving G.T.R. from providing further protection at crossing near St. Marys Jct., Ont.

28,764. Sept. 9.—Authorizing Canadian Northern Pacific Ry. to build interchange track with British Columbia Electric Ry., near Tripp station, B.C.

28,765, 28,766. Sept. 9.—Authorizing Saskatchewan Government to build highway crossing over Grand Trunk Pacific Ry., north of Sec. 1, Tp. 31, Range 26, and in n.w. ¼, Sec. 2, Tp. 31, Range 26, west 3rd meridian.

28,767. Sept. 9.—Authorizing Canadian North-Western Ry. to cross highway between Secs. 9 and 10, Tp. 25, Range 7, west 4th meridian, Alta.

28,768. Sept. 9.—Approving plan of Canadian National Rys. station at Chicoutimi, Que., work to be completed Jan. 1, 1920.

28,769. Sept. 11.—Approving extension of Canadian National Rys., Oakland Branch (Amaranth extension), mile 43.97 to 79.49.

28,770. Sept. 11.—Approving location Canadian National Rys., Ste. Rose du Lac Branch (Amaranth extension), mile 100.31 to 121.04.

28,771. Sept. 11.—Approving location of Canadian Northern Saskatchewan Ry., Lampman-Peebles Branch, mileage 0 to 22.39.

28,772. Sept. 11.—Approving location of Canadian National Rys. Eston Southeasterly Branch, mile 0 to 31.13.

28,773. Sept. 12.—Authorizing G.T.R. to build spur from near Spring St., Cobourg, Ont., northerly to G.T.R. right of way lands.

28,774. Sept. 11.—Relieving C.P.R. from providing further protection at crossing near Wolseley station, Sask.

28,775. Sept 12.—Authorizing Canadian National Rys. to build gauntlet track across bridge over Red Deer River, in Sec. 9, Tp. 29, Range 20, west 4th meridian.

28,776. Sept. 13.—Extending to Dec. 3, time within which Canadian National Rys. may operate over portion of Victoria and Sidney Ry., in British Columbia, from Sidney to Canadian Northern Pacific Ry. crossing.

28,777. Sept. 11.—Ordering Canadian National Rys. to keep station platform at Longlet Port, B.C., lighted; and to place three lights along right of way at entrance from Mavis St.

28,778. Sept. 13.—Authorizing Michigan Central Rd. to remove station agent at Attercliffe, Ont., caretaker to be appointed.

28,779. Sept. 16.—Authorizing Grand Trunk Pacific Ry. to cross and divert highway on its Melville-Regina Branch in n.w. ¼, Secs. 9 and 10, Tp. 22, Range 8, at mileage 11.2, Yorkton District, Sask.

28,780. Sept. 13.—Dismissing Canadian National Rys. application for order amending order 19,[illegible], which authorized Canadian Northern Ry. to cross highway at McGee Townsite, in n.w. ¼, Sec. 19, Tp. 29, Range 16, west 3rd meridian, to provide that cost be paid by the municipality and Canadian Town Properties, Ltd.

28,781. Sept. 15.—Authorizing C.P.R. to make road diversion in lieu of road allowance on western boundary of n.w. ¼, Sec. 11, Tp. 16, Range 13, west [illegible] meridian, across its tracks at mileage [illegible], and to close diverted portion within its right of way.

28,782. Sept. 18.—Dismissing application of [illegible], Vaudreuil, Que., for order directing C.P.R. to replace crossing on his farm by overhead crossing.

28,783. Sept. 17.—Approving agreement, July [illegible], between Bell Telephone Co. and Bradden Telephone Co., Hastings County, Ont.

28,784. Sept. 18.—Approving Central Canada Express Co.'s [illegible] No. 10, authorizing C. Hope, Assistant Superintendent, to issue tariffs of tolls.

28,785. Sept. [illegible].—Authorizing G.T.R. to build [illegible] Hall Coal Co., Montreal.

28,786. Sept. [illegible].—Authorizing G.T.R. to operate over siding to be built by Toronto Harbor Commissioners on the south side of Fleet St. [illegible]

28,787. Sept. [illegible].—Authorizing G.T.R. to re[illegible] across Little Trout Creek, near [illegible], Que.

28,788. Sept. 16.—Authorizing G.T.R. to build [illegible] for Canadian Packing Co., Montreal.

28,789. Sept. 16. Approving C.P.R. location of its Russell-Northerly Branch from mile 0 to 12.31 and authorizing it to cross 14 highways at grade in Manitoba.

28,790. Sept. 15. Authorizing G.T.R. to operate trains over sidings or spurs to be built by Toronto Harbor Commissioners for Anthracite Briquette Co., Toronto.

28,791. Sept. 13. Dismissing complaint of Toronto Board of Trade and Border Chamber of Commerce, Windsor, Ont., against increased return passenger fares put into effect by railway companies, Feb. 1.

28,792. Sept. 12.—Approving Canadian Northern Western Ry. location, mileage 58.94 to 75.3, and mileage 77 to 92.40, Alta.

28,793. Sept. 15.—Authorizing G.T.R. to operate trains over spur to be built by Toronto Harbor Commissioners, across Fleet St., Toronto.

28,794. Sept. 12.—Ordering C.P.R. to have distant signals at crossing by its Calgary-Edmonton Branch, of Grand Trunk Pacific Ry. Tofield-Calgary Branch, connected and operated electrically and automatically through home signal levers.

27,795. Sept. 18.—Dismissing application of Rockwood municipality, Man., for order directing C.P.R. to make highway crossing at Carson St., Teulon, Man.

28,796. Sept. 19.—Relieving G.T.R. from providing further protection at crossing of Main St., Vankleek Hill, Ont.

28,797. Sept. 20.—Extending to Oct. 15, time within which Canadian National Rys. shall complete freight and passenger station and passing track at Rosebud, Alta., as directed by order 27,875, Nov. 18, 1918.

28,798. Sept. 22.—Authorizing Grand Trunk Pacific Ry. to cross and divert highway at mileage 347.4, Sask.

28,799. Sept. 22.—Ordering C.P.R. to proceed with building of storage tracks at Port Arthur, Ont., as required by order 27,910, Dec. 2, 1918.

28,800. Sept. 19.—Amending order 28,648, Aug. 9, re building of culvert by G.T.R., near White's station, Que.

28,801. Sept 22.—Authorizing City of Hamilton, Ont., to widen King St. to 66 ft. at its intersection with Toronto, Hamilton and Buffalo Ry.

28,802. Sept. 22.—Authorizing Canadian Bank of Commerce, Calgary Branch, to pay $500, deposited in connection with C.P.R. spur, authorized by order 27,427, July 10, for Simington Co., Calgary, Alta., $393.90 to C.P.R., and $106.10, with accrued interest, if any, to Simington Co.

28,803. Sept. 17.—Authorizing G.T.R. to cross Common St., Montreal, and to connect with Montreal Harbor Commissioners' tracks.

28,804. Sept. 12.—Ordering G.T.R. to build siding 2 miles west of Brockville into Mrs. Bressee's farm on Lot 22, Con. 1, Elizabethtown Tp., Que.

28,805. Sept. 22.—Approving Canadian National Rys. of overhead unloading apparatus for tank cars to be built for Imperial Oil Ltd., Athens, Ont.

28,806. Sept. 22.—Authorizing G.T.R. to build passing track at grade across Muskoka Road, Gravenhurst, Ont.

28,807. Sept. 20.—Authorizing C.P.R. to build spur for Vancouver Ice and Cold Storage Co., Vancouver, B.C.

28,808. Sept. 22.—Relieving Pere Marquette Rd., from providing further protection at crossing near Leamington, Ont.

28,809. Sept. 20.—Disallowing three supplements of Quebec, Montreal and Southern Ry., and Napierville Jct. Ry., which cancelled reduced fares and special baggage allowance for commercial travellers.

28,810, 28,811. Sept. 22.—Approving Quebec Central Ry. standard freight mileage tariff C.R.C. 681, and its standard passenger tariff C.R.C. 174, on basis of 3½c a mile.

28,812. Sept. 17.—Dismissing application of Imperial Oil Ltd., Sarnia, Ont., for ruling in matter of claims against C.P.R. for refund of demurrage charges accrued during influenza epidemic on shipment detained at Shawinigan Falls, Que.

28,813. Sept. 18.—Dismissing complaint of Dominion Millers' Association and Canadian Manufacturers' Association against new milling in transit rules filed by railway companies operating east of Lake Huron and Detroit and St. Clair Rivers, effective Sept. 1.

28,814. Sept. 23.—Authorizing Canadian Northern Western Ry. to cross C.P.R. near Princess, Alta.

28,815. Sept. 23. — Approving Michigan Central Rd. plan of additional lever at crossing of G.T.R. at Canfield, Ont.

28,816. Sept. 24.—Authorizing G.T.R. to renew overhead bridges at mileposts 92.42 and 92.62, carrying Wilmot and Oxford Sts., Drumbo, Ont.

28,817. Sept. 24. Authorizing G.T.R. to build two spurs for Hunt Bros., London, Ont.

28,818. Sept. 24. Authorizing C.P.R. to remove station agent at Eholt, B.C., caretaker to be appointed.

28,819. Sept. 24.—Authorizing Canadian National Rys. to rebuild subway across Bowes St., Parry Sound, Ont.

28,820. Sept. 24.—Authorizing C.P.R. to move Nitschke's crossing now located on lots 13, 14 and 15, Range C, and Lot 23, Range 6, Petewawa Tp., Ont.

28,821., Sept. 24.—Authorizing C.P.R. to build extension of siding for Canadian Tube and Iron Co., Montreal.

28,822. Sept. 24.—Authorizing Canadian Northern Western Ry. to cross 25 highways with its Hanna-Medicine Hat Branch in Alberta.

28,823. Sept. 22.—Authorizing C.P.R. to build 4 spurs for Three Rivers Shipyards, Three Rivers, Que.

28,824, 28,825. Sept. 25, 26.—Authorizing Canadian Northern Western Ry. to cross highway between Secs. 15 and 10, Tp. 20, and to cross road allowance between n.w. ¼, Sec. 19, and s.w. ¼, Sec. 30, Tp. 21, Range 12, west 4th meridian, Alta.

28,826. Sept. 29.—Authorizing C.P.R. to build spur for Alberta Stockyards Co., Calgary, Alta.

. 28,827. Sept. 29.—Amending order 28,673, Aug. 16, re highway crossing over Grand Trunk Pacific Ry. in n.w. ¼, Sec. 25, Tp. 35, Range 14, west 3rd meridian.

28,828. Sept. 27.—Authorizing Canadian National Rys. to cross highway between Lots 32 and 33, Con. 2, Cramahe Tp., Ont.

28,829, 28,830. Sept. 30, 20.—Authorizing C.P.R. to divert road allowances in s.e. ¼, Sec. 3, Tp. 22, n.w. ¼, Sec. 35, Tp. 21, and s.e. ¼, Sec. 13, Tp. 22, Range 27, west 3rd meridian, and to cross same at mileage 6.05 and 321. Leader Southeasterly Branch, Sask.

28,831. Sept. 25.—Authorizing C.P.R. to cross Canadian National Rys. at mileage 0.02 Rossburn Subdivision, Man.

28,832 Sept. 29.—Authorizing C.P.R. to build highway crossing over its tracks in s.e. ¼, Sec. 1, Tp. 4, Range 3, west 2nd meridian, Sask.

28,833. Sept. 25.—Authorizing Canadian National Rys. to cross highway at mile 7.55 near Vegreville, Alta.

28,834. Sept. 30.—Authorizing Canadian National Rys. to extend spur for H. Cater, Brandon, Man.

28,835. Sept. 17.—Authorizing G.T.R. to connect with siding to be built by Toronto Harbor Commissioners across Steel Co. of Canada's lands, Toronto.

28,836. Sept. 30.—Approving location of C.P.R. Leader Southeasterly Branch from mileage 9 to 31.37, Sask.

28,837. Oct 3.—Authorizing Quebec, Montreal & Southern Ry. to increase its standard maximum passenger fare from 3.45, as shown in its standard passenger tariff C.R.C. 262, effective Mar. 15, 1918, to 4c a mile, not to become effective until requirements of Sec. 334 of the Railway Act, 1919, have been complied with.

28,838 Oct. 1.—Authorizing C.P.R. to build spur for Northern Electric Co., Regina, Sask.

28,839. Oct. 3.—Authorizing C.P.R. to build combination truss 3 track ferry slip, with moving leaf, on south shore of Burrard Inlet, Vancouver, B.C.

28,840. Oct. 4.—Extending to July 31, 1920, time within which gates may be erected at crossing of the C.P.R. and Canadian National Rys. at Bay Bridge Road, Belleville, Ont., as required by order 25,932, Mar. 10, 1917.

28,841. Oct. 3.—Exempting Grand Trunk Pacific Branch Lines Co. from erecting fences, gates and cattle guards or its Cutknife Branch, Sask., between mile 33.83 and 46.71, at 7 points.

28,842. Oct. 3.—Authorizing Canadian National Rys. to rebuild bridge over Talbot River, in Mara and Thorah Tps., Ont., at mileage 67 from Toronto.

28,843. Oct. 3.—Authorizing C.P.R. to extend spur for University of Saskatchewan, Saskatoon, Sask.

28,844. Oct. 4.—Authorizing G.T.R. to operate over sidings or spurs serving Gunns Ltd., West Toronto, Ont., as built by C.P.R. under order 28,423, June 11.

28,845, 28,846. Oct. 2.—Authorizing G.T.R. to operate over spurs to be built by Toronto Harbor Commissioners for E. Fielding & Son, and J. E. Russell, Toronto.

28,847. Oct. 4.—Authorizing Canadian National Rys. to rebuild bridge over east channel of Moira River, Stoco Lake, Hungerford Tp., Ont., at mileage 31.75 from Yarker.

28,848, 28,849. Oct. 3.—Authorizing C.P.R. to build spurs for loading ties at mileage 44.36 and 46.41, White River Subdivision, Algoma District, Ont.

28,850. Oct. 3.—Approving proposed location of Brantford Municipal Ry.'s Terrace Hill extension, Brantford, Ont.

28,851. Oct. 4.—Approving location and details of G.T.R. station at Palgrave, Ont.

28,852. Oct. 2.—Authorizing G.T.R. to operate over siding to be built by Toronto Harbor Commissioners for Canadian Ice Machine Co. Toronto.

28,853. Oct. 3. Dismissing application of City of Vancouver, B.C., for order to open up Commercial Drive for a crossing over C.P.R. to the government dock on Burrard Inlet, and authorizing city to make crossing at intersection of Stewart St., and Salisbury Drive.

28,854. Oct. 3.—Defining rates per car which carriers west of Lake Superior may charge for operations they may be called upon to perform on long sidings, or spurs, additional terminal service of switching by locomotive, or freight which in the same cars, has been or is to be line hauled by the switching carrier or a connecting carrier.

28,855. Oct. 7.—Approving Quebec, Montreal and South Ry. standard maximum passenger tariff C.R.C. 274, effective Oct. 19.

28,856. Oct. 6.—Approving work, plan and specifications of Keogh discharge drain to be built under G.T.R., near Whites Station, Que.

28,857. Oct. 7.—Approving agreement, Sept. 27, between Bell Telephone Co. and Brompton Pulp & Paper Co., operating in Beauce, Compton and Wolfe Counties, Que.

28,858. Oct. 6.—Approving Canadian National Rys., proposed timetable, effective Oct. 5, re train service at Fallowfield, Ont.

28,859. Oct. 6.—Authorizing G.T.R. to rebuild overhead bridge, carrying John St. over its tracks at Paris, Ont.

28,860, 28,861. Oct. 4.—Authorizing G.T.R. to remove station agents at Glen Huron and Wyebridge, Ont., the former to be a flag station.

28,862. Oct. 6.—Authorizing G.T.R. to build spur for Salts and Potash Co., of Canada, at mileage 42.5, Prince Albert Branch, Sask.

28,863. Oct. 3.—Authorizing C.P.R. to bridge two spurs for loading ties at mileage 18.51, Heron Bay Subdivision, Thunder Bay District, Ont.

28,864 Oct. 7.—Authorizing C.P.R. to build siding for Imperial Oil, Ltd., Claresholm, Alta.

28,865. Oct. 6.—Approving general plan 632-20-1 of location of sidings for Quaker Oats Co., Peterborough, Ont.

28,866. Oct. 6.—Approving G.T.R. standard station plan 6, showing details of station to be built at Prince George, B.C.

28,867. Oct. 7.—Authorizing Canadian National Rys. to rebuild bridge over Pike Creek, at Weir, Que.

28,868. Oct. 7—Authorizing Halifax and South Western Ry. to build spur for Town of Bridgewater, N.S., at Brookfield Mines.

28,869. Oct. 1.—Authorizing G.T.R. to build spur for Imperial Oil Ltd., Levis, Que.

28,870. Oct. 6.—Ordering Canadian National Rys. to make roadway 12 ft. wide on western side of eastern pier of bridge at Merivale, in Con. 1, Nepean Tp., Ont.

28,871. Oct. 6.—Authorizing G.T.R. to operate over siding to be built by Roger Miller & Sons, along and across Keating St., Toronto.

28,872. Oct. 7.—Authorizing C.P.R. to build spur for E J. Bawlf & Co., Winnipeg.

28,873. Oct. 6.—Relieving C.P.R. from providing further protection at crossing, between Secs. 255 and 36, Tp. 16 Range 26, west 2nd meridian, Sask.

28,874. Oct. 7.—Authorizing Canadian National Rys. to rebuild spur over west branch of Yamachiche River, at mileage 98.88 from Quebec.

28,875. Oct. 8.—Dismissing complaint of F. P. Reiley, Priceville, Ont., against proposed change of train service by C.P.R., between Walkerton and Saugeen Jct., Ont.

28,876. Oct. 8.—Authorizing Canadian National Rys. to rebuild bridge over Bolger Creek, Burton Tp., Parry Sound District, Ont., at mileage 26.8.

28,877. Oct. 8.—Recommending Windsor, Essex and Lake Shore Rapid Ry. operating rules to Governor in council for sanction.

28,878. Oct. 8.—Appointing T. L. Simmons, Assistant Chief Engineer of Board, to determine damages in connection with building of Canadian Northern Ontario Ry., across streets in North Bay, Ont.

28,879. Oct. 10.—Authorizing Canadian National Rys. to rebuild bridge over Cedar Lake Outlet, Rhodes Parish, Que., at mile 134, from Quebec.

28,880. Oct. 10.—Approving C.P.R. clearances of permanent train shed for Lake of the Woods Milling Co., at Elevator A, Keewatin, Ont.

28,881. Oct. 9.—Authorizing C.P.R. to build two sidings for Fraser Co., Edmundston, N.B.

28,882. Oct. 9.—Approving location of Edmonton, Dunvegan & British Columbia Ry., at Alcomdale, Alta.

General order 273. Oct. 8.—Extending to Sept. 30, 1920, time within which railway companies may equip their freight cars with safety appliances as required by general order 128, July 20, 1914.

Greater Winnipeg Water District Ry.—A press report states that the Greater Winnipeg Water District Commission is endeavoring to obtain a subsidy from the Dominion Parliament in aid of the railway. The line extends from St. Boniface to Shoal Lake, an area of the Lake of the Woods, 97 miles, and serves a section of the province which offers considerable inducements to settlers.

Special Provisions for Railway Employes Voting in Ontario.

The Ontario Legislature in 1918 amended the Municipal Act by providing that railway employes likely to be absent from their headquarters on the days of municipal elections, might vote at specially appointed polling places at railway centers on other days than the actual election days. At its last session, the Ontario Legislature amended the Ontario Elections Act so that special polls may be provided by order of the Lieutenant Governor in council, "at any election to the Assembly, or the voting upon any question submitted to the electors of Ontario, for receiving the votes of railway employes whose employment is such as to necessitate their absence from time to time from their ordinary place of residence and who have reason to believe that they will be so absent upon the day fixed for polling at such election or upon such question." The various subsections deal with the opening and closing of such polls, the number of polls, and the appointment of deputy returning officers and poll clerks, the notice to be given, and other details. One subsection provides that each person offering himself as a voter, has to sign a declaration that he is employed by a railway company and that he expects to be absent from home on the day of the poll. A penalty of not less than $25 and not more than $100 is provided for making a false declaration.

In connection with the recent general election, polls were opened on Oct. 17, 18 and 19, at the following railway centers throughout the province: Brockville, Cochrane, Hearst, St. Thomas, Fort William, Belleville, Trenton, East Hamilton, West Hamilton, Sioux Harbor, Kenora, Sarnia, Sarnia Tunnel, Smith's Falls, London, Carleton Place, Fort Erie, Niagara Falls, Madawaska, North Bay, Ottawa East, Ottawa West, Depot Harbor, Havelock, Palmerston, Stratford, Schreiber, Armstrong, Port Arthur, Rainy River, Allandale, Capreol, Chapleau, Michipicoten Harbor, Sault Ste. Marie, Rosedale, Toronto union station, Toronto Jct., Riverdale station, Toronto; Parkdale station, Toronto; Englehart, Lindsay, Windsor and Mimico.

Detention of Canadian Cars in the United States.

H. E. Lavigueur, M.P. for Quebec County, asked the following questions in the House of Commons recently:—"Is the Minister of Railways aware of the fact that the lumber trade is suffering from a great scarcity of cars owing to the fact that more than 44,000 Canadian cars are withheld in the United States against 23,350 cars on the Canadian lines? Is it the intention of the government to fix at $5 a day the duty now of 70c that the railway companies are obliged to pay for every car on their lines belonging to other companies?"

The Minister of Railways replied as follows:—"According to a statement issued by the Canadian Railway War Board on Oct. 2, there was a total of 59,671 Canadian owned freight cars in the United States, and a total of 38,069 U.S. owned freight cars in Canada, the excess of cars in the U.S. being 21,602. Included in the above there were 44,019 Canadian owned box cars in the U.S. and 20,650 U.S. owned box cars in Canada, the difference in this case being 23,369. We have received very few complaints about shortage of cars for lumber shipments to points within the Dominion, or for export over-seas, but it has been found impossible to secure an adequate supply of U.S. owned cars to take care of shipments of lumber, pulp and paper from Canadian to U.S. points. It is impracticable to furnish Canadian owned cars freely for such traffic, inasmuch as the cars are not promptly returned to Canada, and such action would immediately result in producing a shortage of cars for Canadian internal traffic. The Minister of Railways has taken the matter up with the authorities at Washington and every effort possible has been made to secure a balance of equipment. The standard per diem or car rental charged by one railway to another for the use of freight cars, is at present 60c per day, per car, this rate being established by the American Railway Association, and we are not aware of any proposal to change the rate, neither would a change in rate materially affect the question referred to."

Subsidies Paid to Railways.

Senator Casgrain enquired in the Senate, Oct. 21, as to the amount paid in subsidies to the G.T.R. during the last 65 years, to the C.P.R. during the last 37 years, to the Canadian Northern Railway during the last 25 years, and to the Grand Trunk Pacific Ry., from Winnipeg to Wolfe Creek, or 120 miles west of Edmonton. Sir James Lougheed replies as follows: "The following information is as far as the Railways Department is concerned:—

G.T.R. System, $15,142,633.34; G.T.R., Victoria bridge, $500,000; total, $15,642,633.34. C.P.R. Co., original construction, $25,000,000; Canadian Pacific extension (North Shore), $1,500,000; branch lines, $5,369,374.70; Canadian Northern Ry. Co., C.N.R. Co., $1,090,132; C.N. Quebec Ry. Co. (formerly Great Northern Ry., Quebec), $1,265,357.14; C.N. Quebec Ry. Co. (formerly Chateauguay & Northern Ry.), $391,819.75; C.N. Alberta Ry. Co., $3,120,000; C.N. Ontario Ry. Co., $14,485,635.20; C.N. Pacific Ry. Co., $5,987,520; total, $27,159,464.09.

Grand Trunk Pacific Ry. Co., no subsidy paid on line between Winnipeg and Wolfe Creek, in so far as the Railways and Canals Department is concerned.

The Sir Robert Reid Estate—The action brought by Miss Harriet D. Reid, only daughter of the late Sir Robert G. Reid, against Sir William D. Reid, H. J. Reid, R. G. Reid, Lord Shaughnessy, the Royal Trust Co., Montreal, and the Reid Newfoundland Co., for the appointment of a sequestrator in connection with the management of Reid Newfoundland Co.'s shares, owned by her late father, came before a court at Montreal, Sept. 27, and judgment was given by Justice Coderre, Oct. 9. In the course of the hearing it transpired that Sir Robert Reid's will directed the sale of his interests in the Reid Newfoundland Co., and the investment of the proceeds in safe and conservative investments; that Sir William Reid in 1917, while on a sick bed in New York, signed a document providing for a division of the shares, and that the Royal Trust Co., Montreal, was appointed trustee and executor in place of the three Reid brothers and Lord Shaughnessy. The judgment directs the appointment of a sequestrator in respect of [illegible] shares in the company, pending the trial of the main action. The judgment is being appealed.

Railway Ditching and Drainage.

The following report was presented at the Roadmasters and Maintenance of Way Association's annual meeting in Chicago recently by a committee of which J. P. Corcoran, Roadmaster, Chicago and Alton Rd., was Chairman, and of which H. Ferguson, Superintendent of Track, Ontario Lines, G.T.R., Toronto, was a member:

The subject assigned to us, drainage, is one of the most essential in railway maintenance.

1. If tracks have not the proper drainage, no matter how good the rail, ballast and ties, the tracks will become out of line and surface. Drainage on many roads in the last few years has been neglected on account of the scarcity of labor. At present with the high cost of labor, we must seek other devices for proper ditching and draining.

2. In the past hand work of labor and work train was thought to be the essential way of cleaning ditches. Today we have ditching machinery that will clear out ditches, shape and slope them. One ditching machine will do as much as 50 men.

3. Where water lies on the surface or in ditches in the autumn and during the winter, we find the track heaving. It is just as expensive to shim our tracks and keep constant watch over the shimmed track as it would be to do the proper ditching to carry away the water so the roadbed would be dry and track would not heave. Frequently there are places where this cannot be done without going to considerable expense to put in drain tile, this tile to be laid below frost line and the movement of the roadbed. Generally this distance should not be below less than 4 or 5 ft. below the bottom of the tie. The ditch should be filled with sufficient suitable porous material to draw the water to the tile. Even in such cases it is economical to put in tile to draw the water away, thus keeping the track dry and keep it from heaving.

4. Where there are wet cuts, frequently causing trouble, there should be a tile through the cut, suitably laid below frost line and any movement of the roadbed. Generally this depth should not be less than 4 or 5 ft. below the bottom of the tie.

5. Through cuts where there is silica sand, quicksand, or alkali clay, that slides in quickly, the time to put in drainage is in very dry weather and sheet piling should be used in opening the ditch to lay in the tile. When the length of ditch for the day has been dug and the tile laid, it should be filled in, in the evening, with coarse, suitable material to draw the water to the tile. Great care should be taken to get the tile laid the proper fall from the beginning to the mouth of the tile. At the mouth of the tile a mattress of either good heavy riprap, or a bottom of old ties, should be used to prevent the dirt washing from under tile.

6. Where there are soft spots in the track, either in cuts or on a fill where track slides on account of improper drainage or softening of track, French drains placed either between tracks or in ditches are a great help to the track; a ditch opened 4 or 5 ft. deep and 3 or 4 ft. wide and filled in with rip-rap or stone and laterals cut in under the track to drain into the French ditch, will be found to be very beneficial and will prevent the track from going out of line and surface. Laterals should be placed wherever found necessary to draw the water from under the tracks. Embankments extended along existing tracks on earth or clay and having sufficient bond of existing fill, during rainy seasons, will slide on account of leakage of water between the old and new grades. In many cases an auger can be used to bore into the side of the bank and a pipe be placed in to give the drainage and draw the water.

7. Where practical, ditching should be done by machinery.

8. Below are figures of ditching by different methods for 1917 and 1918:

American Steam Ditcher—Ditch labor, $18.90; W. T. labor, $28.36; Rental of equipment, $31; Cost of maintenance, $1.45; Cost of supplies, $12.80; total cost, $92.51; Cu. yards handled, 224; Cost per yard	$0.4130
Mahoney Ditcher—Ditch labor, $31.75; W. T. labor, $28.36; Rental of equipment, $30; Cost of supplies, $10.62; Cost of maintenance, $0.93; Total cost, $101.66; Cu. yards handled, 252; Cost per yard	0.4034
Push cars (two)—1 foreman at $83, $2.77; 11 laborers at $2.25, $19.80, total $22.57. Cost per yard	0.5862
Car Barrows—1 foreman at $83, $2.77; 4 laborers at $2.25, $7.20; total $9.97. Cost per yard	0.7670
Wheelbarrows—1 foreman at $83, $2.77; 6 laborers at $2.25; $10.80; total, $13.57. Handled 19 cu. yds. Cost per yard	0.7142
Casting—1 foreman at $83, $2.77; 6 laborers at 2.25, $10.80; Total $13.57. Handled 38½ cu. yds. Cost per yard	0.3525

This cost data is arrived at from work actuallv performed on a single track, having an average of six tonnage trains during working hours; of soft clay roadbed where the standard ditches are such as are ordinarily known or described as shoulder ditches—that is where there is a shoulder of 7 ft. maintained outside of the rail, with ditch 3 ft. wide by 2 ft. deep, maintained outside of that, which is analogous to the dipper or bucket on the drag ditcher as above referred to, this type of ditcher being preferable on this particular line to the American, Marion or Erie, except in case of small slides or very heavy ditching.

9. On two or more tracks, suitable drainage should be provided to carry away the surface water.

10. Particular attention should be paid to the drainage of frogs, switches and railway crossings, the remedy depending upon local conditions. This resolves in the matter of providing sufficient rapid drainage, which can be accomplished by providing good surface drainage. Railway crossings, wherever possible, should be drained by using a good depth of cobble stone, say 3 to 4 ft. deep and covering same with ordinary ballast of stone or slag and putting in a drain to carry out the water from the bottom of the cobble stones. This will keep the crossing up from pounding and keep it in line and surface.

11. Through yards where drainage is hard to get, there should be drains laid with catch basins wherever necessary to catch the water and carry it away, and in this manner tracks will not lie under water or the water will not soak in the ground and cause tracks to become uneven, which we frequently find in the autumn and winter where there are not the proper facilities for draining tracks. All yards should have a drainage system.

12. Poor drainage at station platforms, street and highway crossings, on account of ballast becoming foul, or proper drainage not being given to crossings. Those are always the last to receive attention. At such places there should be suitable drain leading to the outside of the ties 5 or 6 in. below the tie to draw the water away. Ballast in the crossing should be kept clean, so water will reach the drain and be drawn away quickly and not allow the subgrade to become soft. There should be a proper outlet for this drain so that the water could be disposed of.

13. Section forces should keep ditches clean at all times and have a working system of keeping them clean.

Canadian National Railways Earnings.

	1919	1918
January	$ 6,744,018	$ 4,696,567
February	6,000,342	4,421,504
March	6,827,491	5,710,660
April	6,909,632	7,165,890
May	7,518,244	6,580,745
June	6,009,585	6,868,864
July	7,657,402	5,733,299
August	8,274,882	8,255,942
September	8,627,268	7,058,381
	$64,569,137	$56,491,852

Approximate earnings for 2 weeks ended Oct. 14, $4,077,031, aganist $3,534,845 for same period, 1918.

Canadian Pacific Railway Earnings, Expenses, Etc.

Gross earnings, working expenses, net earnings, and increases or decreases, from Jan. 1, 1919, compared with those of 1918:

	Gross	Expenses	Net	Increases or decreases
Jan.	$13,028,328	$11,474,816	$1,553,512	$ 385,519
Feb.	11,064,167	10,083,051	981,116	390,218
Mar.	12,374,182	10,835,138	1,539,044	*1,453,737
Apr.	13,108,905	11,020,281	2,088,624	*1,366,765
May	13,569,411	10,535,650	3,033,761	*654,015
June	13,577,274	10,586,852	2,990,421	178,274
July	14,720,362	11,723,659	2,996,703	826,692
Aug.	15,283,654	11,505,486	3,778,168	569,534
	$106,726,283	$87,764,934	$18,961,348	*$1,124,277
Incr.	$ 9,230,079	$10,354,356		
Decr.			$ 1,124,277	

Approximate earnings for 2 weeks ended Oct. 14, $7,994,000, against $6,982,000, for same period, 1918.

Grand Trunk Railway Earnings, Expenses, Etc.

Gross earnings, working expenses, net earnings, and increases or decreases, from Jan. 1, 1919, compared with those of 1918:

	Gross	Expenses	Net	Increases or decreases
Jan.	$ 4,402,229	$ 5,118,234	$† 716,005	$* 81,794
Feb.	4,088,028	4,397,953	†309,925	*660,229
Mar.	5,513,593	4,673,298	840,295	762,766
Apr.	5,357,537	4,601,550	755,987	92,889
May	5,272,060	4,603,411	668,649	*36,495
June	4,047,795	4,644,659	303,136	*707,067
July	6,021,746	4,886,147	1,135,599	*35,347
	$35,602,988	$32,925,252	$2,677,736	*$665,277

†Deficit. *Decrease.

Uniforms for Canadian National Railways Employes—C. G. Power, M.P. for Quebec South, asked several questions in the House of Commons recently, as to the manner in which contracts for uniforms for Canadian National Rys. employs are given. The Minister of Railways replied as follows: "On the Canadian Government Rys. section, uniforms were formerly obtained on the basis of competitive bids, but the results were so unsatisfactory that for the past five years the work of making uniforms on that section has been entirely entrusted to W. J. Inglis & Co. of Montreal. They have contract for uniforms for Quebec divisions of Canadian Northern Ry. system, and for Ontario and western lines competitive offers are obtained."

Canadian Pacific Railway Steel Underframe Refrigerator Cars.

These 41 ft. cars are designed for satisfactory service when handling any of the several different commodities which require to be transported in insulated cars, because of the need of protection from heat or frost, also for other miscellaneous freight which may properly be loaded in refrigerator cars when they are not required for the transportation of perishables. As packing house products are regularly handled in Canada by railway owned refrigerators, the cars are equipped with galvanized iron tank bunkers, which permit the use of salt, as required to obtain the proper degree of temperature. Regulation meat racks are installed as part of the roof end ceiling construction.

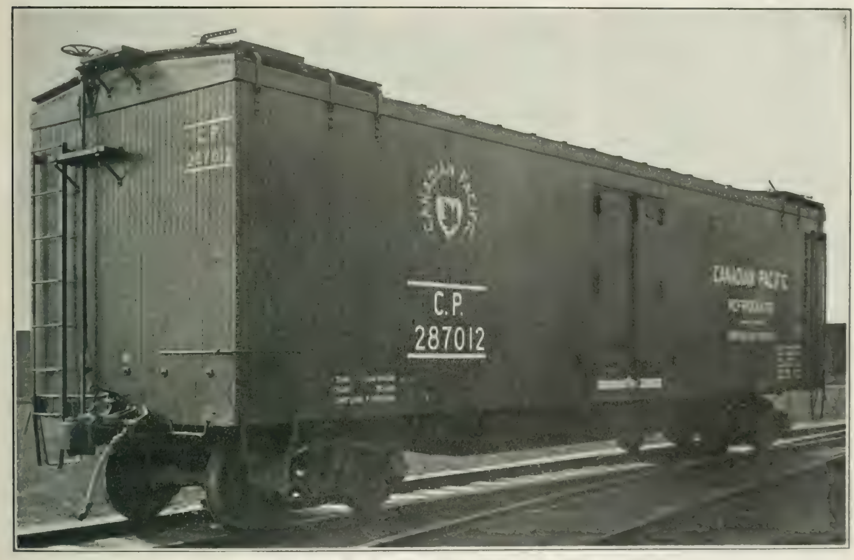
Ventilation—To prevent the exchange of air through the hatch openings at any time, and especially when the hatches are opened for reicing, the tanks fit well around the ceiling, and the ventilator openings are fitted with malleable iron frames, with a close fitting plate slide, which is secured in a closed position at all times except when the cars are operating under ventilation. For berry and fruit traffic it is necessary to provide a means of ventilation. This has been taken care of by providing openings in the fronts of the ice tanks near the top, so that when the hatch covers and plugs are opened, air will circulate freely into and through the car. When operating under ventilation, the use of ice, or ice and salt, is optional, thus providing a wide range of regulation which may be varied to suit the seasons, condition of the load, and the distance to be moved. Fruit fresh from the field is a very difficult commodity to transport, as the field heat, and the heat generated by the ripening process, produce a condition that is difficult to handle. However, the brine tank ventilator car, when equipped with suitable floor racks, arranged so that free circulation will take place around the ice and out under the racks, is particularly suited to this traffic, as the use of salt on the initial icing lowers the temperature of the car rapidly, absorbing the field heat and checking the process of ripening. For fruit shipments it is well to apply temporary slats along the sides of the car to provide space for circulation at the sides as well as underneath. All other perishables may easily be transported safely in these cars, provided reasonable care is used in loading so that the air within the car may circulate freely.

Winter Service—Whenever lading requires protection from frost, charcoal heaters are placed in the corner ice tanks, two or more per car as required.

Floor Racks—Permanent racks of 1¾ x 3¾ in. B.C. fir are installed in sections, 5 sections per side. They are secured with hinges, similar to those used on side doors, to the lining base plank, and when propped up against the car sides, the racks are entirely clear of the floor, and permit it to be thoroughly and easily cleaned and swept out through the side door openings. The racks are made of relatively heavy material to insure durability, especially when car is loaded with miscellaneous merchandise freight.

Ice Bunkers—There are 4 rectangular galvanized iron tanks at each end of the car; tank bottoms ⅛ in. pressed steel, galvanized after pressing, sides 16 gauge galvanized iron. Near the top substantial lugs are rivetted, which bear against the underside of hatch frame and prevent tanks from jumping when cars are being shunted. The tank supports, consisting of angle irons, are arranged so that the front supporting angle may be removed without disturbing any tank. After the removal of this angle, one or more tanks may be removed and re-applied without disturbing the others.

The drip pan under the tank is sloped from the car end towards the front of the tank, so as to be as nearly self-clearing as possible. The front edge of the drip pan is made of ⅛ in. pressed steel plate, galvanized. This arrangement avoids, to a considerable degree, the obstruction of free circulation of air down around the tanks and out under the floor racks.



Canadian Pacific Railway, 41 ft. Steel Underframe Refrigerator Cars.

Tank Drains—The center tanks, at the ladder corners only, are equipped with a drain valve, and the remaining 3 tanks at each end of the car are coupled to this tank, by a hose connection located [illegible] ft. above tank bottom. The drain valve is connected to a pipe extending directly through car floor.

Insulated bulkheads are provided in front of the ice bunkers. These bulkheads are arranged at one side of the car, so that they may easily be swung opened for inspection, cleaning, or repairing tanks. The bulkheads have an extension at the bottom, with horizontal slat, to prevent small crates or boxes from sliding under the bulkhead.

The ice hatches are of U. S. R. A. design, modified only as absolutely necessary to suit conditions.

Roofs are of galvanized iron, type XLA, flexible, applied over single course of boards and one layer of 2 ply asphaltum roof paper. The spacing of the carlines is governed by the spacing of meat rack supports, and on account of roof insulation the roof mullions and running board saddles are spaced to coincide with the carline centers; this provides substantial solid construction for nailing the mullions. The roof sheet pivot saddles are secured by carriage bolts, applied through a special washer nailed on the underside of the ridge pole; this washer when applied is L shaped, secured by 2 nails. After the carriage bolt has been applied, the projecting end of the washer is bent back under the bolt head, so as to prevent the bolt from dropping down. The hole in the washer is square, to suit the shank in the bolt head.

Insulation—The floor insulation consists of a layer of 90 lb. water proof insulation paper, applied in one piece from side to side, and end to end, of car, thereby covering the entire underframe and subfloor. On top of this are placed the floor stringers, the center stringers resting on and bolted to the edge of center sill cover plate; the intermediate stringers rest on and are bolted to the bolsters, cross bars and floor beams. Between the stringers 4 layers of ½ in. insulation are applied in strips, continuous from end to end of car. Each layer consists of hair and fibre felt stitched between 2 courses of 90 lb. water proof insulation paper. The 4 layers are applied in 2 courses of double layers, with nailing strips, and ⅜ in. t.&g. boards between.

The floor consists of 2 courses t.&g. boards, the under course ⅝ in. thick, over which is spread a heavy coating of hot water proof asphalt, and over this a layer of 2 ply asphaltum roofing paper. The top course boards are 1⅛ in. thick.

The side and end wall are insulated with 3 layers of ½ in. insulating material, each layer stitched between 2 layers of 90 lb. water proof insulation paper. Side and end wall insulation extends continuously from floor to ceiling, and from door opening to end of car, across the end, and to door post opposite starting point. One layer of the insulation is applied on the outside of the superstructure frame, over laping and fastened to the sills and plates. Two courses are applied on the inside of the framing, against the ⅜ in. t.&g. sheathing. The outside sheathing consists of standard 13-16 in. t.&g. car sheathing and the inside lining is 13-16 in. t.&g. basswood or spruce. The total thickness through side walls is 6½ in.

The roof insulation consists of 6 layers of ½ in. insulation material, each layer stitched between 2 courses of 90 lb. water proof insulation paper. The insulation is applied in one piece between carlines from side plate to side plate. It is applied in 3 double layers, each double layer supported on ⅜ in. t.&g. boards. On the top side of the ceiling boards, a layer of 90 lb. water proof insulation paper is applied in one piece, from side to side, and end to end, of car.

Superstructure Frame—The principal framing members are B.C. fir, excepting end sills, end posts and end braces, which are of oak or maple. All of the posts and braces are set in cast iron pockets, except the end post and braces, which are set in special cast steel pocket, having a high flange on the outside to prevent lower ends of posts and braces from springing over the top of the casting. Each casting is bolted directly through the steel end sill flange with 2 ⅝ in. bolts. This is to prevent the pocket from tipping out, and also to avoid trouble caused by dowels splitting on wooden end sill. Diagonal brace rods are employed at each side frame panel to reduce rocking to a minimum.

The spacing of the carlines coincide with the spacing of meat rack cross supports, and the supporting bolts pass through the carlines, thus avoiding longitudinal blocking, which is undesirable, particularly on account of interference with insulation. Three-quarter in. cross tie rods are applied at alternate carlines. The framing and insulation of the car is so arranged that the roof frame may be assembled on the shop floor, and then placed on edge, while the ceiling boards are applied. This enables the builders to work at all times to the best advantage, which results in good work being done rapidly.

The underframe is of the center carrying type; center sill 30 in. deep at the center portion, composed of web plates ¼ in. thick; top cover plate ⅜ x 26½ in. continuous in one piece from end to end of car; top flange angles are 3½ x 3½ x ⅜ in.; bottom flange angles are 3½ x 3½ x 5-16 in.

The bolsters are of box girder type composed of ¼ in. pressed steel diaphragms, top cover plate ⅜ x 18 in. bottom cover plate 9-16 in. x 15 in. The cross bearers are single web girder construction, consisting of ¼ in. pressed steel diaphragms, top cover 7-16 x 7¾ in. Floor beams are 4 4in. 8.2 lb. Z bars. Side sills are angles 6 x 4 x ⅜ in. The end sill angles are 6 x 4 x 7-16 in. The draft arms are of ⅜ in. pressed steel. The center sill bottom cover is of ⅝ x 21¼ in. plate. The rear draft lugs are secured to the draft arm and center sill splice, and are also rivetted to the center sill bottom cover. The front draft lugs are designed to receive cast steel coupler striking plate, and cast steel carry iron, the latter is secured by 1⅜ in. bolt passing through the lower front corners of the draft lugs. The cast steel striking plate has an extension arm for angle cock bracket, so arranged that the bracket may be located correctly for either 9¼ or 12 in. coupler heads.

The cars are equipped with friction draft gear, cast steel yokes and 5 x 1⅛ in. coupler yoke keys.

The Trucks are C.P.R. standard, 40 ton arch bar type, having simplex bolsters designed to support center pin in the truck bolster. The truck columns are of the Harragin pinless brake beam hanger bracket type. Side bearings are roller type located 2¼ ft. from the center of the car. The tare weights average between 59,000 and 60,000 lb., resulting in a limit load capacity, including ice, of 72,000 to 73,000 lb.

The brake mast is 1¼ in. square, fitted with snow and ice proof ratchet and dog.

Adjustment of brake piston travel is provided on the floating lever fulcrum, making it unnecessary to change adjustment on trucks, after they have been correctly adjusted when car is built, except that variations in dimensions of brake beams and rods applied in renewals, may require the truck levers to be re-adjusted.

The Side Doors are equipped with W. H. Miner fasteners. The threshold plates are of pressed steel, with a shallow shoulder at the inside edge for the stripping on the lower inside edge of door to close against. The open door fastener consists of a link and bolt arrangement, that cannot become unfastened accidentally. Side door thresholds and all metal work on the interior of the cars are heavily galvanized, by the most reliable known process.

We are indebted to W. J. Robider, General Master Car Builder, C.P.R., for the foregoing article.

A Station Mistaken for a Fowl House.

It was out in the wild west, and the railway station was not much to boast about. A farmer, new to the place, was expecting a fowl house to reach the local Charing Cross, and he got his dray and trundled off to the station to fetch it.

Arrived there he saw what he took to be his purchase, loaded it on his wagon, and started for home. On the way back he met the stationmaster.

"What the dickens have you got on that dray?" he asked.

"My fowl house, of course," was the reply.

"Fowl house be hanged," was the indignant reply; "that's the station!"

United States Railway Equipment for Europe—It is stated that a foreign equipment finance corporation has been organized in the United States, with a capitalization of $100,000,000, to provide means whereby credits can be arranged for countries in need of equipment. Among those said to be interested are American Locomotive Co., Baldwin Locomotive Works, American Car & Foundry Co. and Standard Steel Car Co.

Toronto Union Station Privileges—The Toronto Terminals Ry. Co. invited tenders to Oct. 31 for the restaurant, lunch counter and self-serve rooms, news stands, shoe shine and pay toilet privileges collectively; also separately for barber shop, cigar store, candy store, drug store, haberdashery and soda fountain. Lessees to furnish all special and portable equipment. Tenders to be submitted in two forms; one as an annual rental and the other a percentage of gross receipts.

Purchases of Timber and Fence Posts for Government Railways—F. J. Pelletier, M.P., for Matane, Que., asked in the House of Commons recently whether the Government Purchasing Board invited tenders in May, June and July for cedar timbers and fence posts for railways, and if so, whose tenders were accepted and what were the prices, submitted for the different grades of timber? The Minister of Justice replied that purchases for the government railways do not come within the War Purchasing Commission's duties.

Hudson Bay Ry. Operating—As stated in Canadian Railway and Marine World for August, the Canadian National Rys. management is operating the Hudson Bay Ry. for the Dominion Government. For operating purposes it is included in Division 2, Prairie District, C.N.R., of which A. E. Macdonald, Dauphin, Man., is Superintendent, the General Superintendent of the district being B. T. Chappell, Saskatoon, Sask. Track is laid from Pas to mile 332, and a mixed train is run bi-monthly to mile 214, leaving Pas on the second and fourth Wednesdays of each month. When business warrants, a train is run occasionally to mile 241.

Mainly About Railway People Throughout Canada.

Joseph Orville Adams, whose appointment as General Eastern Freight Agent, G.T.R., New York, was announced in our last issue, was born at London, Ont., Nov. 21, 1872, and entered railway service Nov. 14, 1887, since when he has been to Apr. 30, 1902, messenger, clerk and chief billing clerk, G.T.R., London, Ont.; May 1, 1902 to Oct. 8, 1903, chief billing clerk, and chief clerk, Import Freight Department, G.T.R., Portland, Me.; Oct. 9, 1903, to Mar. 31, 1904, Agent, Central Vermont Ry., Willematic, Conn.; Apr. 1, 1904, to Feb. 29, 1908, Agent, same road, Barrie, Vt.; Mar. 1, 1908 to Jan. 1, 1915, General Agent, same road, Burlington, Vt.; Feb. 1, 1915, to June 14, 1917, Travelling Freight Agent, same road, Boston, Mass.; June 15, 1917, to Sept. 14, 1919, Commercial Agent, same road, New York.

R. B. Angus, one of the C.P.R. directrs, has closed his summer house at Senneville, Que., and returned to Montreal.

W. G. Annable, General Passenger Agent, Canadian Pacific Ocean Services, Montreal, visited the Pacific coast recently.

E. W. Beatty, K.C., President, C.P.R., was installed as Chancellor of Queen's University, Kingston, Ont., Oct. 16, which was his 42nd birthday.

Ralph Budd, who has been appointed President, Great Northern Ry., St. Paul, Minn., was born at Waterloo, Ia., Aug. 20, 1877, and entered railway service in 1899, since when he has been, to 1902, consecutively draftsman, rodman, levelman, instrument man and Assistant Engineer, Chicago Great Western Ry.; 1902 to 1905, successively Roadmaster, General Superintendent of Construction, and Division Engineer, St. Louis Division, same road; 1905, Division Engineer, same road, Chicago, Ill.; 1906 to 1909, Chief Engineer, Panama Rd., Colon, Panama; 1909 to 1910, Chief Engineer, Oregon Trunk Ry.; 1910 to May 1, 1914, also Chief Engineer, Spokane, Portland & Seattle Ry.; 1911 to Jan. 1, 1913, also Chief Engineer, Spokane & Inland Empire Ry., and Spokane Traction Co.; Jan. 1, to Feb. 15, 1913, Assistant to President, Great Northern Ry., St. Paul, Minn.; Feb. 15, 1913, to May 1, 1914, Chief Engineer, same road; May 1, 1914, to Feb., 1918, Assistant to President, same road; Feb., 1918, to Oct., 1919, Executive Vice President, same road.

Fred J. Buller, who has resigned the position of Local Treasurer, Eastern Lines, Canadian Northern Ry., Toronto, and has been appointed Vice President, Canadian Steel Tire and Wheel Co., Montreal, was born at Lindsay, Ont., Jan. 30, 1875, and entered transportation service in Sept., 1893, since when he has been, to Oct., 1896, messenger, Canadian Express Co.; Nov., 1896, to June, 1899, clerk, same company, Toronto; June, 1899, to July, 1901, clerk and relieving cashier, Dominion Express Co., Winnipeg; July, 1901, to Dec., 1902, clerk and timekeeper, General Superintendent's office, Canadian Northern Ry., Winnipeg; Dec., 1902, to Nov., 1906, cashier, same road, Toronto; Nov., 1906, to Jan., 1919, Cashier and Paymaster, same road, Toronto; Jan., to Oct., 1919, Local Treasurer, Eastern Lines, Canadian Northern Ry., Toronto. On Oct. 7, the Canadian National Rys. general office officials gave him a solid silver tea service, the presentation being made on their behalf by D. B. Hanna, President.

E. J. Chamberlin, formerly President G.T.R., and G.T.P.R., and Mrs. Chamberlin, have left Ottawa for California to spend the winter.

Captain Michael Chapman, of the 4th Grenadier Guards, formerly of Chapman and Walker Ltd., electrical supplies, etc., Toronto, who was killed in France, Apr. 12, 1918, left an estate valued at $41,969.

Mrs. Cochrane, widow of the late Hon. Frank Cochrane, M.P., ex-Minister of Railways, and Miss Edith Cochrane, have returned to Ottawa, and are at the Roxborough for the winter.

Hon. F. B. Carvell, K.C.
Chief Commissioner, Board of Railway Commissioners for Canada.

D. C. Coleman, Vice President, Western Lines, C.P.R., and Mrs. Coleman, entertained at dinner, at their house in Winnipeg, Oct. 13, the British newspaper correspondents accompanying the Prince of Wales.

D. C. Coleman, Vice President, Western Lines, C.P.R., who was mentioned in Canadian Railway and Marine World for October, as confined to his house in Winnipeg, as the result of an accident, was able to visit headquarters at Montreal towards the end of October. The accident occurred on the Edmonton, Dunvegan & British Columbia Ry., 3 miles east of Spirit River, Alta., on Sept. 23. Accompanied by Sir Augustus Nanton, one of the C.P.R. directors, and W. R. MacInnes, Vice President, Traffic, C.P.R., he was riding on a gasoline motor driven section car, at about 12 or 13 miles an hour, when, probably owing to the condition of the track, it left the rails, and he was thrown off, sustaining a bruised and sprained leg, some cuts about the head, arm and leg, and some of the bones in his right hand were crushed. He was confined to his house for some 10 days, but has now practically recovered, except that his right hand is still hardly up to its normal service. Sir Augustus Nanton and Mr. MacInnes were not injured.

W. J. Cowan, who died suddenly, Oct. 21, at Cannington, Ont., where he was conducting his election campaign as Unionist candidate for North Ontario, for the House of Commons, spent much of his time in the west, where he was concerned with numerous contracts on the C.P.R., Canadian Northern Ry., and Grand Trunk Pacific. He was 69 years of age, and was born in Brock Tp., Ont. He retired from the contracting business a short while ago, and took a farm in Northern Ontario.

Granville C. Cunningham, M.Inst.C.E., who has recently written a book, "Wake up England," was born in Edinburgh, April 27, 1847, his professional and business record being as follows: 1870-71, railway service in Honduras; 1871-1874, various railway works in Ontario; 1874-1875, preliminary surveys for Canadian Pacific Ry.; 1875-79, Engineer in Charge, Prince Edward Island Ry. and of harbors in the island; 1879-1881, on Canada Southern Ry.; 1881-83, Chief Engineer, Canada Southern Ry.; 1884-86, General Assistant to Manager of Construction, Rocky Mountain Division, Canadian Pacific Ry. (Jas. Ross), 1886-89, railway construction in Lower Canada; 1889-1892, Assistant City Engineer and City Engineer, Toronto; 1892-1897, General Manager and Chief Engineer, Montreal St. Ry.; 1897-99, Managing Director, City of Birmingham Tramways. In 1899 he was appointed General Manager, Central London Ry. In 1895 he published "Imperial Federation," and in 1911, "'Bacon's Secret Disclosed."

Sir Henry Drayton, Minister of Finance, and formerly Chief Railway Commissioner for Canada, has been elected by acclamation as M.P. for Kingston, Ont.

G. Herrick Duggan, C.E., President, Dominion Bridge Co., Montreal, has been given an honorary degree by Queen's University, Kingston, Ont.

F. P. Gutelius, Federal Manager, Delaware and Hudson Rd. (U.S.R.A.), and formerly General Manager, Canadian Government Rys., visited Quebec in October and went over the Quebec and Saguenay Ry., the Louise docks and railway properties along the St. Lawrence River.

Mrs. D. B. Hanna, wife of the President, Canadian National Rys., and her two daughters, visited Winnipeg and Portage La Prairie, Man., in October.

W. D. Harris, who died at Ottawa, Sept. 28, aged 72, was born in England, and came to this continent in early childhood. He graduated at Boston, Mass., in 1872, with the degree of B.Sc., and devoted himself to railway engineering work. He was associated with the Intercolonial Ry., C.P.R., Quebec, Montreal, Ottawa and Occidental Ry., and was subsequently Managing Director and Chief Engineer, Ottawa and Gatineau Valley Ry., and Pontiac Pacific Jct. Ry., and resigned those positions in 1896 on his appointment as President, Montreal Terminals Ry., retaining that position until 1901.

William Smith Harrison, who has been appointed Auditor of Revenue, G.T.R., Montreal, was born at Gresley, Eng., Apr. [illegible], 1880, and entered G.T.R. service in [illegible], since when he has been, to 1900, junior clerk, Mimico, Ont.; 1900 to 1904, operator and relieving agent, Middle and Northern Division; 1904 to 1908, agent, Campbellford, Ont.; 1908 to 1910, Travelling Auditor, Montreal; 1910 to 1913, in office of Auditor of Revenue, Montreal; 1913 to 1918, chief clerk, same office; 1918 to Sept. 25, 1919, Assistant to Auditor of Revenue, Montreal.

Lady Hickson, widow of Sir Jos. Hickson, formerly General Manager G.T.R., has returned to Montreal, after spending some time at Woodstock, Vermont.

W. A. James, Assistant Chief Engineer, C.P.R., Western Lines, Winnipeg, visited Montreal, towards the end of October, with D. C. Coleman, Vice President, Western Lines.

G. C. Jones, Assistant to President, G.T.R., Toronto, has removed his office from 53 King St. West to Royal Bank Building, corner King and Yonge Sts.

Miss Evelyn MacInnes, second daughter of W. R. MacInnes, Vice President, Traffic, C.P.R., is announced as engaged to Capt. R. Bruce Reford, M.C., Irish Guards, A.D.C. to the Lord Lieutenant of Ireland, and elder son of R. Wilson Reford, of the Robert Reford Co., ship owners, etc., Montreal.

T. A. Magee, Contracting Freight Agent, Great Northern Ry., Vancouver, has resigned and entered real estate business with his father at Tacoma, Wash.

James Bower McLaren, who has been appointed General Auditor, G.T.R., Montreal, was born at Perth, Ont., Mar. 5, 1878, and entered transportation service Dec. 26, 1892, since when he has been to May, 1898, clerk, Freight Department, G.T.R., Brockville, Ont.; May to Nov., 1898, accountant, Canada Atlantic Transit Co., Canadian Atlantic Ry.; Nov., 1898 to Sept., 1901, accountant, cashier, chief clerk, agent, and General Yardmaster, consecutively, G.T.R., Durand, Mich.; Sept., 1901 to Aug., 1913, clerk, travelling auditor, assistant chief clerk, consecutively, Audit Department, G.T.R., Montreal; Aug., 1913, to Jan., 1916, Auditor of Freight Accounts, G.T.R., Montreal; Jan., 1916, to Sept. 25, 1919, Auditor of Revenue, G.T.R., Montreal. In 1916 he was elected a member for 3 years of standing committee on passenger accounts, Railway Accounting Officers' Association.

Jas. Murdock, of Toronto, who has been appointed a member of the Dominion Board of Commerce, was born at Brighton, Eng., Aug. 15, 1871, of Scottish parentage. He came to Canada in 1875 and was brought up on a farm in Kent County, Ont., until the spring of 1890, after which his record was as follows: April 18, 1890 to Sept. 1, 1890, ballast pit laborer, C.P.R., London, Ont.; Sept. [illegible], 1890 to June 12, 1902, freight brakeman, C.P.R., London, Ont.; June 12, 1902 to July 31, 1905, freight conductor, C.P.R. His labor union record is as follows: 1895 to July 31, 1905, local and general chairman for C.P.R. employes, represented by Brotherhood of Railroad Trainmen; Aug. 1, 1901 to July [illegible] member board of trustees for Brotherhood of Railroad Trainmen (international organization); Aug. 1, 1905, to date, Vice President, Brotherhood of Railroad Trainmen. On Aug. 7, 1918, he was appointed a member of Canadian Board of Adjustment No. 1, which deals with disputes between railways and their employes, in regard to wages, working conditions, etc.

J. M. Rosevear, who has been appointed Comptroller, G.T.R., Montreal, was born at St. Lambert, Que., Aug. 9, 1869, and entered G.T.R. service in 1897, since when he has been, to 1905, clerk in Accounting Department; 1905 to 1907, travelling accountant; 1907 to Sept. 1, 1908, chief clerk to Auditor of Disbursements; Sept. 1, 1908 to Oct., 1918, Auditor of Disbursements; Oct., 1918 to Sept. 25, 1919, General Auditor, and, also General Auditor, Grand Trunk Pacific Ry.

J. M. Rosevear,
Comptroller, Grand Trunk Railway.

J. B. McLaren,
General Auditor, Grand Trunk Railway.

J. K. Savage, who has been appointed acting General Superintendent, Quebec District, C.P.R., during the absence on leave of J. M. Woodman, General Superintendent, was born at Forreston, Ill., Oct. 5, 1876, and entered C.P.R. service, Mar. 1, 1890, since when he has been, to May 1, 1894, station agent at various points in Quebec; May 1, 1894, to May 24, 1897, dispatcher, Farnham, Que.; Jan. to Sept., 1904, Night Chief Dispatcher, Toronto; Sept., 1904, to Sept., 1906, Inspector Train Dispatching, Western Lines, Winnipeg; Sept., 1906, to Mar. 1, 1907, Chief Dispatcher, District 1, Central Division, Kenora, Ont.; Mar. 1, 1907, to Dec., 1908, Trainmaster, District 3, Central Division, Brandon, Man.; Dec., 1908, to Jan. 1, 1912, Chief Dispatcher, District 3, Central Division, Brandon, Man.; Jan. 1, 1912, to Jan. 1, 1917, Superintendent, Regina Division, Saskatchewan District, Regina; Jan. 1, 1917, to Oct. 15, 1918, Superintendent, Smiths Falls Division, Quebec District, Smiths Falls, Ont.; Oct. 15, 1918, to Oct. 3, 1919, Assistant General Superintendent, Ontario District, Toronto.

Edmund James Semmens, whose appointment as Travelling Agent, Colonization and Development Department, C.P.R., Calgary, Alta., was announced in our last issue, was born at Liverpool, Eng., Dec. 2, 1877, and entered C.P.R. service in June, 1912, since when he has been, to Dec., 1912, clerk, Tie and Timber Branch; Jan., 1913 to July, 1917, stenographer and clerk, Industrial Branch; Aug., 1917 to Aug. 31, 1919, chief clerk to Industrial Agent, all at Calgary, Alta.

Hope Erskine Scott, son of J. G. Scott, formerly General Manager, Quebec & Lake St. John Railway, and Great Northern Ry. of Canada, who was married in Hamilton, Ont., Oct. 11, to Miss Pauline L. Grant, daughter of W. J. Grant, District Freight Agent, C.P.R., there, was formerly Assistant Auditor, Quebec & Lake St. John Ry., Quebec, Que. He went overseas as lieutenant in the 12th Mounted Rifles of Hamilton, and is now a railway supply broker in Montreal.

The Hon. W. J. Shaughnessy will entertain the Prince of Wales at dinner, at Lord Shaughnessy's house in Montreal, Nov. 1, and Lady Shaughnessy will give a ball afterwards.

Harry Gilmour Smith, B.Sc.,A.M.E.I.C., Engineer and Superintendent of Concrete Construction, Dominion Construction Co., Toronto, who had charge of work being done by the company on the Canadian National Rys., from Parry Sound north for some 40 miles, was burned to death near Bolger, Ont., Oct. 9, in a collision between a construction train and a freight train. He was in the construction train conductor's van, which was wrecked, and destroyed by fire. He was born at St. Martins, N.B., May 4, 1884, was educated at St. Martins Superior School, and graduated at the New Brunswick University, his professional record being as follows: May, 1911-Mar., 1912, transitman on location, Eastern Lines, Canadian Northern Ry.; 1912-1913, in charge of location party, Toronto Suburban Ry.; 1913-1916, Resident Engineer on construction, Toronto Suburban Ry.; during winter and spring of 1915-1916, in charge of construction of Humber River bridge, Toronto Suburban Ry. Subsequently he was engaged on the construction of the Rosedale Ravine viaducts, Toronto, C.P.R.

Lady and Miss Van Horne have returned to Montreal, after spending the summer at Covenhoven, St. Andrews, N.B.

F. L. Wanklyn, General Executive Assistant C.P.R., and Mrs. Wanklyn, closed their summer house, Birchfield, at Senneville, Que., early in October, and returned to Montreal for the winter.

J. B. Way, who, having been released from military duty, has resumed his former position as freight and ticket agent, C.P.R., Union Station, Sault Ste. Marie, Ont., which position has been filled during his absence by W. H. Pomeroy, was born at Port Hope, Ont., Dec. 10, 1865. He entered C.P.R. service as operator, at Ottawa, Feb. 18, 1884, since when his record with that company has been as follows: Feb. 27, 1884 to Nov. 14, 1889, agent and operator, Thorncliff, Ont.; Nov. 14, 1889 to April 14, 1890, agent and operator, Thessalon, Ont.; April 14, 1890 to Oct. 14, 1890, train dispatcher, Algoma, Ont.; Oct. 14, 1890 to Nov. 21, 1891, train dispatcher, Webbwood, Ont.; Nov. 21, 1891, to Nov. 14, 1892, train dispatcher, North Bay, Ont.; Nov. 14, 1892 to June 7, 1893, agent, Sudbury Jct., Ont.; June 7, 1893 to Nov. 14, 1893, train dispatcher, North Bay, Ont.; Nov. 14, 1893 to Mar. 15, 1915, freight and ticket agent, Sault Ste. Marie, Ont. His military record is as follows: Nov. 15, 1913, gazetted honorary lieutenant 51st Regiment; Jan. to Mar., 1914, attended P.S.I. at Sault Ste. Marie, and qualified for rank of captain; Aug. 4, 1914, called out for service with details of regiment to protect ship canal, International Bridge wireless station and government buildings at Sault Ste. Marie; Dec. 15, 1914, promoted to honorary captain; July 17, 1918, transferred to Machine Gun Corps, Camp Niagara; Oct. 15, 1918, transferred to C.A.P.C., with rank of captain; Jan. 9, 1919, appointed Paymaster, Parade Section, no. 2 District Depot, Exhibition Camp, Toronto; Apr. 10, 1919, appointed Paymaster no. 2 Recruiting Depot, Permanent Force, Toronto; July 11, 1919, struck offi strength on demobilization. His eldest son, Lieut. J. H. Way, of the 58th Battalion, was killed in action in France.

Freight and Passenger Traffic Notes.

The Canadian Railway War Board directed the abandonment of daylight saving by Canadian Railways Oct. 26, at 2 a.m., when the hands of the clocks were put back to 1 a.m., standard time.

The Grand Trunk Pacific Ry. will, it is reported, start early in November a through sleeping car service between Regina, Sask., and Prince Rupert, B.C., eliminating the present change of cars at Melville, Sask.

The Quebec, Montreal and Southern Ry's standard maximum passenger tariff C.R.C. 274, effective Oct. 19, increasing its passenger rates from 3.45c to 4c a mile has been approved by the Board of Railway Commissioners.

Grand Trunk Pacific Ry. freight and passenger officers met at Edmonton, Alta., Oct. 6 and 7, under the chairmanship of A. E. Rosevear, General Freight Agent, Winnipeg, to discuss traffic conditions and prospects on the line.

The G.T.R. has been ordered by the Board of Railway Commissioners, on the complaint of the Eastern Townships Associated Boards of Trade, to restore its passenger train known as the "Scoot," between Richmond and Sherbrooke, Que., from Oct. 20, 1919 to May 1, 1920.

The Greater Winnipeg Water District Ry. station and general offices were moved Oct. 1, to the St. Boniface water works yard, corner of Rue Plinquet and Dawson Road. A mixed passenger and freight train is run from St. Boniface at 10.30 a.m. Tuesdays and Fridays, returning from Shoal Bay at 2.30 p.m., Wednesdays and Fridays.

The Canadian National Rys. started on Oct. 5 a daily transcontinental train from Toronto to Vancouver, and Victoria, B.C. The train leaves Toronto at 9.15 p.m., and consists of sleeping, dining, first class day, tourist, and colonist cars. Between Toronto and Winnipeg a compartment observation library car is run, and a parlor car is attached for the run through the Rocky Mountains.

The car ferry steamship's winter schedule between Tormentine, N.B., and Borden, P.E.I., went into effect Oct. 5. The s.s. Prince Edward Island makes one trip a day in either direction, leaving Borden at 9.15 a.m. and Tormentine at 3 p.m., daily except Sundays. Passengers travelling by the Ocean Limited, in either direction, connect with the ferry service.

The Edmonton, Dunvegan and British Columbia Ry. is reported to have handled 141 cars of freight outgoing, and 42 cars of freight incoming at Edmonton, Alta., during the week ended Sept. 27. During the same week it is reported to have carried 675 passengers from Edmonton into the north country. Under the government plan for carrying cattle free from the drought area to the north the company is stated to have hauled over 100 cars of live stock.

W. R. MacInnes, Vice President Traffic, C.P.R.; Major W. M. Kirkpatrick, M.C., Assistant Freight Traffic Manager, Western Lines, C.P.R., Winnipeg, and H. W. Brodie, General Passenger Agent, C.P.R., Vancouver, arrived in Victoria, B.C., Oct. 3, to make a tour of the section of Vancouver Island, served by the Esquimalt and Nanaimo Ry., which is owned by the C.P.R. It is reported that the company is planning to develop tourist traffic to the island, and that with that object in view, ferry connection between Victoria and Port Angeles, Wash., will be provided.

The Dominion Atlantic Ry. put into operation, Oct. 15, a triweekly express passenger train between Halifax and Yarmouth, N.S. The trains leave Yarmouth at 9 p.m. Mondays, Wednesdays and Saturdays, reaching Halifax at 8.30 a.m. on the following mornings, and leave Halifax at 9 p.m., Sundays, Tuesdays and Fridays, reaching Yarmouth at 8.30 a.m. on the following mornings. The westbound train stops at Windsor, Wolfville, Kentville, Middleton and Digby, and the eastbound train in addition to the above stops at Weymouth.

The Canadian National Rys. on Oct. 1, opened for traffic the recently completed section of the St. John and Quebec Ry. from Gagetown, N.B., to junction with the C.P.R. at Westfield, N.B., by putting on a through passenger train service between Quebec and St. John. One train a day is operated in each direction. The train leaves Palais Station, Que., at 3.45 p.m., Tuesdays, Thursdays and Saturdays, and runs on the National Transcontinental Ry. to McGivney Jct., then on the old Canada Eastern Ry. section of the Intercolonial Ry. to Fredericton, then on the St. John and Quebec Ry. to Westfield, and over the C.P.R. into St. John, reaching there at 3.05 p.m. on the following days. The equipment consists of buffet, sleeping, parlor and first and second class cars. The train from St. John leaves the C.P.R. station at 1.55 p.m. Tuesdays, Thursdays and Saturdays, and reaches Quebec at 11 a.m. on the following days. An additional train is run in either direction on Mondays, Wednesdays and Friday between St. John and McGivney Jct., connecting there with the regular National Transcontinental Ry. trains.

Movements of Troops, Etc., by Canadian Railways and Steamships During the War.

Major-General J. Lyons Biggar, Quartermaster General, has addressed the following memorandum to the Minister of Militia: Now that demobilization is virtually completed, I would like to call your attention to the admirable services which have been rendered by the railway and steamship companies, during the war. All have given their best attention to make a success of the various movements. During the entire period of the war we had only 3 casualties. The following is the number of troops which have been carried by the various railways:

Canadian Pacific Railway.

	Mobilization	Demobilization
Canadian troops	[illegible]	[illegible]
United States troops	[illegible]	
Chinese coolies for overseas	[illegible]	
French battalion, Serbian, Montenegrin and Polish reservists	16,103	
Imperial troops		[illegible]
Total	[illegible]	[illegible]

Grand Trunk Railway.

	Mobilization	Demobilization
Canadian troops	[illegible]	[illegible]
United States troops	[illegible]	
Total	[illegible]	[illegible]

Canadian National Railways.

	Mobilization	Demobilization
Canadian troops	[illegible]	[illegible]
United States troops	[illegible]	
Total	[illegible]	[illegible]

We certainly owe a debt of gratitude to the merchant marines for the attention and care that the officers of the ships have taken to safeguard our men. The numbers carried by the various steamship companies are as follows:

Canadian Pacific Ocean Services.

	Eastbound	Westbound
Canadian troops	[illegible]	[illegible]
United States troops	[illegible]	[illegible]
Chinese coolies	[illegible]	[illegible]
Prisoners of war	[illegible]	
Total	[illegible]	[illegible]

Cunard Anchor Donaldson Line.

	Eastbound	Westbound
Canadian troops	[illegible]	[illegible]
United States troops	[illegible]	
Imperial troops, Belgian, Montenegrin and Serbian reservists	[illegible]	
Newfoundland	[illegible]	
Total	[illegible]	[illegible]

White Star Dominion Line.

	Eastbound	Westbound
Canadian troops	[illegible]	[illegible]
United States troops	[illegible]	
Chinese coolies		[illegible]
Total	[illegible]	[illegible]

Canadian National Railways Construction, Betterments, Etc.

Organization of Company—Sir James Lougheed, replying to a question in the Senate, Oct. 9, said the organization of the Canadian National Rys. Co., had not been completed under the provisions of the act passed last session of parliament. The operation, further extension, and construction of its competent railways is being carried on under the powers of the act, as to some of the lines authorized in so far as the act extended the time for construction.

Halifax-Moncton Line—A press report states that among the projects in contemplation is the electrification of a line between Halifax, N.S., and Moncton, N.B., the work to include the erection of a large power house at Maccan, Cumberland County, N.S. A similar report was current some time ago, but was denied.

New Glasgow Station—The extension to be built to the New Glasgow, N.S., station, for which tenders were invited recently, is to consist of a 2 story brick building, 41 x 30 ft., with slate roof. The interior of the present building is to be remodelled.

Levis Station—Replying to a question in the House of Commons, recently, the Minister of Railways said the government had decided to expend $125,000 on repairs and improvements in connection with Levis, Que., station. There had been expended to Sept. 25, about $10,000 and it was anticipated that, if no further delays occurred on account of lack of material, the building would be completed by Dec. 15.

Cedar Lake Outlet Bridge—The Board of Railway Commissioners has authorized the rebuilding of the bridge at Cedar Lake Outlet, Que., mile 134, from Quebec.

Jacques Cartier River Bridge—Tenders were received recently for boring for the foundations for the projected bridge over the Jacques Cartier River, at Donnacona, Que., mile 31.4, from Quebec, on the Canadian Northern Quebec Ry. The contractor will be required to bore one hole at each of the 5 piers.

Pike Creek Bridge, Weir, Que.—The Board of Railway Commissioners has authorized the rebuilding of the bridge over Pike Creek at Weir, Que., mile 40.20 from Rinfret Jct.

Bridges Near Montreal. H. Deslauriers, M.P., for St. Marys, Montreal, asked in the House of Commons recently, if the government was aware that the two C.N.R. bridges, which unite Montreal to Charlemagne, are very dangerous, and that every day automobiles and other vehicles were breaking through the pavement. The Minister of Railways replied that the roadways of the bridges had been inspected, and temporary repairs made, and that sufficient materials had been ordered to redeck the bridges.

Moira River Bridge, Stoco Lake, Ont.—The Board of Railway Commissioners has authorized the rebuilding of the bridge over the east channel of the Moira River, Stoco Lake, Hungerford Tp., mile 31.75 miles from Yarker, Ont., on the Kingston-Bannockburn line.

Toronto-Capreol Line—The Board of Railway Commissioners has authorized the rebuilding of the bridge across Talbot River, in Mara and Thorah Tps., Ont., 67 from Toronto, near Gamebridge, Ont., on the Toronto-Capreol Line.

The Board of Railway Commissioners has authorized the rebuilding of the bridge across Bolger Creek, Burton Tp., Parry Sound district, mile 26.8.

Western Lines Under Construction—Sir Jas. Lougheed stated in the Senate, Oct. 22, in reply to questions by Senator Bostock that the following lines of railway, the building of which was authorized by the statute 9-10 George V, chap. 13, schedule 2, are being built. Manitoba —Winnipegosis, southerly, contractors, J. W. Stewart & Co. Saskatchewan—Lampman-Peebles, between Brandon, Regina and Maryfield lines; contractor, Canadian Construction Co.; Swift Current-Gravelbourg, contractors, Gibbs Bros.; Humboldt-Melfort, contractors, J. W. Stewart & Co.; Melfort, northeasterly, contractors, J. W. Stewart & Co., Luck Lake (Dumblane southwesterly), contractors, Western Construction Co.; Acadia Valley (Eston westerly and Alsask southerly), contractors, Grant Smith & Co., Eston southeasterly; contractors, J. W. Stewart & Co.; Turtleford northwesterly, contractors, Western Construction Co.; Thunderhill branch, contractors, Western Construction Co., Thunderhill branch, contractors, Canadian National Rys., Alberta; Oliver northeasterly, St. Paul de Metis, contractors, J. W. Stewart & Co.; Hanna-Medicine Hat, contractors, Canadian Construction Co.; Onoway (Peace River), contractors, Canadian National Rys., British Columbia; Kamloops-Kelowna and Lumby, contractors, J. W. Stewart & Co. Land which has to be acquired in connection with any of these lines is being acquired under the clauses of the general Railway Act.

Maryfield Branch—Tenders have been received for grading and building culverts on the Maryfield Branch, from Bengough, Sask., westerly for 17 miles.

Prince Albert Locomotive House—Tenders have been received for the erection and completion of a 3-stall addition to the locomotive house at Prince Albert, Sask.

Moose Jaw Subway and Freight Shed—Tenders have been received for the excavation for the projected subway at Athabasca St., Moose Jaw, Sask. The permission for the building of a temporary subway was granted by the city council, Oct. 2, the railway to have the permanent subway completed in the autumn of 1920.

Tenders have been received for the erection of a freight shed with offices at Moose Jaw, Sask.

Switching Track at Tripp Station, B.C.—The Board of Railway Commissioners has authorized the building of an interswitching track to connect the Canadian Northern Pacific Ry. tracks at Tripp station, Vancouver Island, B.C., with the British Columbia Electric Ry.'s Saanich, Peninsula line. Plans for the track, which is to be built by the C.N.P.R., by arrangement between the two companies, have been filed with the B.C. Railways Department. (Oct., pg. 545).

The Canadian National Rys. put in operation on Oct. 23 a through sleeping car service between Sydney, N.S. and Montreal. The sleeping car is attached to no. 8 express from Sydney, and is transferred to the Ocean Limited at Truro. It returns by the Ocean Limited to Truro, where it is transferred to no. 7 express for Sydney.

Canadian National Railways Receipts and Disbursements.

Sir James Lougheed gave the following information in the House of Commons, Sept. 30, in answer to an enquiry by Senator McSweeney, Moncton, N.B., the figures being for the year ended March 31, 1919:

Total receipts from Intercolonial Ry., so called, $26,435,343.68; disbursements, $28,239,506.89.

Receipts from National Transcontinental Ry., from Quebec to Winnipeg, $7,283,488.19; disbursements, $8,549,803.06.

Receipts from Prince Edward Island Ry., $741,514.58; disbursements, $1,596,049.91.

Receipts and disbursements of the car ferry steamship Prince Edward Island, are not kept separately, but are included in the Prince Edward Island Ry. receipts and disbursements.

The Minister of Railways gave the following information in the house of Commons, Oct. 9, in answer to an enquiry by J. A. Robb, M.P. for Chateauguay, Huntingdon, Que. From Jan. 1 to Aug. 1, 1919, the Canadian National Rys. gross earnings were $50,730,974.94, the deficit being $9,041,464.62.

The Canadian National Rys. total interest paying debt is $460,225,148.93. The amount of interest payable on the debt annually is $19,073,387.08.

Canadian Ticket Agents' Association's Annual Meeting and Excursion.

The C.T.A.A. annual meeting in Toronto, Sept. 23, was attended by 140 members. The following officers were elected: President, J. Ransford, G.T.R., Clinton, Ont.; 1st Vice President, J. A. McDonald, Valleyfield, Que.; 2nd Vice Vice President, A. C. Rorabeck, G.T.R., North Bay, Ont.; 3rd Vice President, C. G. Millard, C.P.R., Coldwater, Ont.; Secretary-Treasurer, E. de la Hooke, London, Ont.; Executive Committee, W. Jackson, C.P.R., Clinton, Ont.; A. M. Hare, G.T.R., Tillsonburg, Ont.; C. B. Jones, C.P.R., Orillia, Ont.; W. H. C. Mackay, C.P.R., St. John, N.B.; W. J. Moffatt, G.T.R., Toronto.

On Sept. 24, a considerable number of the members, many of them accompanied by their wives, the party numbering 115, left Toronto at 10 am. by G.T.R. special train for Muskoka Wharf, where they embarked on a Muskoka Navigation & Hotel Co.'s steamboat, and went through Lakes Muskoka and Rosseau to the Monteith House, where they dined, had a ball, and stayed the night. Sept. 25 was spent on Lakes Rosseau and Joseph, and on Sept. 26, they arrived back in Toronto in the afternoon.

Far Eastern Markets for Railway Materials, Equipment and Supplies—The Bureau of Foreign and Domestic Commerce, U.S. Department of Commerce, has issued a 339 page book under this title, by Frank Rhea, Trade Commissioner, containing a report on the markets for railway materials, equipment and supplies, in China, Japan, Korea, Manchuria and the Phillipine Islands, which contains a large amount of important information about the railways in those countries, and the possibilities for selling to them. It can be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C., price 35c.

Quebec, Montreal and Southern Railway Authorized to Advance Passenger Rates to Four Cents a Mile.

S. J. McLean, Assistant Chief Commissioner, Board of Railway Commissioners, gave the following judgment Sept. 17: Application is made for increase in the Quebec, Montreal & Southern Ry.'s standard passenger fares. The present standard is 3.45c. It is desired to increase it to 4c. A large amount of statistical detail has been submitted bearing on the condition of revenues and expenses of the railway. At the hearing, information was submitted covering the situation until the end of Nov., 1918. It seemed proper to let the matter stand until further information showing the conditions existing during the present year could be adequately presented. During 1918, there was, as indicated below, a very considerable increase in freight revenues. This was due to war conditions,the item of coal tonnage being a matter of importance. The traffic was not a regular one and it was, therefore, justifiable to have before the board a situation in which the traffic was more normal, and to consider costs in connection with the handling of such more normal traffic.

The railway has 191 miles of main line. The application being one relating to passenger fares and concerned with the costs of the passenger traffic, this phase of the situation must have special attention directed to it. At the same time, an analysis of general revenues and expenses is of value as showing the condition of the road. The railway has not during the last five years or more, given any return upon the capital invested in it. The whole question has been one of whether operating revenues would meet operating expenses. It was stated at the hearing that the railway had not at any time made any return upon the capital invested. This being so, in the analysis which is made all reference is omitted to return on capital invested. That is not to say that the latter is not a legitimate factor to consider in connection with rate matters. It manifestly is. At the same time, it should be pointed out that the contention of the railway did not direct itself to the matter of returns upon capital; it concerned itself with the allegation that there should be a closer approximation between operating revenues and operating expenses. A statement of the investment in the road and equipment submitted by the railway as of Sept. 30, 1918, gives a total of $7,554,656, being made up of investment in road, $5,634,602, investment in equipment $1,920,003. Fractional amounts are omitted. In order to understand the general situation of this line, the period from 1913 is taken. At the hearing, returns were submitted showing the condition by fiscal years down to 1917, and showing an average annual deficit during this period of $70,000. Figures have also been submitted for the calendar years down to 1918, and detail has been supplied for the first seven months of 1919. In order to have the detail comparable, the following comparisons as based on the calendar year, are made:

	1913	1914	1915	1916	1917	1918
Operating revenues	$406,467	$397,632	$349,669	$429,928	$561,990	$786,129
Operating expense	409,372	473,416	460,540	474,464	597,919	787,264
Taxes	8,316	7,874	8,513	7,996	9,024	8,263
Deficit	$ 92,221	$ 83,658	$119,383	$ 52,532	$ 44,953	$ 9,398

The result is a deficit of $402,145 on operating revenue for the period in question, an average annual deficit of $37,000. But comparatively it cost from 101c to earn $1 in 1918, to 134c in 1915. On an average, it cost 113c to earn $1 during the whole period in question. While in 1918 there was an increase of $224,139 in operating revenues, this was due to increase in freight revenues, the increase in this item being $249,474. There was a decrease in passenger revenues. The passenger revenue in 1918 was $133,015 for tickets and excess baggage. If all services giving a revenue on passenger trains are included, it gives a total of $154,296. If the first of these headings is taken, 1918 was $33,696 less than 1917; while if the second is taken it was $29,525 less. If 1917, which showed the highest passenger revenues in the period in question, is omitted, the following averages are available:

Average ticket and excess baggage revenue, 1913-16	$145,720
Actual ditto for 1918	133,015
Average all passenger train service revenue, 1913-16	161,026
Actual ditto for 1918	154,296

As already indicated, a material factor to be considered in the analysis is the question whether with any change in the volume of freight traffic, due to a falling off in a commodity movement diverted to this railway because of war conditions, there thereafter continues increased or increasing costs attributable to conditions arising during the war. The test of this is to be found in the conditions shown during 1919. An analysis by months from Jan. to July, 1919, the amounts giving being exclusive of taxes, shows that the operating expenses were $447,272.47, and the operating revenue $325,038.17, a deficit of $152,234.30. This computation is exclusive of taxes. This being a necessary cost, there should be considered the proportionate amount of taxes chargeable against the seven month period in question. The taxes during the period 1913-1918 averaged $8,331 a year. Allocating seven-twelfths of this to the period in question would give $4,851. Adding this, operating expense exceeded operating revenue by $157,0885 during the seven month period in question. Exclusive of allocated taxes, it took in Jan. 107c to earn $1 of revenue, while in March it took 197c to earn $1. The average operating ratio for the period in question was 147%, that is, it cost 147c to earn $1. Including allocated taxes for the seven months period, it cost 148c to earn $1.

A large amount of detail was submitted bearing on the increases in labor cost. The Q, M. & S.R. has been subject to the same general increases in this respect as other railways in Canada, and it is not, therefore, necessary to pursue this phase of the analysis further. It is further pointed out that the railway involved was, in common with other smaller railways, on a lower scale of wages than the standard lines, prior to the McAdoo award; and that the application of this award, and the additional wage increases which have since accrued, subject the railway to a higher percentage increase than falls on the larger roads. To understand the significance of the wage and salary cost, the following summary is illustrative: the years 1913 to 1918 as quoted are for years ending June 30, the figures for 1919 being for the seven month period, Jan.-July. The amounts out of every $1 earned that went to wages and salaries were as follows: 1919, 87c; 1918, 50c; 1917, 49c; 1916, 52c; 1915, 53c; 1914, 55c; 1913, 50c.

In a computation submitted at the hearing, the returns for the year ended Dec. 31, 1917, which is one of the best traffic years the railway has had, are analyzed with a view to arriving at the expense per passenger train mile. In substance, the division was made by allocating such items of cost as were directly allocatable to the individual services, the balance being divided on the basis of train mileage. The computation submitted showed that during the period in question, equating mixed train mileage to the basis of passenger, by charging one-third of the mixed train mileage to passenger mileage, the result was that while passenger business produced 32% of the earnings, it required 53% of the train mileage; and on this basis a computation was made that the average earnings per passenger train mile were $1.19, as against average expenses per train mile of $2.11. A similar computation made for the 11 months ended Nov. 30, 1918, gave earnings per passenger train mile as $1.63, and the average cost per passenger train mile $2.70.

In the period from Jan. to July, 1919, which for the reasons already set out affords a reasonable criterion of the present condition as to costs, the passenger revenue amounted to 28.23% of the railway's total receipts. As a rough working measure, it may be expected that the passenger business should meet the same proportion of operating costs as it raises in revenue. This is subject to the criticism that the passenger business may be proportionately more expensive than the freight business. As already pointed out above, the passenger train mileage for 1917 is taken at 53% of the whole, as compared with 32% of total earnings being derived from passenger business.

If figures submitted to the board in connection with the recent investigation into the conditions of railway mail pay, the C.P.R. made an elaboration of cost factors and subdivisions as being freight and passenger business. It was pointed out that the method of subdivision followed was in substantial accordance with the method sanctioned by the United States Postoffice Department in regard to an adjudication upon the rates of railway mail pay which was then pending before the Interstate Commerce Commission, and in which application the P.O. Department was a party. This allocation of costs for a six month period in the C.P.R. gave 32.17% of the total costs of the business as being allocated to passenger traffic. As a working measure, however, it will serve if the 28.23% above referred to is applied in the present instance. On other facts concerned with an attempt to measure costs so as to apportion these as bearing on the underlying factors in a general scheme of freight and passenger rates, it might be that a more refined measure, involving different factors, would be necessary in the present instance, what is involved is a test of the justifiability, if allowed, of the specific rates increase asked for.

The railway earned from passenger business in the period Jan. to July, 1919, $41,7[illegible]; 28% of the operating expenses of $477,272, for the period in question, would give a total of $133,636 as the proportion of operating expenses allocatable to passenger business, as compared with $41,7[illegible] earned in the same time. Assuming that the percentage increase of 4c, as asked for, over 3.45c as at present in force, would measure the increase in revenue obtainable therefrom, and applying this to the passenger revenues of the seven months period under review, the result would be approximately $14,000. This is to be compared with the figures given in the preceding paragraph. For the year ended June 30th, 1918, the average receipts per passenger mile on this railway were 2.669c. Reducing the increase asked for on the standard fare to a percentage and applying this to the average receipts per passenger per mile, the result would be 3.096c per passenger per mile.

As bearing on the situation and earnings of the road in respect of passenger traffic, details may be given from the returns to the Dominion Government. The passenger density is relatively low and the average journey short. Comparative details as to the averages for the railways of Canada in general are also added.

Following are the numbers of passengers carried earning revenue: 1918, 243,371; 1917, 273,127; 1916, 244,659; 1915, 245,315; 1914, 249,423; 1913, 268,142. The above items are of value as indicating the general nature of the business. The comparisons given with general averages for Canada are simply illustrative, not conclusive.

Number of passengers carried one mile of line (passenger density):—

	Q.M.&S.R.	All Canadian railways.
1918	29,837	82,090
1917	33,759	79,829
1916	27,890	72,611
1915	27,469	69,802
1914	28,395	100,309
1913	31,255	111,353

Average passenger journey (miles):

	Q.M.&S.R.	All Canadian railways.
1918	23.04	63
1917	23.75	59
1916	21.91	55
1915	21.52	54
1914	21.97	66
1913	22.62	71

Total amount received from each passenger:

	Q.M.&S.R.	All Canadian railways.
1918	$0.61	$1.32
1917	0.58	1.14
1916	0.56	1.31
1915	0.56	1.22
1914	0.58	1.32
1913	0.55	1.39

It is abundantly evident that there have been large increases in cost.

The grounds of objection to the proposed increases as summarized in the answers filed prior to the hearing by the municipalities fall under five headings: 1, The railway does not supply sufficient freight cars; 2, it does not issue second-class tickets; 3, the increase would give higher rates than are charged on other railways; 4, the passenger service should be improved without an increase in passenger rates; 5, there is a poor passenger service. The objections raised to the inadequacy of the freight service are entirely distinct from, and should not be [illegible]ed with, the question of adequacy of passenger rates. As to the issuance of second-class tickets, there was nothing developed at the hearing to show under what section, if any, of the Railway Act or of the special act, there is a statutory obligation on the part of the railway to issue such tickets. As to the objections raised in reference to the proposed increase giving higher rates than are charged on other railways, this is a matter which must be looked at entirely from the standpoint of particular facts, and general comparisons for or against do not advance the matter.

At the hearing, the figures of earnings and operating expenses were criticized by the municipalities' representatives. At the same time, it was pointed out that their criticisms were general, as they had not the specific information necessary to pass finally upon the matter. The figures have been checked. Criticism was made on the ground that a considerable part of the deficit to which the railway was subjected might be eliminated by cutting down the item of free transportation. The board asked for a return of the number of annual passes issued for 1918. The total as returned is 901. Under the Railway Act, the railway is permitted to issue free transportation to its employes and employes of other railways. It is also permitted to issue free transportation to governmental bodies and their agencies, and there are also certain statutory requirements as to obligatory issuance of free transportation. An analysis on a percentage basis shows the following distribution:

Railways and railway organizations	57.04%
Government officers	21.1 %
Regulative bodies	4.8 %
Members of parliament	11.9 %
	94.84%

The above accounts for 94.84% of the total. It is stated that only 15 to 20 of these passes are used frequently; the balance are rarely, if ever, used. As to the item of transportation exchanged between this railway and other railways, which represents the bulk of free transportation given, it would seem to be a fair conclusion that not much traffic of this kind would pass over the short mileage of this railway. On what is before the board, a conclusion is not justified that any considerable addition to the company's revenues is available from this source.

Another factor to which attention was directed was the expense of management. It was alleged that the general expenses were unnecessarily large. There are only two general officers whose salaries are in any way a charge against the railway. The board has had before it the exact figures and is satisfied that the portion of the salary charged in each case against this railway is not exorbitant. The balance of the salary in each case is charged against other railways under the same general management.

The following information is from a communication on file with the board in reply to a specific query: "A request was made for some specific authority or order necessitating the increase in the charge to the Q., M & S.R. on account of the taking over of the railways in the United States by the U.S. Railroad Administration, which led to a complete accounting separation of the properties. A statement was filed with the board under date of Jan. 29, 1919, giving the charges to general expenses for the three years ended Dec. 31, 1918, and under the column of remarks on this statement the following information was given 'Much of the accounting of the Q., M. & S.R. is handled in the general offices at Albany, N.Y. The taking over of the railways in the U.S. by the government led to a complete accounting separation of the properties and brought about an increase in these charges to the Q., M. & S.R. This with the great increases in wages granted to clerical organizations, explains the increase in general expenses in 1918 compared with previous years and this enquiry apparently relates to this information. The Q., M. & S.R. was not taken over by the U.S. Railroad Administration. This made it necessary to establish a complete accounting organization, and to keep down the cost this organization was created in Albany, N.Y., where the employes could also do the work of one or two other small companies, each company being charged a portion of the expense, thus reducing the cost. It also made it necessary to create a car service department with a car accountant, and this organization was created in Montreal. Naturally, the separate organizations were more expensive than were the charges of the Delaware & Hudson Co. for doing the work in previous years, where it was only a trivial part of the total. It should also be remembered that the average wages of the railway clerical organizations were enormously increased under the McAdoo wage schedule, the minimum wage under supplement 7 to general order 27 (McAdoo award) was made, $87.50 while this minimum had previously been $35 or $40.'"

Comparison may be made of the percentage section of general expenses to total operating expenses in the case of the railway, with the relationship for the same items in the case of the railways of Canada in general. The general expenses (% of expense), were as follows:

	Q.M.&S.R.	All Canadian railways.
1918	3.44	2.77
1917	2.99	3.4
1916	3.75	3.74
1915	3.56	4.72
1914	3.45	3.74
1913	5.3	3.39

The average percentage for all Canadian railways in this period was 3.62% as against 3.74% for the Q., M. & S.R. If the figures of 1917 and 1918 are taken as more characteristic, the averages are 3.1% for the Q., M. & S.R., and 3.19% for Canadian railways in general. The difference by which the Q., M. & S. R.'s percentage for 1917 is lower than that for 1918, viz.: 0.45 of 1%, if applied to the operating expense of 1918, would have meant a reduction of approximately $3,000. As against this, it may be noted that the salaries of clerks and attendants were approximately the same amount greater in 1918 than in 1917.

As has been explained, the subdivision necessitated by the U.S. Railroad Administration, between the railway in Canada and the controlling railway in the U.S., has necessitated as a matter of strict accounting a large charge against the Q., M. & S.R. This is a matter over which the railway has no control. Details are available for the calendar year 1916, in which this subdivision was not in force in the same manner, and for 1918 when it was fully in force. For the year 1916, the general expenses were 3.63% of the total operating expense; in 1918, it was 4.60%. If the 1916 percentage had applied in 1918, it would have meant a reduction of approximately $7,700.

In the computations above regarding the relation of passenger earnings and their relation to general expenses, the figure of $447,272, as given, was taken as the deficit for the seven months ended July, 1919, and a computation based thereon. If it is assumed that the general expense item for 1918 is excessive to the extent that it exceeds the 1916 ratio, then, applying a similar reduction, the figures current for 1919 would be similarly reduced, giving an approximate reduction of $2,700. Making this deduction, there would be for the period in question a computed passenger cost of $130,916 as against earnings of $91,763. The figures for the 8 months period, Jan. to Aug., 1919, have just been received. They show a total railway operating revenue for that period of $378,771.39 with a total railway operating expense of $550,100.90, a deficit of $171,329.51. The operating ratio for August was 135%; for the 8 months period it was 145%. The passenger train earnings for the period were $105,713.68. A computation allocating to the passenger business such proportion of cost as passenger train earnings bear to total railway operating revenue, the same method as already used above, would show approximately $154,000 of costs to be checked against the passenger receipts. The total pay rolls for the period in question took up 84c out of every $1 of railway operating revenue. In general the conditions shown in the analysis for the 7 months period ended July, have continued during August. The figures thus available for two-thirds of the year may be taken as giving a characteristic condition as to cost, at a time when diverted traffic, due to the war, has fallen off.

On due consideration of the various factors concerned, the conclusion is unavoidable that the burden of proving that the increase in rate as requested is justifiable has been successfully borne by the railway; and an order should, therefore, go authorizing, subject to compliance with the terms of the Railway Act, the increase in the standard rate.

The board passed order 28,837, Oct. 3, authorizing the company to increase its standard maximum passenger fare from 3.45c a mile to 4c, on complying with the Railway Act, section 334.

The Proposed Acquisition of the Grand Trunk Railway System by the Dominion Government.

The proceedings in the Dominion Parliament in connection with the proposed acquisition of the G.T.R. System by the Dominion Government to incorporate it with the Canadian National Railways, have been so fully dealt with in daily papers, that it is not necessary for Canadian Railway and Marine World to devote much space to them, but it will doubtless be of interest to our readers to have before them in full the bill which was introduced in the House of Commons in this connection.

On Oct. 15 the Minister of Railways moved that the house go into committee on a resolution providing for the acquisition by the government of the G.T.R. System, which was carried by 58 to 38. On Oct. 16 the resolution was adopted, on a division, and the Minister then introduced a bill to the same effect as follows:—

Whereas the present capital stock of the Grand Trunk Railway Co., of Canada, consists of the following:—

Four per cent guaranteed stock	£12,500,000
First preference 5% stock	3,420,000
Second preference 5% stock	2,530,000
Third preference 4% stock	7,168,055
Common stock	23,955,437
	£49,573,492

And whereas the present outstanding debenture stocks of the G.T.R. Co. of Canada consisting of:—

Five per cent G.T. debenture stock	£ 4,270,375
Five per cent Great Western debenture stock	2,723,080
Four per cent G.T. debenture stock	24,624,455
Four per cent Northern debenture stock	308,215
	£31,926,125

(hereinafter called the "present debenture stock"), are entitled to certain voting powers at meetings of shareholders of the G.T.R. of Canada; and whereas it is expedient that His Majesty should acquire the whole of the capital stock of the G.T.R. Co. of Canada except the 4% guaranteed stock above referred to: Therefore, His Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. This Act may be cited as The Grand Trunk Railway Acquisition Act, 1919.

2. Subject to the provisions of this Act, His Majesty the King, represented by the Minister of Railways and Canals of Canada, acting under the authority of the Governor in Council (hereinafter called the "government") may enter into an agreement (hereinafter called the "said agreement" with the G.T.R. Co. of Canada (hereinafter called the "Grand Trunk") and with such other companies and interests as the government may think necessary, for the acquisition by the government of the entire capital stock of the Grand Trunk, except the 4% guaranteed stock of the Grand Trunk, amounting to £12,500,000, the latter being hereinafter called the "present guaranteed stock."

3. The said agreement shall contain provisions for the defining of the companies, properties and interests, comprised in the G.T. System, and, including the terms and provisions hereinafter set forth, may contain such other terms and conditions as the parties may agree upon.

4. As part of the consideration for such acquisition, the government may agree to guarantee the payment of:—

(a) Dividends payable half yearly, at 4% annum, upon the present guaranteed stock;

(b) The interest upon the present debenture stocks as and when payable, in accordance with the terms thereof.

These guarantees to take effect upon the date of the appointment of the committee of management hereinafter mentioned.

(c) Dividends payable half yearly at 4% per annum from the date of the appointment of the committee of management hereinafter provided for, upon an issue which is hereby authorized, by the Grand Trunk under the terms of the said agreement of non voting capital stock (hereinafter called the "new guaranteed stock") not exceeding the amount determined by the board of arbitrators, as hereinafter set forth.

Provided that concurrently with such guarantee of dividends and interest upon the present guaranteed stock and the present debenture stocks, respectively, the voting powers at meetings of shareholders of the Grand Trunk now vested in or exercisable by the holders of the said stocks respectively shall cease and determine absolutely.

5. The present guaranteed stock and the new guaranteed stock, or any part thereof, may be called in or redeemed by the government, at par, at any time after 30 years from the date of the appointment of the said committee of management, on six months notice, by advertisement, to the holders thereof.

6. The value, if any, of the first, second and third preference stocks and the common or ordinary stock of the Grand Trunk now issued and outstanding to the face values above mentioned (hereinafter together called the "preference and common stock") shall be determined by a board of three arbitrators, one to be appointed by the government, one by the Grand Trunk, and the third by the two so appointed, or, failing agreement, by judges to be designated in the said agreement. New guaranteed stock, to an amount not exceeding the value, if any, so determined, carrying a dividend as hereinbefore authorized, shall be distributed among the holders of the preference and common stock, upon the transfer to or vesting in the government of such stock, in proportions which shall be determined by the arbitrators.

7. As soon as said agreement has been ratified by a majority of the holders of the stocks enumerated in the preamble to this act, present in person or by proxy and voting at a special general meeting of such stockholders duly called for the purpose of considering such agreement;

(a) A committee of management shall be formed consisting of five persons, two to be appointed by the Grand Trunk, two by the government, and the fifth by the four so appointed, to insure the operation of the Grand Trunk System (in so far as it is possible so to do) in harmony with the Canadian National Railways, the two systems being treated in the public interest as nearly as possible as one system. The committee shall continue to act until the preference and common stocks are transferred to or vested in the government, when it shall be discharged;

(b) The books, minutes, reports, documents, and other records, and all the railways and properties of the companies comprised in the Grand Trunk System, shall at all times be accessible and open to inspection and examination by any person or persons named by the Minister of Railways and Canals of Canada, or by the board of arbitrators; and all proper aid and assistance shall, on request, be rendered to such person or persons by the committee of management and by the officers and employes of the Grand Trunk and its allied companies, including the making and giving of extracts, copies and statements.

8. The government may lend to the said committee of management, upon the notes or other obligations of the Grand Trunk, such sums as the government may from time to time deem necessary for the carrying on of the operation or improvement of the Grand Trunk System.

9. The said agreement shall provide, among other necessary and usual provisions for:

(a) The appointment of the arbitrators, the control of the arbitration proceedings, the administration of oaths, the procuring and admission of evidence, and the making of the award;

(b) The transfer to or vesting in the

government or its nominees of the preference and common stock upon the issue of new guaranteed stock in exchange therefor;

(c) The resignation or vacating the offices of the board of directors of the Grand Trunk and of each company comprised in the Grand Trunk System upon the preference and common stock being transferred to or vested in the government;

(d) The entrusting to the said committee of management by the Minister of Railways and Canals as receiver of the G.T.P.R. System, on terms to be approved by the Governor in council, of the exercise of such of his powers as receiver as the Governor in council may deem requisite in order that the operation and management of the said G.T.P.R. System may be conducted in harmony with the operation of other railways and properties under the control of the said committee;

(e) The continuation and administration of the G.T.R. of Canada Superannuation and Provident Fund Association, the G.T. Pension Fund, and the G.T. Railway Insurance and Provident Society, in accordance with the terms to be set forth in said agreement.

10. The government and the Grand Trunk, and each company comprised in the Grand Trunk System, and all persons interested therein, are hereby respectively authorized and empowered to enter into the said agreement upon and subject to the terms herein set forth, and to do and perform all such acts and things as may be deemed necessary to observe, perform and comply fully with the terms and conditions of said agreement.

11. Any orders of the Governor in council which the government may deem requisite to vest in the government any of the preference or common stocks not transferred to the government or its nominees under the terms of this act, or requisite to vacate any office of director, or otherwise to carry into effect the terms and provisions of the said agreement may be made and passed with the effect specified in any such order in council.

12. Upon the transfer to or vesting in the government of the preference and common stock as herein provided for, the government may, by order in council, provide for the discharge of the receivership of the G.T.P.R. System and the termination and withdrawal of the proceedings in the Exchequer Court of Canada relating thereto.

On Oct. 16, the bill was read a first time. On Oct. 17, the Minister moved that the bill be read a second time, and the debate continuing, D. D. McKenzie, the Liberal floor leader, on Oct. 21, moved the following amendment, which was seconded by Hon. W. S. Fielding:—

"That the bill be not read a second time, but that the house do come to the following resolution: That the bill proposes an uncertain but very large addition to the debt of the Dominion at a time when existing obligations, arising out of the war and from other causes, are so vastly in excess of all previous obligations as to give much cause for anxiety on the part of all who are concerned in the financial position of Canada and the maintenance of the public credit. That a measure of such wide reaching character and large importance requires a study by the house and the people that cannot possibly be given in the closing days of the session. That the present session of parliament was called for a special purpose which has already been accomplished. That on Oct. 8 the Minister of Trade and Commerce, acting as leader of the house in the absence of the Prime Minister, stated that the government's expectation was that the session would close within the then current week. That under such circumstances the introduction by the government of a measure of such great importance as the acquisition of the railway and property of the Grand Trunk Ry. Co. of Canada, is improvident and inexpedient. That for these reasons the further consideration of the bill be deferred until a future session of this parliament."

On Oct. 23, Mr. McKenzie's amendment was defeated by 91 to 61, and the bill was read a second time, on the same division reversed, and the house then went into committee on it, and the discussion was continued from day to day. At the time of writing (Oct. 30) the bill is still in the committee stage.

Curve Chart for Railway Resurvey.

A graph or chart for quickly determining the degree of a curve when the intersection angle and the external are given was devised last winter by the writer for use in the resurvey of the Dubuque Division, Chicago, Milwaukee & St. Paul Rd. This chart, shown in the accompanying drawing, is plotted on standard cross section paper. The externals are plotted vertically to a scale of 2 in. = 1 ft., making each small division represent 0.05 ft. The intersection angles are plotted horizontally to a scale of 3 in. = 1 degree, making each small division represent 2 minutes.

Curves were plotted as shown, extending to 7 ft. for the externals and to 9° for the angles. As a rule, this range covered the requirements, as curves with intersection angles of over 9° could seldom be intersected.

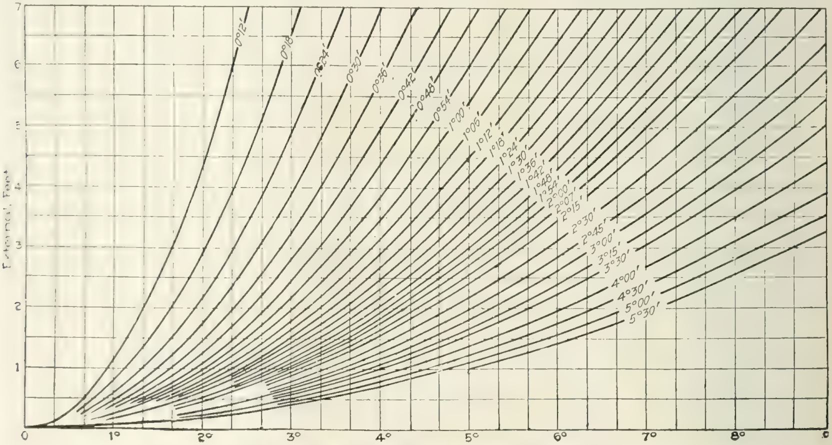


Chart showing degree of curve having given angle and external.

For any angle and external within these limits it is very easy to pick off the corresponding degree, interpolating if necessary between the plotted curves. Charts can be made considerably larger if larger sizes are desired.

On this resurvey work the alignment party consisted of an instrument man, a rodman and two chainmen, all of whom were fast workers. The best day's work in the field was 27 curves, 19 of which were intersected and eight traversed. The Dubuque Division follows the west bank of the Mississippi River for 150 miles and is very crooked, on account of the steep bluffs and the course of the river. Most of the curves, however, are sufficiently flat to allow their tangents to be intersected and their externals measured. J. G. Wetherell, Assistant Engineer, Chicago, Milwaukee & St. Paul Rd., Chicago, in Engineering News Record.

Transportation Appointments Throughout Canada.

The information under this head, which is gathered almost entirely from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Canadian National Rys—W. E. G. BISHOP has been appointed Division Freight Agent and District Passenger Agent, Transcontinental Division, O'Brien, Que., to Armstrong, Ont., vice E. B. Robb, transferred. Office, Cochrane, Ont.

F. J. BULLER, Local Treasurer, Lines East of Port Arthur, Ont., Canadian Northern Ry., has resigned, on being appointed Vice President, Canadian Steel Tire & Wheel Co., Montreal.

A. R. CURRAN has been appointed Paymaster, Lines East of Port Arthur, Ont., Canadian Northern Ry., vice S. J. Potter, promoted. Office, Toronto.

F. P. JONES, General Manager, Canada Cement Co., who was appointed one of the board, has resigned that position, giving as a reason, insufficient time to devote to the duties.

J. H. NORTON, heretofore Division Freight Agent, Halifax, N.S., has been appointed Assistant General Freight Agent. Office, Moncton, N.B.

S. J. POTTER, heretofore Paymaster, has been appointed Local Treasurer, Lines East of Port Arthur, Ont., Canadian Northern Ry., vice F. J. Buller, resigned. Office, Toronto.

E. B. ROBB, heretofore Division Freight Agent, and District Passenger Agent, Cochrane, Ont., has been appointed Division Freight Agent, Halifax, N.S., vice J. H. Norton, promoted.

Canadian Pacific Ocean Services Ltd.—T. R. PERCY, heretofore, chief clerk, General Passenger Department, Montreal, has been appointed General Agent, Passenger Department, Yokohama, Japan, vice E. Stone, appointed General Publicity Agent at Montreal.

A. W. SNELL has been appointed acting European Freight Agent, Montreal, vice G. D. Robinson, resigned to enter private business.

EDWARD STONE, heretofore General Agent, Passenger Department, Yokohama, Japan, has been appointed General Advertising Agent, Montreal.

Canadian Pacific Ry.—F. BAIRD, heretofore at Fort William, Ont., has been appointed Back Shop Foreman, Vancouver, B.C., vice R. Quinn, promoted.

A. E. BENNETT, heretofore Locomotive Foreman, Grand Forks, B.C., has been appointed Shop Foreman, Revelstoke, B.C., vice W. H. Mole, transferred.

E. R. BRUCE, heretofore Director of Exhibits, Colonization and Development Department, Calgary, Alta., has been transferred to Montreal, to take charge of the newly organization Exhibits Branch, Colonization and Development Department.

W. E. CLINE, heretofore Train Master, Medicine Hat, Alta., has been appointed Chief Dispatcher, Kenora, Ont.

JAAS. COLLEY, heretofore Assistant Publicity Agent, Colonization and Development Department, Calgary, Alta., has been appointed Publicity Agent, vice N. S. Rankin, transferred. Office, Calgary, Alta.

R. B. GIROUARD, heretofore Assistant Superintendent, Trenton Division, Ontario District, Havelock, Ont., has been appointed Assistant Superintendent, Sudbury, Division, Algoma District, vice F. S. Rosseter, transferred. Office, Sudbury, Ont.

C. J. McGREGOR, whose appointment as Assistant Superintendent, Smiths Falls, Ont., was announced in our last issue, is, we are advised, acting temporarily while the Assistant Superintendent is relieving other assistant superintendents on vacation.

J. K. Savage,
Assistant General Superintendent, Ontario District, C.P.R., and acting General Superintendent, Quebec District, C.P.R.

W. S. Harrison,
Auditor of Revenue, Grand Trunk Railway

E. C. McKAY, heretofore, dispatcher, has been appointed Chief Dispatcher, Smiths Falls, Ont., vice C. L. Leggatty, whose appointment as Assistant Superintendent, Smiths Falls Division, Quebec District, Smiths Falls, Ont., was announced in our last issue.

W. H. MOLE, heretofore Shop Foreman, Revelstoke, B.C., has been appointed Shop Foreman, Vancouver, B.C.

J. NEILL, heretofore Division Master Mechanic, Kenora, Ont., has been appointed Trainmaster, Medicine Hat, Alta., vice W. E. Cline, transferred.

R. QUINN, heretofore Back Shop Foreman, Vancouver, B.C., has been appointed General Foreman, Revelstoke, B.C., vice A. McArthur, on leave of absence.

COL. C. W. P. RAMSEY, C.M.G., has been appointed acting Superintendent, Brownville Division, New Brunswick District, Brownville Jct., Me., during absence on leave of J. H. Boyle, Superintendent.

N. S. RANKIN, heretofore Publicity Agent, Colonization and Development Department, Calgary, Alta., has been appointed Special Publicity Agent, same department, to have charge of special publicity work in connection with the establishment of a Canadian Information Bureau. Office, Montreal.

F. S. ROSSETER, heretofore Assistant Superintendent, Sudbury Division, Algoma District, Sudbury, Ont., has been appointed Assistant Superintendent, Toronto Terminals Division, Ontario District, vice W. J. Stinson, transferred. Office, Toronto.

J. K. SAVAGE, Assistant General Superintendent, Ontario District, Toronto, has been appointed acting General Superintendent, Quebec District, during absence on holiday leave of J. M. Woodman. Office, Montreal.

W. J. STINSON, heretofore Assistant Superintendent, Toronto Terminals Division, Ontario District, Toronto, has been appointed Assistant Superintendent, Trenton Division, Ontario District, vice R. B. Girouard, transferred. Office, Havelock, Ont.

C. C. A. WARN, chief steward, s.s. Princess Charlotte, B.C., coast service, C.P.R., is reported to have been appointed Manager, C.P.R., Hotel Incola, Penticton, B.C.

Grand Trunk Ry.—J. B. DUNLOP has been appointed Travelling Airbrake and Lubrication Inspector. Headquarters, Montreal.

W. S. HARRISON, heretofore chief clerk and Assistant to Auditor of Revenues, has been appointed Auditor of Revenue, vice J. B. McLaren, promoted. Office, Montreal.

A. McDONALD, heretofore Assistant to Superintendent of Motive Power, Montreal Shops, has been appointed acting Superintendent of Motive Power, Montreal Shops, vice E. R. Battley, temporarily assigned to other duties. Office, Montreal.

J. B. McLAREN, heretofore Auditor of Revenue, has been appointed General Auditor, vice J. M. Rosevear, promoted. Office, Montreal.

J. M. ROSEVEAR, heretofore General Auditor, has been appointed Comptroller, vice W. H. Ardley, retired. Office, Montreal.

Grand Trunk Pacific Ry.—P. W. BALDWIN has been appointed Local Auditor, G.T.P.R. and Grand Trunk Pacific Coast Steamship Co., Prince Rupert, B.C., vice A. [illegible], transferred to other duties.

MAJOR M. A. BURBANK, formerly of the Canadian Railway Troops, returned recently from service in France, has been appointed Assistant Engineer of line diversion at Urling and Shere, B.C.

COL. W. S. FETHERSTONHAUGH, formerly of the Canadian Forestry Corps, returned recently from France, has been appointed Division Engineer, Prince Rupert, B.C.

Timiskaming and Northern Ontario Ry.—J. L. ENGLEHART, Chairman of the Commission, has resigned owing to ill health.

C.P.R. Stations Named After Men Decorated for War Service.

Stations on C.P.R. lines under construction in Saskatchewan and Alberta have been named as follows:—

Hesketh — On the Acme-Drumheller line, for Col. J. A. Hesketh, D.S.O., D.C.M., Companion of the Order of St. Michael and St. George, Assistant Engineer, Winnipeg.

Kirkpatrick—On the Acme-Drumheller line, for Major W. M. Kirkpatrick, M.C., Assistant Freight Traffic Manager, Winnipeg.

Gascoigne—On the Leader-Southwesterly branch, for Lieut.-Col. F. A. Gascoigne, D.S.O., Secretary-Treasurer, Canadian Pacific Ocean Services, Montreal.

Thrasher—On the Milden-Southwesterly branch, for Capt. J. M. Thrasher, M.C., M.M., fireman, Kenora.

Neighbour—On the Rosetown-South branch, for Lieut. H. Neighbour, M.C., D.C.M., storeman, Winnipeg.

Unwin—On the Lanigan-Northwesterly branch, for Major L. B. Unwin, M.C., accountant, Schreiber.

Aerial Transportation Notes.

A Quebec press report says that an enterprise is being organized to utilize aeroplanes and dirigibles, to carry supplies, etc., to northern Canadian regions not yet developed because of the difficulty of reaching them.

N. A. Yarrows, of Yarrows Ltd., shipbuilders, etc., Victoria, B.C., and associates, have offered $50,000 as a prize for the first non-stop flight across the Pacific Ocean from Vancouver, B.C., to Japan, by a Canadian built aircraft. The prize will be known as the Prince of Wales prize, and the trip is to be made prior to Dec. 31, 1921.

Lieut.-Col. Robert Leckie, D.S.O., M.C., D.F.C., has been appointed to the Air Board's staff at Ottawa, as Superintendent of Flying Operations, at an initial salary of $4,500 a year. He was born in Scotland, and resided in Toronto for some 12 years before the war. He entered the Royal Naval Air Service in June, 1915. After the formation of the Royal Air Force he was in command of the 228th Squadron, and on the formation of the Canadian Air Force, was given command of No. 1 Canadian Wing.

The Aero Club of Canada, Toronto, has elected the following officers: President, Lieut.-Col. W. G. Barker, V.C., D.S.O.; Vice-President, Major Shook, D.S.O., D.F.C.; Honorary Secretary, A. F. Fen[illegible]; Honorary Treasurer, Capt. Evans [illegible], M.C., D.F.C.; Secretary, Major [illegible]; directors, Major Paul Meredith, Major M. [illegible], Capt. J. W. G. Clark, and Major Bert Wemp, D.F.C.

Major-General Sykes, Controller-General of Civil Aviation, in an article in the London, Eng., Observer on the colonies and aviation, dwells on the great opportunities in Canada. He says aircraft can be employed to extend the influence of the railways, and will give an impetus to every branch of Canadian commerce. As an instance of their usefulness in developing virgin land he suggests an air route linking up Quebec with the C.P.R., Lake Superior terminus, from where the services might radiate toward Winnipeg, and thence to Vancouver and many parts of the northwestern provinces. Aerodromes can be planned in every center of new towns springing up in Canada, instead of outside as in older countries. Aircraft might be used for discovering prairie fires, herding, patrols, timber location and survey work. Map making by aerial photography should supersede the present costly and slow method of trigonometrical survey. He concludes by expressing confidence in Canada's very great future in the air.

Werner Horn, who claims to be an officer of the German army, domiciled in the United States, after having served a sentence in the U.S. for illegally conveying explosives on trains in contravention of the Interstate Commerce Act, was ordered to be extradited to Canada to answer a charge of blowing up the international bridge on the C.P.R., between McAdam Jct., and Vanceboro, Me., Feb. 2, 1915. He was brought before the deputy police magistrate at Fredericton, N.B., Oct. 16, and remanded to Oct. 24 for further hearing. He was later committed for trial, and found guilty, Oct. 29.

National Steel Car Co., Hamilton, Ont., press dispatch, Oct. 27.—At a meeting of the directors of the National Steel Car Co., on Oct. 25, it was decided to recommend to the shareholders that a proposal made by a syndicate of New York capitalists, headed by R. J. Magor, for the reorganization of the corporation be accepted. The details of the proposal will be given in a circular letter to be sent to the shareholders at once, and a general meeting of the company will be held on Nov. 12 to deal with the matter. The syndicate proposes to put up ample capital to operate the plant to capacity, and to introduce more aggressive management. R. J. Magor is a brother of Basil Magor, who was at one time General Manager of the National Steel Car Co., and who is interested in the Magor Car Corporation, which make railway cars in the United States.

Passenger Train Resistance—Tests to determine the resistance of passenger trains at all speeds up to 70 miles an hour, and for average car weights, have been completed by the Railway Department, Engineering Experiment Station, University, Illinois. Of the 240 cars composing the 28 trains tested, 178 had 6 wheel trucks, and 62 had 4 wheel trucks. These tests were made on the Illinois Central Rd. by Prof. E. C. Schmidt and H. H. Dunn, upon well constructed and well maintained main line track, laid almost entirely with 85 or 90 lb. rail and ballasted with broken stone. From the results, which are given in Bulletin 110 of the Engineering Experiment Station, a table has been prepared showing the probable average value of resistance for passenger trains composed of cars weighing from 30 to 70 tons and operating at speeds ranging from 5 to 75 miles an hour. Copies of the bulletin may be had without charge by addressing Engineering Experiment Station, Urbana, Ill.

Conditions of Hudson Bay Railway Roadbed and Terminals.

In the House of Commons on Sept. 30, J. A. Maharg, M.P. for Maple Creek, Sask., called the government's attention to a press dispatch from Pas, Man., reading as follows:—"The elements and neglect are slowly crumbling the terminals of hte Hudson Bay Ry. at Port Nelson, according to Capt. R. H. Taylor, of the mounted police patrol boat, who has just arrived here from the bay. He declared that the roadbed of the railway from mile 214 is rapidly going to pieces and all along telegraph poles are lying on the ground. The terminal shops he said are lying in a state of rust and decay. He thought that the heavy storms last summer had considerably weakened the terminal works and without immediate repair and additional strengthening the entire works would be crushed to pieces by the winter ice."

The Minister of Railways, Hon. J. D. Reid, replied on Oct. 1, that he had asked the Chief Engineer for information and had been furnished with the following:—"The Chief Engineer of the Terminals, D. W. McLachlan, who is at present engaged in other engineering work with the department at Ottawa, informs me that the statement with regard to the condition of the terminals and the probability of the works being crushed to pieces by the coming winter's ice, has no foundation. He further states that the works have successfully withstood the storms and ice of the past three years without material impairment or injury, and he has every confidence that they will continue to do so during the coming winter. We have at Port Nelson a capable superintendent, with six men, whose duty is to look after minor repairs and immediately communicate with the department in the event of any serious damage. His monthly reports show that everything is in first class condition.

"With regard to the roadbed. It is to be expected in a country of the nature through which this railway passes, that frost will affect and dislodge numerous temporary trestles and telegraph poles which will have to be set up again, but not to any greater extent than would take place if the road was under operation—the only difference being that they will all be replaced at one time when the work is again gone on with, rather than from time to time as the damage occurred, as would be done if the road was in operation."

Grand Trunk Pacific Ry. Receivership.—An act has been passed by the Dominion Parliament to correct a clerical error in the order in council, respecting the appointment of the Minister of Railways as receiver of the Grand Trunk Pacific Ry. and its subsidiary companies, printed as a schedule to chap. 22 of the statutes of 1919. The act directs the insertion of the word "terminal," to make the words "Grand Trunk Pacific Elevator Co.," read "Grand Trunk Pacific Terminal Elevator Co."

C.P.R. Employes Fined—E.W.Downey, conductor, and A. H. Ruddock, a sleeping car porter, were fined $500 each by a Winnipeg police magistrate, Oct. 6, for having accepted secret commissioners. The porter, being unable to pay, was sentenced to jail for 6 months. Similar charges are pending against two other conductors.

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AND
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The Prince of Wales' Canadian Tour by Rail and Water.

The itinerary of the Prince of Wales' tour from Quebec to the Pacific coast and back to Montreal, as detailed in Canadian Railway and Marine World for September and October, was pretty closely adhered to, except that the visits to Cobalt and Timmins in Northern Ontario, originally scheduled for Sept. 2 and 3, were postponed until the return trip. After visiting Winnipeg on Oct. 10 and 11, the Prince spent a week end at Lake Manitoba, during part of which he had some shooting and left Winnipeg again on Oct. 14, instead of Oct. 11, as planned originally, for the east. The four days stop at Biscotasing, to visit the woods, lakes and rivers of Northern Ontario, scheduled for Oct. 12-17, was abandoned and instead the Prince went right through to North Bay, Ont., and visited Cobalt and Timmins, Oct. 16. Under the original schedule he was, after leaving Biscotasing, to proceed by C.P.R., via Sudbury and West Toronto, to Hamilton, but this was changed and his train was run over the G.T.R. from North Bay, via Allandale and Georgetown, to Hamilton. After leaving Brockville, Ont., Oct. 27, he went to Vaudreuil by G.T.R., and thence by C.P.R., to Montreal. The trip from Montreal to Ottawa, via C.P.R., scheduled for Oct. 31, was abandoned and instead he visited the Eastern Townships of Quebec, going via C.P.R. to St. Johns and Lennoxville, and thence by G.T.R. to Montreal. From Nov. 2 to 5 will pay a return visit to Toronto, and then visit Ottawa.

The G.T.R. prepared for the use of the Prince of Wales and his staff on the portion of the tour over the company's lines, a specially designed descriptive itinerary. The book is beautifully illustrated, and a notable production in every way. On the olive green leather cover is die-stamped in gold, the Prince's arms with crest, badges and supporters, and in the corners are the emblems of England, Ireland, Scotland, Wales and Canada. The frontispiece is a copper etching of Niagara Falls, signed by the artist. The other illustrations are printed in sepia on heavy suede finished coated stock, and show the features of the territory which the Prince visited during his tour over the company's lines in Ontario and Quebec, also the striking developments in motive power and bridge building. The letterpress is printed on the finest of hand made loft dried stock, and is descriptive of the points of interest between North Bay and Hamilton, Niagara Falls and Brantford, Guelph, Stratford and Woodstock, Chatham, London and Windsor and Toronto, Kingston, Brockville and Montreal. Maps of the G.T.R. are mounted in silk in specially provided pockets. The editin de luxe was limited to 100 copies, all numbered, and these were enclosed in handsome boxes with the Prince's arms stamped on them. In the foreword to the book, reference is made to the important part played by the G.T.R. in the development of Canada.

Equipment of Freight Cars With Safety Appliances.

The Board of Railway Commissioners passed general order 27[illegible], Oct. 8, as follows:— Re application of Grand Trunk and the Canadian Pacific Railways, for an order extending the time for one year from Sept. 30, 1919, within which they may equip their freight cars with safety appliances as required by general order 128, July 20, 1914: Upon hearing the matter at Ottawa, Oct. 7, 1919, the applicants, the Canadian National Rys., Brotherhood of Locomotive Engineers, and Brotherhood of Locomotive Firemen and Enginemen being represented, it is ordered that railway companies subject to the board's jurisdiction, be granted an extension of time until Sept. 30, 1920, within which to make the changes required under general order 128, the railway companies to continue their present practice of filing with the board monthly reports of the progress made in complying with the requirements of the said order.

Canadian National Rys. and the Victory Loan—The C.P.R. has set an objective of $5,000,000 for subscription by the workers on its lines in the victory loan campaign. President D. B. Hanna is confidently calling upon every employe on the system to invest to the limit, and is impressing upon all the fact that the general prosperity of the country, including the railways, depends upon the success of this appeal for funds. Mr. Hanna has been in conference with the heads of all the principal C.P.R. departments, and a complete organization has been worked out for the canvas of every employe. Every day each canvassing unit on the 14,000 miles of line between Sydney, N.S., and Victoria, B.C., also upon the telegraph and express and other subbsidiary systems, will report results to the head offices in Toronto. The company, as in other years, is offering both the Minister of Finance and the company's extended payment plan for the consideration of those in the service. The company's plan provides for payments monthly extended over ten months. This work is being carried on by the railway without expense to the victory loan organization.

Alien Owned Shares in Transportation Companies—Proceedings have been instituted in a Quebec court by the Secretary of State for Canada for the transfer to the Minister of Finance, from the United States Custodian of Canadian shares owned by enemy subjects and administered by the U.S. custodian until the signing of the treaty of peace when the status of the shares was localized to such places of business as the shares were entitled. The total amount involved is over $1,000,000, and there are included shares in the Canadian Pacific Ry., Grand Trunk Ry., Montreal Tramways Co., Marconi Wireless Telegraph Co., and Canadian Car and Foundry Co.

Superannuation of Canadian Government Rys. Employes—Sir James Lougheed stated in the Senate, Oct. 14, in answer to questions, that 1,2[illegible] Intercolonial & Prince Edward Island Railways employes had been granted superannuation under the Intercolonial & Prince Edward Island Rys'. Employes' Provident Fund Act, 1907, and amending acts, that [illegible] employes were participating in the fund on that date, and that the average pension paid employes was $[illegible] a month.

Railway Lands Patented—Letters patent were issued during August for Dominion railway lands in Manitoba, Saskatchewan, Alberta, and British Columbia as follows:

	Acres
Alberta & Great Waterways Ry	[illegible]
Calgary & Edmonton Ry	[illegible]
Canadian Northern Ry	[illegible]
Canadian Pacific Ry	[illegible]
Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co.	[illegible]
Total	[illegible]

Inverness Railway & Coal Co's Financial Position, Disposition, Etc.

The Minister of Railways, early in July, reported to the Privy Council, that the Inverness Ry. & Coal Co.'s bondholders committee had advised him that, owing to financial difficulties, it would be impossible for them to continue the operation of the company's railway after July 17. The Minister observed that the railway runs through an important locality in Nova Scotia, serving as an outlet for coal mines along the line, and is the only means of transportation for agricultural projects, and supplies for the inhabitants in the district. The bondholders committee urged that the government take over the line as a feeder for the Canadian National Rys., the transfer to be made on a basis similar to that on which certain lines in New Brunswick were taken over. On this basis the committee set a price of $150,000 for the 60.91 miles of railway and 4.6 miles of sidings, exclusive of the pier at Port Hastings, the rolling stock and equipment to be paid for on a basis to be agreed on between the committee and the Canadian National Rys. directors, but such price not to exceed the valuation placed on the rolling stock and equipment by the committee: viz.: $175,000, the government to pay for such supplies on hand as D. B. Hanna, Presi- paid for them, and the prices to be fixed dent, C.N.R., might consider should be by him. The Minister recommended that authority be given under the Branch Lines Act, statutes 1915, chap. 16, for the purchase of the railway, rolling stock and supplies at the prices mentioned above, interest on the aggregate principal amount to be paid at the rate of 5% a year, from the date of taking over the railway until date of payment of principal, the agreement for purchase to be submitted to the Dominion Parliament, at its then next session, and in order to avoid the closing down of the line that it be taken over immediately upon the execution of the agreement for purchase. The Privy Council concurred in the Minister's recommendation and an order was passed accordingly on July 14.

It is said that arrangements are being made to lease or sell the coal mines to a Halifax coal merchant.

The National Trust Co., Toronto, trustee for the bondholders, gave notice on Aug. 2, that a meeting of holders of the Inverness Ry. & Coal Co.'s 5% first mortgage gold bonds would be held in Toronto, Aug. 29, to receive a report on the present situation from the committee appointed by the bondholders on June 30, 1915. The notice stated that the report would indicate that the cost of winning coal had risen to such a point that the receiver could not make profits from the railway or coal undertakings. The meeting was also called to consider what action, if any, should be taken by the bondholders, and, if thought fit, to pass, with or without modification, the following resolutions:

1. That the existing bondholders committee, consisting of Z. A. Lash, J. H. Plummer and R. Home Smith, continue to represent and act for the bondholders [illegible] the remaining members of the committee from time to time to fill [illegible] ancy which may occur.

2. That the action of the trustee in applying for a receiver in Nova Scotia be approved.

3. That the committee be empowered in its discretion from time to time: to instruct the trustee to proceed forthwith to obtain judgment for foreclosure and sale in the action now pending in the Nova Scotia courts and thereupon to have the assets covered by the trust deed and by any supplemental instruments sold, either en bloc or in parcels, and for that purpose to authorize the trustee in the event of an auction sale or sales to approve of any reserve bid or bids fixed by the court or any change thereof, or, to instruct the trustee to concur in a private sale, or sales, lease or leases or other disposition of the assets, if it should consider it advisable so to do by reason of a public sale under the court proving absortive or for any other reason or, to instruct the trustee to do whatever may be necessary for the sale of the property by private sale en bloc or in parcels and that the trustee be authorized to do all or any of the above things.

4. That the committee be empowered to instruct the trustee in the event of the property being disposed of as provided by paragraph 3 above to apply and distribute the proceeds in due course in accordance with the law and the terms of the trust deed above referred to and the trustee be authorized to make such distribution.

5. That the committee be empowered in the event of the mortgaged premises being disposed of as provided in paragraph 3 above to authorize the trustee to accept payment on the terms named by the committee and to accept in whole or part satisfaction of the purchase price, rent or other consideration, shares, bonds, debentures or other securities of any company or corporation formed or to be formed and that the trustee be authorized to make any such arrangements.

6. That the provisions of clause 22 of the trust deed and, if necessary, the provisions of any other clause of the trust deed, be altered to provide that moneys applicable to the payment of the interest and principal on the bonds be applied first in payment of the principal on the bonds and the balance (if any) in payment of the interest owing upon the bonds pari passu.

7. That the trustee be authorized to act on requests or instructions signed by a majority of the members of the bondholders committee.

8. That the trustee be authorized to execute and do all such transfers, reconveyances, leases, assurances, acts, deeds and things as it may in its discretion consider necessary or desirable for carrying out, giving effect or completing resolutions passed at the meeting hereby called and any such deeds or documents may include such provisions for the protection, indemnity and convenience of the trustee as it may require.

We have been unable to ascertain what action was taken at the bondholders meeting, the trustee stating on Sept. 11 that as certain negotiations were pending, no information could be furnished until they were ended.

Other information in regard to this company's affairs was published in Canadian Railway and Marine World as follows: June, pg. 299; August, pg. 437; September, pg. 488.

Proposed Extension of Intercolonial Ry. Into Non-Railway Sections.

D. D. McKenzie, M.P., moved in the House of Commons, Oct. 6, that whereas the house on Mar. 16, 1914 adopted a resolution which he moved, stating the time had arrived for the extension of the Intercolonial Ry. into the non railway sections of the Maritime Provinces within reasonable range of the said railway, therefore, be it resolved that, in the opinion of the house, the proposals of the said resolution should be carried forward to completion at the earliest possible date.

In supporting his motion, Mr. McKenzie said that anyone acquainted with the geography of Cape Breton Island would readily understand that no one line of railway can possibly give proper accommodation, for the reason that that large and important island is divided into two sections by the Bras d'Or Lake. For that reason there should be a further development of railways on the island. The proposition he would put forward was that the government should at once, for the benefit, not only of Cape Breton Island, but of the whole country, extend a line of railway along both sides of the island, in order that fishing centers might be reached and important mining and lumbering areas given an opportunity for development. Since 1911 a line had been built on the mainland from Dartmouth to Dean Settlement, but there was a necessity for the extension of lines in Victoria County, and in the Guysboro area, in addition to those necessary in Cape Breton Island.

J. H. Sinclair, M.P., in seconding the motion, referred to the endeavors which had been made in the way of getting extensions of railways in Guysboro and Victoria Counties, towards which in 1910 Parliament voted $1,000,000 and acquired a short piece of line from Ferrona to Sunny Brae, from the Nova Scotia Steel and Coal Co., at a cost of $100,000. The present government did not renew the provision for building lines in Victoria and Guysboro Counties.

A. T. Leger, M.P., is supporting the motion, referred to the necessity for branch line extensions in New Brunswick, making mention particularly of a line from Buctouche, to some point in Northumberland County, surveyed in 1914.

The debate was adjourned on the motion of Sir George Foster, and on Oct. 8, was allowed to continue on the order paper.

Ottawa Central Station Operation—The Minister of Railways in replying to a question in the House of Commons recently, said the Canadian Pacific Ry., as well as the Canadian National Rys., run some of their trains into the Ottawa Central Station backwards. This practice is in vogue on United States railways as well as Canadian. The usual precautions taken by railways under similar conditions are followed at Ottawa. It was impossible to state definitely when changes to render this practice unnecessary will be undertaken.

Railway Lands Patented—Letters patent were issued during September for Dominion railway lands in Manitoba, Saskatchewan, Alberta and British Columbia, as follows:—

	Acres.
Canadian Northern Ry.	5.006
Canadian Pacific Ry. grants	17.31
Canadian Pacific Ry. roadbed and station grounds	76.42
Total	98.736

Speeches at Dinner to President Beatty, of the Canadian Pacific Railway, at Quebec.

The Quebec Board of Trade entertained E. W. Beatty, K.C., President, C.P.R., at dinner, at the Chateau Frontenac on Oct. 1, some 250 being present, including Lord Shaughnessy, Chairman, C.P.R. Co.; A. D. MacTier, Vice President, Eastern Lines, C.P.R., and J. G. Scott, ex-President, Quebec & Lake St. John Ry., and Great Northern Ry. of Canada. In proposing Mr. Beatty's health, J. T. Ross, President of the Board of Trade, said in part:

We all know how extremely valuable this wonderful hotel, the Chateau Frontenac, has been to the City of Quebec. It has attracted thousands of tourists every year from the United States, from Europe, from Asia, Australia, and indeed, the whole world. Its reputation is as world wide as its situation is famous. But, large as it is, its accommodation is unequal to the great flow of travel which directs itself to Quebec, and during the tourist season, the management has, I am told, been reluctantly compelled to refuse hundreds of guests. Before the war broke out, the company purchased a large piece of property adjoining the hotel, with the intention of building an extension to the Chateau Frontenac, which would make it one of the largest hotels in America. We all earnestly hope that Mr. Beatty will be able to assure us that this very necessary work will be carried out, without delay, now that the war is over.

Before the war, the C.P.R. had established a line of large, fast, passenger steamships, running between Liverpool and Quebec which, on account of their draft of water, were compelled to make Quebec their terminal port. These ships, with a speed of 18 knots, were so punctual and so well equipped, that they attracted a class of travel, originating in the United States and the Orient, such as had never before used the St. Lawrence route. We are pleased to learn that this splendid weekly service is about to be resumed, and that the line will be inaugurated by the Empress of France in October.

But we, in Quebec, have larger ambitions than that, and we feel sure that the C.P.R. shares those ambitions. We think that the sacrifices that Canada has made during the war entitle us to at least as great favors from the Imperial Government as are extended to our neighbors in the United States. Now, the British Government grants the necessary capital and a subsidy of £150,000, for two ships, to the Cunard Steamship Co. for running a line of 25-knot steamships from Liverpool to New York. Would it not be possible to arrange with the Imperial Government and the Dominion Government that the C.P.R. should run a similar line of steamers to Quebec in summer, and Halifax in winter? The distance from Quebec to Liverpool is 500 miles shorter than from New York, so that the Canadian route would be a day faster, and should get the preference. The Quebec Board of Trade makes this suggestion and we hope that the C.P.R. will follow it up. Three boats would be sufficient for a weekly service.

We ask Mr. Beatty's attention to an innovation commenced this year, in connection with the other steamers of the company's Atlantic service by which these boats when outward bound do not stop at Quebec, as heretofore, and Quebec passengers are compelled to go to Montreal to take passage. This means an unnecessary travel of 340 miles which is ridiculous. Instead of this the Quebec Board of Trade has always contended not only that these steamers should make a stop here, both inward and outward, but that they should charge rates of passage and freight to and from Quebec cheaper than Montreal, in proportion to the distance saved. We are entitled to this, not only on account of our geographical position, but because these ships, or many of them, are subsidized with public money, of which we have to pay our share. Moreover, it is an injustice to the railway and steamboat lines between Montreal and Quebec, and to the Quebec hotels, all of which would benefit as in the past, were passengers allowed to take a day here en route, and join the ship at Quebec.

We think that Quebec has not been justly treated in the matter of ocean freight rates by the steamship companies, and as the C.P.R. is the largest steamship company the redress of this grievance is largely in their hands. Not only do the steamship companies charge Montreal rates for ocean freight to and from Quebec, but in some cases extra rates have been charged on our imports, although we are 170 miles closer to the ocean than Montreal, and in many cases the absurdity is witnessed of sawn lumber, our great staple trade, being sent to Montreal for ocean shipment, at great expense, to come back again past our doors, on its way to Europe.

The great pulp and paper trade of this province which has become so great an article of Canadian export, is principally carried on in the valleys and at the water powers of the Saguenay and the St. Maurice. The development of these two river valleys has created industries estimated to have cost $80,000,000 and giving employment to 20,000 men, and is due entirely to the enterprise of a number of Quebec merchants who built two railways: the Quebec & Lake St. John and the Great Northern. The railway freight from the mills on the St. Maurice is the same to Montreal as to Quebec, and as ocean freight from Montreal is easy to obtain, and from Quebec, for the reasons I have given, very difficult, the products of these mills and of the Saguenay mills for ocean shipment, goes almost entirely to Montreal. This is most unjust to Quebec, which may be said to have originated this traffic, and we ask that the C.P.R. ocean service should set the example of remedying this injustice by making the ocean freight on pulp and paper from Quebec cheaper than from Montreal, in proportion to the distance saved.

The alarming diversion of the grain trade of the Canadian Northwest to U.S. ports, for shipment, is a bitter disappointment. We understand that two-thirds of the export grain of the prairie provinces, a speaker in the Senate recently said four-fifths of it, has been going to New York, instead of to Canadian seaports. We cannot blame the C.P.R. for this. They have always been thoroughly loyal to Canada, and have sent their grain traffic to Montreal in summer and to St. John in winter. The only remedy would seem to be to make use of the new National Transcontinental Ry. for the purpose for which it was intended, and to carry the grain all rail, instead of relying upon the lake navigation, which switches it off at Buffalo. This new road shortens the distance between Quebec and Winnipeg by 214 miles, and its gradients are so level that, we are told, it is able to carry wheat to Quebec, with profit, for 3c a bushel cheaper than the lake and rail rate, via Fort William, either to New York or to Montreal. If the government cannot be made to understand the advantages to national interests of this new route, let them hand it over to the C.P.R. and we will soon have a revelation, not only as to the grain trade, but in the shortening by nearly half a day of the time of ocean mails and passengers between Quebec and Winnipeg. And the public would be relieved of that much of the burden of deficits, caused by the operation of railways by the government, against the extension of which the Montreal and Quebec Boards of Trade have so vigorously protested, in common with all the influential newspapers of this province.

Sir Lomer Gouin, Premier of Quebec, followed and said, among other things, that while they in Quebec felt an admiration for the C.P.R., they have also had the highest esteem and respect for the great men who had built that railway. They admired their palatial hotels, great railways and powerful fleet, but the people of Quebec cannot forget the first great man of that company, Sir William Van Horne. And we are fortunate in Canada in having these brilliant and talented men, of whom Sir William Van Horne was the first great man of the greatest railway in the world. It was because Mr. Beatty was a great lawyer and business man that he was found worthy to succeed his eminent predecessors. He offered his congratulations and compliments to Mr. Beatty for his success and prosperity. The people of Quebec felt it was a great honor to have the privilege of welcoming the President of the C.P.R. in "the mother city of Canada," of which we were all so proud and all loved so much, and which he thought Mr. Beatty would also learn to love himself, when he became more acquainted with its charms and beauties. Sir Lomer then spoke of the splendid resources of the C.P.R., and of the vast possibilities there are for future railway enterprise for which every facility is offered through its immense natural resources as well as the great industrial development, for which the intelligence of its employes was in no small degree responsible.

President Beatty's Speech.

The C.P.R. operates within the limits of your province slightly less than [illegible] miles of railway, being, I think, equal in mileage to any other system within the province. The possession of this extent of mileage alone is itself a reason why the company's interests and those of the province are closely merged and interdependent. From a railway standpoint, Quebec offers a great variety of railway traffic possibilities. You will appreciate this when you recall the extent of the productions of the province, which contribute to the support of the railway systems operating within it. In manufactured products the production is [illegible] of that of the whole of Canada, in wood pulp and paper, [illegible] and [illegible], [illegible]-

tively, in dairy products, 57%, and in live stock varying from 11 to 35%. The products of the farm are extensive and increasing, having now reached 13% of the total agricultural production of Canada. The future holds still more in the way of traffic and railway possibilities. The total railway mileage in Quebec is slightly less than 5,000 miles, or about two-fifths of that of the State of Pennsylvania, while its area is fifteen times as great. Quebec is likewise fifteen times as large as Ohio and its railway mileage about half that of the latter state. With increasing population and commercial expansion, more mileage must be constructed and existing facilities increased. The C.P.R. has not reached the limit of its development within the province, nor has any other railway company, if the future possibilities are as we have every ground for believing them to be. I believe that in the next few years a considerable extension of colonization railway construction will take place and while I am not unmindful of the hazard and the difficulty in building lines into undeveloped territories, if the work is undertaken prudently and gradually, there is no doubt that the railway extensions will not only keep pace with settlement and production, but will accelerate both.

The time was when railway presidents were in the habit of delivering speeches and giving interviews on all subjects from the raising of pigs to the style of women's clothes, I absolve my distinguished predecessor from the charge of following this practice, but it seemed to be an accepted theory that with such an office went the right of publicly discussing matters on which they were at least only partially informed. It is difficult for me to vary such time honored practices, but it is equally difficult to overlook that maxim of public speaking adopted in the earlier days, namely, that one should speak only on a subject he understood to those who had not the same amount of information about it. That was supposed to make it safe for the speaker and informing to his audience. So far as I am concerned this rather circumscribes my speech making, because it forces me to say something pertaining to the railway situation. Some phases of it are not yet, I think, adequately appreciated by many of the communities who depend so much for their development and prosperity upon the character of the railway service given to them, nor by the people as a whole upon whom the burden of their support must fall. I do not propose to trace for you the history of our Canadian railway situation, or of that in the United States. Both have elements in common and other phases in which they are entirely dissimilar. Neither do I propose to criticize at this time the policies which have given rise to our unfortunate position, but rather to make a few remarks upon the conditions which we must expect to face if these policies are extended.

This is a prosperous country, whose future, if the commercial affairs of the nation are administered prudently and economically for the next few years, is probably as bright as any country on earth. The danger is that our development may be retarded by burdens imposed upon us before we are able to carry them. We have many miles of railway that represent a useless expenditure, but the money has been spent and the securities are in the hands, in most cases, of investors in foreign countries, who staked their money in good faith upon the development and future of Canada. Many of them were, we now know, misconceived and constructed at extravagant cost, and in default of any other available parents have been quietly laid on the door step of the government of the country, or it would, perhaps, be more accurate to say, had been placed on that door step which had a large "welcome" on the mat. They must be taken care of because they cannot be abandoned. It must be seen that they grow into healthy arteries of commerce and play their full share in the country's progression. The problem that confronts us now is how this can best be done, and if it is possible under any system yet evolved for their administration. The possession of a tremendous mileage by the Dominion, with these periodical additions of unprofitable mileage, makes the prospect a disheartening one, even though the most far-sighted and efficient men are placed in charge of the properties, and even if they were permitted to operate them to the best advantage in the interest first of the shippers and, secondly, of their owners.

I am convinced that no administration which does not retain individual initiative and enterprise, pride in their work and adequate rewards for work well done, can possibly reduce the heavy annual deficits which are confronting the operators of most of Canada's railways. The question is one of such great magnitude and will have such far reaching results that it should be determined without regard to the opinions of politicians, shareholders, or any one set of men, but must be determined upon one ground only—what is best for the people of this country, and what will give them the most efficient railway service at the cheapest possible rates, and at the same time impose as little burden of taxation as is possible. These millions which have been unwisely and unprofitably spent have been spent, but the millions which may be wasted by the adoption of an improper system of operation can be saved, or partially saved, and this is the problem the working out of which will determine the future methods of operation which will prevail throughout Canada. There are advocates of both systems of administration, and while their views and the facts upon which they base them, are worthy of the greatest consideration, I am convinced that the people will only come to a realization of how serious the situation is and will themselves provide the remedy only when they see and weigh the tangible results.

There are two important aids to the solution. The first is, that the problem should be discussed and agitated in order that the merits and demerits of the systems, which are suggested should be appreciated by the people as a whole. I do not know of any problem so vital to the interests of Canada, in which there has been so much acquiescence and so little public discussion and education, as the subject of the future of the country's transportation systems. As a corrollary to this and second only in importance is the necessity for accurate information as to administration and results of it, in order that the people may be in a position to judge whether they desire to adhere to the methods of administration from which these results flow. I do not mean financial results alone, but results in service, a most important factor from the standpoint of the public. To my mind the determination of the question will rest upon two factors, the extent of the burden cast upon the people and the character of the service given. The difference between a proper and an improper system represents the millions of additional burden to the taxpayer, which he may be called upon to bear and the high rates and poor service which are due to the inefficiency which any improper system must inevitably provoke.

I have no doubt as to the transportation future of the principal lines in the Province of Quebec, nor have I any doubt as to the future development of the province, rich as it is in natural resources and only requiring sufficient investigation to warrant the beginning of new enterprises and the extension of old, in order that its commercial prosperity may be assured. Hand in hand with enterprise and prosperity must go a greater realization of the duties of citizenship and an appreciation of the obligations of communities towards those who are sick or in want. Theoretically this duty devolves upon the municipality whose citizens are affected and practically, it depends, as other questions, upon the direction and support given by the government to any such movement. A conspicuous example in this province has been the burden cast upon hospitals and other eleemosynary institutions, which have increased enormously by the increasing costs and the difficulty in having these costs met from ordinary revenues and the support of charitably, minded citizens. We will, perhaps, never reach the day when appeals will not be made in the interest of institutions to tend the sick and the needy, nor is this desirable, but it has now got to the limit of reason that this whole burden should be borne by the few who appreciate the situation and whose financial resources permit support to be given. I know that the eminent, able and resourceful Prime Minister of the province needs no inspiration from me, but I have been associated with several of its larger institutions and I know how vital it is that additional government support, by special tax if necessary, must be given to these institutions if they are to perform their full duty to the communities they are designed to serve. There is no unfairness in the suggestion that the people, as a whole, should be taxed to meet these conditions which enlightened citizenship demand must be met, because the burden of it falls most heavily in the congested districts in which the need of such service is most apparent. It is, indeed, an alarming condition that public institutions of this kind, well managed, generously supported by citizens and in some cases by municipalities, should face enormous deficits or greatly decreased activities and usefulness, simply because the cost of service to the poor and needy cannot be met, and should not be wholly met, by appeals to the charitable instincts of the people of the community.

I presume that you will not want me to sit down without making more than a passing reference to the City of Quebec, and its relations to the C.P.R.—relations which I am happy to say have been long standing and mutually satisfactory. In fact, your President, Mr. Ross, has rather demanded that these local and, therefore, more intimate subjects should not be overlooked. It is true that here, as elsewhere, there must be periodical conflicts of opinion, due to confliction of interests, but I am happy to say they have been reduced to a minimum. Your position is unique, a spot whose historical attractiveness appeals so strongly to the people of Canada and the United States; Quebec occupies a situation without parallel, I think, on the American continent. This is a commercial value to your city and the surrounding country and the value has not been and will not be lost sight of by yourselves or the transportation companies which serve your city. In addition, though some of us would hate to see the destruction of the rare and peculiarly attractive characteristics of your city, there is your position as a port with a sufficient harbor; the end of navigation for the largest trans-Atlantic ship and the industrial development which must take place, which gives to Quebec a future to which you will look with confidence. This situation was appreciated by the sagacious men who presided over the destiny of the company many years ago, and more than 25 years have elapsed since the Chateau Frontenac was built, and it has been since noted as a hostelry unique in itself, generally adequate to the needs of transients and in all respects a credit to your city. It has been altered and enlarged on occasions, but still the greatness of traffic due to the attractiveness of the place has outgrown the capacity of the hotel in the summer season and still further enlargement and changes will be necessitated. I am happy to be able to say that the C.P.R. directors appreciate the necessity of this and plans are in preparation which involve an enlargement of the hotel by over 200 rooms, and the provision of facilities not hitherto possible through lack of space. The cost of these changes will be in excess of $2,000,000 but the future of Quebec, we think, amply warrants the expenditure and the work will, I hope, be commenced in the early part of next year and continued until the plans are completely carried out. If you are proud of the old Chateau I am convinced that you will be still more proud of the new one, which will be more adequate to the needs of your city.

Your President, with characteristic foresight, mentioned to me in advance some of the points which he desired to emphasize from the standpoint of the interests of Quebec City, and I will refer to them very briefly because, obviously, they are questions of great importance, the consideration of which cannot be ended in a moment. He had drawn my attention to the desirability of a subsidy to a 25 knot service from Quebec, similar to that granted by the British Government to the Cunard Line to New York and has suggested that a subsidy of £150,000, or some similar amount, might be granted by the British or Canadian Governments, or both, if such a service were established from your port. You will appreciate, I think, as I do, the tremendous cost of such a service under conditions now prevailing and likely to prevail for some time to come. You know, for example, what it means for a company, even the size of the C.P.R., to put in such service a vessel like the Empress of France, valued at $6,000,000; you know something, too, of the cost of operating such a steamship. Coal today in Liverpool is £5 a ton—a 25 knot steamer consumes 1,000 tons a day. On this basis, a subsidy of £150,000 would pay the coal for such a ship for exactly 30 days running. If, on the other hand, coal for the round voyage were purchased in Canada, it would mean a tremendous cargo displacement and reduce the earning powers of the ship enormously.

In the matter of freight rates, and the suggestion that there are some discriminatory features against the City of Quebec, I would like to point out to you that the ocean rates are practically the same from all Atlantic ports, and that if the suggestion that the rates from Quebec should be lower than those from Montreal was given effect to, logically the difference in the rail haul would have to be considered and the additional rate from Montreal to Quebec would be far in excess of any difference in rate which could be granted on the ocean. Under the system now prevailing, the steamship companies absorb this difference, which is certainly more to the advantage of Quebec than if a difference were made in the ocean rates. In case there should be any misapprehension, permit me to say too that the Canadian lines—certainly the C.P.R.—get no government subsidy for their ocean services. It is true we are paid for carrying the mails, but we are only paid on the basis of the lowest freight rate, and there is no form of gratuity in it nor any support to the service, except that of payment at very low rates for traffic actually carried.

If it has happened, and I do not think it has in the case of the company's steamships, that products have been moved to Montreal for loading, it is, I presume, because it is easier to load at one port than to begin at one port and complete loading at another, especially when the full cargoes for such exports have always been available and ships to carry them have been few.

I recently took a trip through the United States and there had the opportunity of conferring with some railway presidents, who explained to me the difficulties of the situation in the U.S. One man, who had grown gray in the service of his company, having had almost 50 years' continuous railway experience, made a remark to me which I think is worth repeating. He said: "I often tell my directors that I am almost ashamed to take the salary I am paid, because it is the easiest thing in the world to be a railway president." "All you have to do," he added, "is to satisfy the public." Now, I have told that instance in other places, and in each place the story was greeted with laughter, because the irony of it being easy to satisfy the public seemed to strike the public themselves. What this railway executive meant by his semi-humorous statement was that the good will and support of the public was essential to the success of any railway enterprise, and that once secured and maintained the burdens of his office were appreciably lightened. It is true, I think, that never before has the value of public good will and support been appreciated to the extent it is now appreciated by all railway officers. The realization of it is not exactly forced upon them, but the value of it from the standpoint of results has been so apparent that every man now knows that he cannot be a successful railway operator unless he is mindful of this fact. It is not a case of cosening the public, but of doing your best for the public, which in the long run brings the best results. You may rest assured that the value of your support and good will will not be lost sight of in mutual relations between the C.P.R. and the City and Province of Quebec.

Lord Shaughnessy paid a warm tribute to Mr. Beatty. He said that the work of the new President required an exceptional degree of attention that from the very nature of it, had to be ever constant. He was in a large territory extending half throughout the world, and he had to give thoughtful consideration to the operation of all the railways under his control as well as other subsidiary interests. Any mistake of his might be disastrous to the C.P.R. as well as to the interests of Canada. He felt that Mr. Beatty would prove equal to the great task. Mr. Beatty was well disposed towards Quebec. Lord Shaughnessy expressed the belief that apart from the addition of 200 rooms to the Chateau Frontenac shortly, it would not be long before an additional 200 would be added to that. He pointed out that at the last session of parliament, Mr. Beatty had succeeded in putting through a bill that would enable the C.P.R. to inaugurate an aerial service, and he asked the Quebec Board of Trade to insist upon these airships landing at Quebec.

Railway Finance, Meetings, Etc.

Atlantic, Quebec and Western Ry.—There has been filed with the Secretary of State at Ottawa a duplicate original second mortgage debenture of A.,Q. & W.R., for such sum or sums as the registered holder may be entitled to, not exceeding in the aggregate $2,050,000 bearing interest at 5% a year, dated June 30, 1919, and maturing Jan. 1, 1940.

Lake Superior Corporation—Following are the officers and directors for the current year elected at Camden, N.J., Oct. 2: President, W. H. Cunningham; Vice Presidents, W. C. Franz and H. Coppell; Secretary, Alex. Taylor; other directors: Sidney Mason, J. F. Taylor, J. S. Dale, F. McOwen, H. I. Underhill, H. C. Coleman, R. Home Smith, T. D. Wood, T. Gibson, James Hawson. The company owns the Algoma Central and Hudson Bay Ry., the Algoma Eastern Ry., and the International Transit Co. (electric).

Canadian Northern Ry.—Referring to the trust deed securing the 5% C.N.R. income charge convertible debenture stock, the directors announced Oct. 9, that the earnings for the half year ended June 30, were insufficient to enable them to declare any interest to be payable on the stock Nov. 2.

Timiskaming & Northern Ontario Ry.

	July, 1919	July 1918
Passenger earnings	$88,268.61	$60,778.42
Freight earnings	173,193.23	150,697.38
Total earnings	261,461.84	211,475.80

Canadian Steel Tire & Wheel Co. Ltd. has been incorporated under the Dominion Companies Act, with an authorized capital of $1,000,000 and office at Montreal, to manufacture steel tires, cast steel wheels, several of the persons principally interested being connected with the Railway Steel Spring Co., New York. The President is F. F. Fitzpatrick, President, Railway Steel Spring Co.; the Vice Presidents are A. S. Henry, Vice President, Railway Steel Spring Co., and F. J. Buller, heretofore Local Treasurer, Eastern Lines, Canadian Northern Ry., Toronto; K. W. Blackwell, one of Canadian Car & Foundry Co.'s Vice Presidents, is also a director. The company has bought a plant on Marion Ave., Montreal East, that was used for manufacturing munitions and will start operations at an early date.

The C.P.R.'s Social and Athletic Club, Regina, Sask., branch, has been organized with the following officers: President, A. Pentland; Vice President, Mrs. D. M. Raddell; Social Secretary, Miss D. Davis; Athletic Secretary, E. J. T. Blanche; Treasurer, A. A. Dunphy. The first social gathering was held Oct. 9.

Railway Development, Projected Lines, Surveys, Construction, Betterments, Etc.

Alaska Railway.—The United States Senate on Oct. 2 passed the vote of $17,000,000, passed previously by the House of Representatives for the completion of the government railway in Alaska. (Oct., pg. 536).

Dolly Varden Mines Ry.—We are officially advised that this railway is still under construction, although traffic is being operated over some portion of it. The line at present extends from the Dolly Varden Mine, Alice Arm, B.C., to tidewater, 16 miles. It is 36 in. gauge and is operated by a 30 ton Climax locomotive, an 18 ton Porter locomotive and sixteen 15 ton gondola cars. It is the company's intention to extend the present railway from the Dolly Varden Mine to the Wolfe Mine, about three miles. Surveys for this extension have been made and plans are now being prepared, but it has not yet been decided when construction will be gone on with.

The line is being operated by the Taylor Engineering Co. Ltd., Vancouver, of which A. J. T. Taylor is President. E. G. Taylor, the company's Mechanical Superintendent, is in charge of the construction and operation of the line. (Oct., pg. 536).

Edmonton, Dunvegan and British Columbia Ry.—J. D. McArthur, President, was in Ottawa recently, discussing with the Dominion Government, the position of the E.D.&B.C.R., and its associated lines, the Alberta and Great Waterways Ry., and the Central Canada Ry. The system comprises the line from Edmonton to Spirit River and Grande Prairie, 402 miles, the line from Carbondale to McMurray, 290 miles, and the line from McLennan to Peace River, 48 miles, a total of 740 miles. An area of 16,000,000 acres of arable land is at present served and if the lines as projected were completed, an area of 100,000,000 acres would be opened up for development.

Replying to a question in the House of Commons, Oct. 8, the Minister of Railways stated that no arrangements had been made by the government for taking over the lines. It was reported in Ottawa on the same day, that at a caucus of government supporters, an opinion adverse to taking over the lines was expressed.

D. C. Coleman, Vice President, Western Lines, C.P.R., Sir Augustus Nanton, a director of the C.P.R., and W. R. MacInnes, Vice President, Traffic, C.P.R., went over the line to Spirit River recently.

The Board of Railway Commissioners, Oct. 9, approved of location plans for the railway at Alcomdale, Alta.

A press report states that the company is being asked to build a branch line to Vanrena, Alta. (Oct., pg. 536).

Esquimalt and Nanaimo Ry.—A press report states that a contract has been let to the Foundation Co., for building a 10 mile extension of the E.&N.R. to Great Central Lake. The branch starts from the present line between Bainbridge and the Alberni terminus, and the route has been located to the Great Central Lake. The location is along the Sproat River Valley, north to its confluence with the Stamp River, where it branches west, and runs along the south shore of the Great Central Lake for some miles. Some clearing is reported to have been done on the right of way. R. Marpole, Vice President, E.&N.R., and General Executive Assistant, C.P.R., Vancouver, B.C., was in Victoria, Oct. 6, in connection with the letting of the contract, and is reported to have said that the work will be pushed through to completion as fast as possible. It is expected that the extension will be ready for operation in July, 1920. J. S. Connell, of the Foundation Co.'s Vancouver office, and E. E. Jenkins, its Victoria representative, are reported to have gone over the located route, Oct. 6. (Oct., pg. 536).

Grand Trunk Pacific Ry.—The Board of Railway Commissioners has ordered the company to file plans for a station at Prince George, B.C., and to have the building completed by Dec. 31. The board made an order for the erection of a station at Prince George, in Nov., 1914, but owing to war conditions did not enforce it. (Sept., pg. 491).

Hudson Bay Ry.—The special committee of which Senator Fowler is chairman, appointed by the Senate to enquire into the navigability of Hudson Bay and Strait, reported Oct. 8, that it had not had time to consider the evidence collected, and recommended that it be empowered to sit during the parliamentary recess and to present a report at the next session. The report was adopted.

The Minister of Railways in replying to questions in the House of Commons, Oct. 9, said approximately 425,000 ties were taken from the Hudson Bay Ry. during 1917 and 1918, and turned over to the Canadian National Rys., for use on C.N.R. lines in Western Canada. During 1917 and 1918 and this year, 825 gross tons of steel rails and part of J. D. McArthur's equipment were taken over, the rails being bought by the Grand Trunk Pacific Ry., and the equipment by the C.N.R. No part of the rails, etc.,were sent to France. A small amount of ballasting only has been done on the Hudson Bay Ry., during this year. The contract for ties let in May to be delivered on the H.B.R. were for renewals on that line. The work of completing the railway from mileage 332 to mileage 424 at Port Nelson, will be gone on with as soon as the financial condition of the country will permit. The reason why no work has been done this year is the urgent need for the completion and building of branch lines in other parts of the west. The government bought 35,999.3 gross tons of rails in the United States, which were rolled for the Russian Government, and these rails were used for branch lines and betterments to existing railways throughout Canada, owing to Canadian rails not being obtainable, due to Canadian rail mills being utilized for the production of munition steel. (Sept., pg. 491).

Kettle Valley Ry.—A press report states it is generally assumed that the company will build a branch line southerly from Penticton, B.C., to Dog Lake, that a barge service will be operated on the lake from the terminus of the branch to Okanagan Falls, and that a line will be built thence to Oroville, B.C.

We are officially advised that the bridge will be 1,163.8 ft., between parapet walls, and will be composed of 6 towers, 2 of 70 ft. span, and 4 of 80 ft. span, with seven 100 ft. deck plate connecting girders. The maximum height from bottom of foundation to base of rail will be 290 ft. The substructure will be composed of 2 reinforced concrete abutments and 24 pedestals, all of 1, 2, 4 concrete.

Lacombe and Northwestern Ry.—A press report states that laying rails on the extension from the present terminus near Bentley, towards Rimbey, Alta., will be started at an early date. The bridge near Bentley, which was holding up the work, was reported to have been completed Oct. 6. This is a timber structure 700 ft. long. (Aug., pg. 431).

Pacific Great Eastern Ry.—Tenders were received to Oct. 15 by A. F. Proctor, Chief Engineer, British Columbia Railways Department, for the supply, fabrication and erection of steel for the superstructure of the viaduct over Deep Creek, in the Cariboo District, at mile 294 from Squamish.

Pas, Man., to Flin Flon Mine—A press report states that the Flin Flon Mine, about 70 miles from Pas, Man., has been sold to Hayden, Stone and Co., of Boston, Mass., which controls a number of low grade copper mining concerns in Utah, Nevada and elsewhere in the United States. It is reported that the sale was only concluded on the definite assurance having been made that a railway would be built to the property. The new owners, it is stated, propose to spend from $12,000,000 to $15,000,000 to fully develop the property, erect smelters, etc. It is estimated that the property contains 20,000,000 tons of copper bearing ore. Hayden, Stone & Co., advised Canadian Railway and Marine World, Oct 20, that they had not bought the mine, but it is said they have an option on it.

A railway from the Hudson Bay Ry., near Pas, to the mine, would be about 70 miles long. The Canadian National Ry. officials gave the matter some consideration in March, and F. Gordon, of its engineering staff, is reported to have surveyed a line of 72 miles, the estimated cost of which is $2,000,000. Negotiations for the building of this line are reported to have been in progress, and the Premier of Manitoba is reported to have said that of the Dominion Government does not build the line the Manitoba Government will. (Oct., pg. 536).

Reid Newfoundland Co.—In an address to the electors of Newfoundland, where a general election is to take place Nov. 3, the Premier, Sir M. P. Cashin, referring to the railway contract existing between the government and the Reid Newfoundland Co., says: "It is provided by contract that the railway system of the colony shall be operated 'efficiently and continuously, and that it shall be maintained in a safe, efficient, and satisfactory manner.' It is undeniable that for years the contracts have not been kept in either particular. The difficulties naturally incident to the operation of new railways explained and excused this to a certain extent, for a few years, and surrounding conditions during the great war prolonged the period, but it is manifest that radical improvements are now essential, and earnest, vigorous efforts shall be made to bring these about. Measures for re-railing, and for providing adequate equipment, are in contemplation, and when these have been negotiated and enacted, great improvement in operation will follow. A change in the location of the main line, so as to swing it more towards Hall's Bay, and branches to Hall's Bay and around the north side of Bonavista Bay, to a port in Fogo Dis-

Stewart to Big Missouri, B.C.—A press report states that Sir Donald Mann paid a visit recently to the Big Missouri mining district of British Columbia, where he met mining and engineering experts in consultation respecting the development of the district. The report adds that it is not improbable that a railway may be built from Big Missouri to Stewart, and that construction may be started in 1920.

trict, will be undertaken. Partially constructed branch lines will be completed and extended as rapidly as financial conditions permit."

We are officially advised in connection with the press report that a railway is to be built from Port aux Basques to Curling, that it is a highway for motor traffic which is projected, not, a railway. The Reid Newfoundland Co. is in no way interested in the work. (See Newfoundland Railway Extension, Oct., pg. 536).

Timiskaming and Northern Ontario Ry.—We are officially advised that the engineering party under W. R. Maher, which left Cochrane, Ont., at the end of May, for the collection of additional information with reference to the general physical features and economic resources of the country between Cochrane and James Bay, has returned recently to Cochrane. The data, that has been obtained, is being compiled and a report will be presented to the T.&N.O.R. Commission in due course. (Sept., pg. 491).

Railway Rolling Stock Orders and Deliveries.

The Canadian Locomotive Co. has resumed operations, after a long strike of its employes.

The Anglo - Newfoundland Development Co. has ordered 16 box cars, 12 flat cars, and 1 caboose from Canadian Car & Foundry Co. Delivery of the box cars is to commence Dec. 1, and of the other cars during December.

The Cordoba Central Ry., Argentine, South America, has rdered 6 Mikado locomotives from Montreal Locomotive works. They will be 165,000 lb. total weight, 123,000 lb. on drivers, with 48 in. diar. driving wheels and 21½ x 24 in. cylinders.

The C.P.R., between Sept. 18 and Oct. 13, received the following rolling stock from its Angus shop, Montreal—11 steel baggage and express cars, 70 ft. long; 5 steel tourist cars; 97 freight refrigerator cars; 51 steel flat cars, 41 ft. long, and 3 Pacific type locomotives.

The Dorado Extension Ry., for which the Canadian Car & Foundry Co., is building, 15 car underframes, and trucks, as mentioned in our last issue, is located in Columbia, South America, with headquarters at Handa and Maraquita. The head offices are in London, Eng., and the order was placed through Bliss Dallett and Co., New York.

Canadian Car & Foundry Co., between Sept. 3 and Oct. 15, delivered 179 repaired box cars, and 136 repaired hopper cars, to the G.T.R., out of a total order for 2,500; 615 repaired cars to the Grand Trunk Pacific Ry., out of an order for 1,5500; and 1 tourist car and 185 stock cars to Canadian National Rys. It received an order from Canadian National Rys. for repairing 1 damaged baggage car.

The U.S. Commerce Department reports 69 locomotives expected from the U.S. in August, valued at $1,530,540. Of these, 7 were exported to Canada, value, $57,205; 2 to India, valued at $17,205, and 2 to South Africa, valued at $28,800. The exports also included one passenger car, and 2,888 freight cars, valued at $4,723,239; among them being 61 freight cars to Canada, $42,040; and 289 freight cars to India, $594,388.

The G.T.R. was stated in Canadian Railway and Marine World for October as having received between July 11 and Sept. 11, among other rolling stock, 44 steel frame box cars, 2 steel frame stock cars and 9 all steel mail cars from Canadian Car & Foundry Co. This information was obtained from an official source, but we are now officially advised that this equipment has not been received and was still on order on Oct. 8.

The Canadian National Rys. 9 steel mail cars, being built by Canadian Car & Foundry Co., details of which were given in Canadian Railway and Marine World for October, pg. 538, will be identical with the specifications for steel full mail cars, approved by the Board of Railway Commissioners, as published in Canadian Railway and Marine World for September, page 473. Those specifications provide that the roof may be either clerestory or turtle back type. The C.N.R. has adopted the clerestory type, with pressed steel carlines. The floor plan given in our September issue was of a 60 ft. car. The C.N.R. ones will be 73½ ft. over end sills.

The Canadian Car & Foundry Co. is reported to have orders on hand totaling $8,000,000, and is expecting to receive a considerable amount of foreign business during the next few months. It is stated that enquiries are being made for freight cars for Roumania, Bulgaria, Russia and Poland, the conclusion of such contracts being merely a matter of credits. Senator Beaubien, one of the directors, and D. P. Lamoreaux, Vice President in charge of sales, are in France, where it is hoped some large orders will be obtained, and it is also stated that orders may be placed by the Ukranian Government. A statement is reported by a leading Canadian railway man that Canadian railways will require 50,000 freight cars in the near future.

Grain Inspected at Western Points

The following figures compiled by the Dominion Bureau of Statistics shows the number of cars of grain inspected on railways at Winnipeg and other points in the western division for Sept., 1919- and 1918, respectively.

	Sept., 1919	Sept., 1918
C.P.R.	10,878	5,260
C.N.R.	7,100	4,122
G.T.P.R.	2,829	811
G.N.R. (Duluth)	130	196
Total	20,937	10,389

Railway Crossing Gates—The coroner's jury, at an inquest in Montreal on the body of Norah Ryan, who was killed by being struck by a G.T.R. train at a level crossing at Dorval, Que., Oct. 14, recommended that the Board of Railway Commissioners be asked to order railways to build crossing gates in such a way that people cannot crawl under them. The evidence showed that Miss Ryan had passed under the gates after they had been lowered to stop traffic for an oncoming train.

An English railway is painting the hand rails of its freight cars white, so that trainmen can see them more easily at night.

Canadian Pacific Railway Construction, Betterments, Etc.

Quebec Station—A press report states that in connection with some improvements about to be made in connection with the lighting of, and the sidewalks leading to the C. P. R. Palais station, the umbrella covering on the platforms will be extended for 100 ft.

Edwardsburg, Ont., Spur Line.—A press report states that the company is preparing plans for the constructioon of a spur line of about a mile from its Ottawa-Prescott line, to serve the Crowder's Hill district of Edwardsburg Tp., Grenville County, Ont.

Guelph, Ont., Freight Sheds—An intimation is reported to have been received by the Secretary of the Guelph, Ont., Chamber of Commerce, that it is the company's intention to demolish the present freight sheds on Woolwich St., and erect new and modern freight sheds on the same side and that the work will be gone on with next spring.

Galt-Woodstock Automatic Block Signals.—Work is reported to be in progress on an extension of the installation of automatic block signals on the main line between Toronto and Detroit. This system of signals has already been installed between Toronto and Galt, 57 miles, and the section on which work is now in progress extends from Galt to Woodstock, 30.6 miles. The work on the 11 miles from Galt to Ayr, is reported to have been completed. The system is described as the normal clear automatic electric signals of the General Railway Signal Co's absolute permissive block type.

Rossburn Subdivision.— The Board of Railway Commissioners has authorized the company to carry its line across the Canadian Northern Ry. at mileage 0.02 Rossburn Subdivision, Man., in sec. 10, Tp. 21, Range 28, west 1st. principal meridian.

Leader to Cantaur, Sask.—We are officially advised, in connection with the reported construction of a line from Leader to Cantaur, Sask., that a contract has been let to the John Stewart Construction Co., for grading 25 miles southerly from Leader, and that the work is in progress.

The extension of this line to connect with the Empress Subdivision, we are advised, is not at present under consideration, but may be taken into account when the 1920 construction programme is being arranged.

Vancouver Ferry Slip—The Board of Railway Commissioners on Oct. 3, authorized the building of a construction truss 3 track ferry slip, with moving leaf on the south shore of Burrard Inlet, Vancouver, B.C. As stated in Canadian Railway and Marine World for March, we were officially advised that the company had decided to proceed with the erection of a new ferry slip at Vancouver, being the first part of a complete plan for the development of the company's marine interests, recommended by a special committee of officials which had had the whole matter under consideration. In July work was reported to be in progress in the way of making test borings for foundation work. (Oct., pg. [illegible])

The National Association of Railway & Utilities Commissioners, in annual convention at Indianapolis recently, passed a resolution urging the return of United States railways to private ownership not later than Dec. 31.

Traffic Orders by Board of Railway Commissioners.

Quebec, Montreal and Southern Ry. Passenger Fares.

28,857, Oct. 3. Re application of Quebec, Montreal & Southern Ry. for permission to increase, from 3.45c to 4c a mile, the rate shown in its tariff C.R.C. 262, as its standard passenger fare between all stations on its railway in Canada, upon hearing the application at Montreal, Jan. 16, 1919, the City of Sorel, the applicant company, and certain parishes along the railway being represented, it is ordered that the company be authorized to increase its standard maximum passenger fare from 3.45c, as shown in its standard passenger tariff, C.R.C. 262, effective Mar. 15, 1918, to 4c a mile; the increased fare herein authorized not to become effective until the company has complied with the requirements of sec. 334 of the Railway Act, 1919.

28,855, Oct. 7. Re application of Quebec, Montreal & Southern Ry., under sec. 334 of the Railway Act, 1919, for approval of its standard maximum passenger tariff, C.R.C. 274, effective Oct. 19, 1919; the said tariff having been filed on the basis permitted by the board in its order 28,837, it is ordered that it be approved, subject to compliance with the requirements of sec. 334 of the Railway Act, 1919.

Interswitching Charges West of Lake Superior.

28,854, Oct. 3. Re order 26,671, Oct. 22, 1917, made upon complaint of Premier Coal Co., Alberta Block Coal Co., and Midland Collieries, disallowing tolls published and filed by the Canadian Northern, Canadian Pacific, and Grand Trunk Pacific Railways, for switching, west of Lake Superior, freight traffic on which the said companies, respectively, had received, or were to receive, a line haul, the said tolls having been charged because the switch movement exceeded in distance 1,000 ft, and re application of C.P.R. for an order rescinding order 26,671, upon reading the submissions filed, and the report and recommendation of the board's Chief Traffic Officer, it is ordered that carriers operating west of Lake Superior, which may be called upon to perform, on long sidings, or spurs, the additional terminal service of switching, by locomotive power, freight which, in the same cars, has been, or is to be, line-hauled by the switching carrier, or a connecting carrier, may, on lawful publication thereof, charge and collect for the said switch movement from or to the entrance to the said siding, or spur, not more than the following tolls in addition to other tolls lawfully chargeable, viz.:

If the distance is over 1,000 ft. and not over 2,000 ft.	$1.00 a car
If the distance is over 2,000 ft. and not over 4,000 ft.	1.50 a car
If the distance is over 4,000 ft. and not over 2 miles	2.00 a car
And for each additional mile or fraction of a mile	.50 a car

The judgment on which the above order was based was given by Commissioner Goodeve as follows: As pointed out in the memorandum of the Chief Commissioner, dated Dec. 17, 1917, order 26,671 was issued in accordance with the judgment of myself, concurred in by him, based on the evidence as submitted at the hearing in July, 1916, at Calgary. The C.P.R. asked for a hearing in Ottawa in the last week of Nov., 1917. The board, at the time, declined to list the case for hearing, the company having been given an opportunity to file a statement showing the practices which in fact apply in connection with other private sidings, and at the coal mines. The company filed its memorandum covering these points, dated at Winnipeg, Nov. 23, 1917. On receipt of this memorandum the whole matter was referred to the board's Chief Traffic Officer, J. Hardwell, to make a careful study of the whole situation and submit his report to the board in light of the above information, as well as previous evidence in the case. Following this direction, Mr. Hardwell made a carefully considered report on Dec. 5, 1917, in which he recommended for adoption a revised basing scale. Copies of this report, together with copies of the memorandum submitted by the C.P.R., were sent to the different industries affected for their consideration, and they were directed to make any submissions they might desire in writing to the board. After these submissions had been received, the Chief Traffic Officer made another report on July 31, 1919, dealing with the various points raised in the several submissions, and confirming the recommendations made in his original report of Dec. 5, 1917.

In the tariffs disallowed by order 26,671, the rate provided for switching cars on private sidings, or spurs, was as follows: For distances up to 1,000 ft., no charge was made; for distances over 1,000 ft., and not exceeding 2 miles, an additional charge of $2 a car was made; and for distances for over 2 miles, 50c a mile or fraction of a mile was added to the 2 mile charge of $2. Distances were reckoned from the head block, where the spur leaves the yard lead within the radius of customary switching operations.

Mr. Hardwell's recommendation was as follows: "From the entrance to the spur, 1,000 ft., free, as now; over 1,000 ft. and not over 2,000 ft., $1 a car; over 2,000 ft. and not over 4,000 ft, $1.50 a car; over 4,000 ft. and not over 2 miles, $2 a car. This would break up the present first chargeable block into three parts. Each mile, or fraction of a mile, over 2 miles, 50c a car in addition to the charge of $2 as at present. If the spur begins outside of the customary switching area, or beyond the yard limit, I propose the assumption that the connection was a voluntary one on the railway company's part in the interest of traffic, and that no further charge ought therefore to be made; in other words, that the reckoning should be from the head-block of the spur in all existing cases, and that for the present purpose all existing connections be assumed to be voluntary. Further, that should the board require a main line to be cut in the future for private spur construction against the railway company's objections, it should, at the same time, prescribe the extra switching toll, if any, to be charged. There are instances where the locomotive's work ceases at the entrance to the spur, the car proceeding thence by gravity to the plant, where it is blocked, and again from the plant to the main line or lead at the other end. In such instances, of course, no charge should be assessed for unperformed service."

A consideration of the data that has been submitted since the hearing in Calgary upon which my judgment was based, and the board's order issued, has led me to the conclusion that the board would now be justified in fixing a limit for free switching and providing a rate basis for switching beyond that limit. I think the rates and conditions as set forth in Mr. Hardwell's report are fair and reasonable, and should be adopted by the board. Order to go accordingly.

Commissioner Boyce gave the following judgment: "I agree that Mr. Hardwell's original report as confirmed by the judgment of the ex-Chief Commissioner of Dec. 17, 1917, should, with his subsequent memorandum of July 31, 1919, be accepted as the board's judgment and be communicated to the parties accordingly."

Commissioner Rutherford concurred.

Express Classification of Ice Cream.

28,883, Oct. 9. Re application of Canadian Association of Ice Cream Manufacturers, for a reduction in the express classification of ice cream from the 1st class to the 2nd class. Upon hearing the matter at Toronto, Feb. 5, 1919, and in Ottawa, Mar. 19, 1919, the applicants, the Express Traffic Association of Canada, the Canadian Manufacturers' Association, and the Montreal and Toronto Boards of Trade being represented and what was alleged, and upon reading the written submissions filed, it is ordered that the application be dismissed.

Commodity Rates on Canned Goods in Carloads.

28,894, Oct. 14. Re complaints of the Dominion Canners, Ltd., Hamilton; Canadian Canners, Ltd., Toronto; Quality Canners of Canada, Ltd., Windsor; Frankford Canning Co., Trenton; Oshawa Canning Co., Oshawa; Northport Canning Factory, Northport; John W. Hyatt & Sons, Picton; Ingersoll Canning & Preserving Company, Ingersoll; E. D. Smith & Sons, Winona; Canadian Wholesale Grocers' Association, Toronto; Montreal Wholesale Grocers' Guild, Montreal, and Quebec Wholesale Grocers' Guild, Quebec, against proposed cancellation by railway companies of special commodity rates on canned goods in carloads. Upon reading what has been filed on behalf of the complainants and the railway companies, it is ordered that the following schedules be suspended, pending a hearing of the matter on a date to be fixed by the board, namely: C.P.R. Supplement 5 to tariff C.R.C., no. E-3391; G.T.R Supplement 2 to tariff C.R.C., no. E-4012; Canadian National Rys. Supplement 6 to C.N.R. tariff C.R.C., no. E-1119; Michigan Central Rd. Supplement 4 to tariff C.R.C. no. 2890; Toronto, Hamilton & Buffalo Ry. Supplement 5 to tariff C.R.C., no. 1202; Pere Marquette Rd., item 55-A, Supplement 8, to tariff C.R.C., no. 2260.

Rates on Agricultural Lime or Stone Dust.

28,906, Oct. 11. Re application of the Henderson Farmers' Lime Ltd., of Woodstock, Ont., for suspension of proposed increase in rates on agricultural lime or stone dust from Kirkfield, Ont., and re order 28,073, Feb. 5, 1919, suspending G.T.R., Supplement 16, to Tariff C.R.C. no. E-4024, and the cancellation of item 195 in C.P.R. Supplement 14 to Tariff C.R.C. no. E-3551; upon hearing the matter at Toronto, June 5, 1919, and in Ottawa, July 8, 1919, the complainant company, Crushed Stone, Ltd., Ontario Agricultural College, Canadian Manufacturers' Association, Grand Trunk and Canadian Pacific Railways, and Toronto Board of Trade, being represented, and what was alleged; and upon reading the written submissions filed, it is ordered that the G.T.R. Supplement 16 to Tariff C.R.C., no. E-4024, and the cancellation of item 195 in C.P.R. Supplement 14 to Tariff C.R.C., no. E-3551, be disallowed.

Chatham, Wallaceburg and Lake Erie Ry. Freight Tariff.

28,915, Oct. 18. Re application of Chatham, Wallaceburg & Lake Erie Ry., under section 330 of the Railway Act, 1919, for approval of its standard freight tariff C.R.C. 576, effective Nov. 8, 1919; upon the report and recommendation of the board's Chief Traffic Officer, it is ordered that the said tariff be approved, together with a copy of this order, to be published in at least two consecutive weekly issues of The Canada Gazette.

Grand Trunk Railway Construction, Betterments, Etc.

Prescott Coal Dock—We are officially advised in connection with the reported laying out of a coal terminal dock at Prescott, Ont., with car ferry connection to Ogdensburg, Ont., that the matter has been under consideration, that is being held in abeyance.

London Reclamation Yard—A press report states that the company will establish a reclamation yard at London, Ont., just each of Egerton St., between the main line and the Stratford line. From the latter line a spur will be run into the site. Scrap of all kinds will be taken to this yard from all parts of the Western Ontario lines, sorted, broken up and otherwise dealt with. The nearest reclamation yard at present on the company's lines is at Montreal.

Windsor Tracks—A Windsor, Ont., press report states that the question of the removal of the G.T.R. tracks from the river front to the other side of the city will be pressed upon the consideration of the management as soon as possible after the company's property has been transferred to the Dominion Government.

Palgrave Station—The Board of Railway Commissioners has approved of location and detail plans for a new station at Palgrave, Ont., on the Hamilton-Allandale line.

Gravenhurst Station—We are officially advised that the company is building an improved passenger station at Gravenhurst, Ont. The entire work, with the exception of the terrazzo floor, is being done by the company's own staff, the interior finish and seating being prepared in the company's shops at London, Ont. The building is 68 ft. long by 25 ft. deep for the main structure, and 15 ft. for the baggage room addition. The roof has an overhang f 7 ft. all round, and there is a covered shelter 16 x 15 ft. at the end of the baggage room. A paved sidewalk leads to the main entrance porch at the roadway front of the building. This opens into the main waiting room 46 ft. 8 in. x 20 ft., of which are in women's waiting and retiring rooms, men's waiting room and lavatory, and station agent's office. A section of the latter office is set apart for the conductors, entrance being obtained from the platform. The baggage room is 15 ft. x 14 ft. 4 in., the entrance to it being under the covered shelter.

The foundations are of concrete, with a brick wall to the sill line, and the superstructure is of frame, with lap siding above that point. The roof is covered with green asphalt fireproof shingles. The floors of the main waiting room, men's room and lavatries, are of terrazzo flooring, and of the baggage room is of ⅞ in. maple. The interior walls and ceilings are finished with 2 coals of plaster with stucco finish, the ceiling angles being coved. There is a 5 ft. wainscot around the interior walls, panelled with flat wood strips and cap above the baseboard. The interior walls and ceiling of the baggage room are sheeted with 2-8 in. grooved, tongued and varnished lumber. A basement has been provided under the center section of the main waiting room, office and ladies' waiting room, to which access is gained by a stair from the agent's office. The building is to be heated with hot air, and space has been reserved in the basement under the office for the storage of fuel, which will be placed in the basement by means of a coal chute and manhole on the platform. The ashes will be removed from the heating plant at the rear of the basement. The plumbing is connected to a septic tank at the rear of the building. (Oct., pg. 536).

Grain in Store at Terminal Elevators, Interior Terminal Elevators and Public Elevators in the East.

Week ended Oct. 3, 1919.	Wheat. Bush.	Oats. Bush.	Barley. Bush.	Flax. Bush.	Rye. Bush.	Totals. Bush.
Fort William—						
C.P.R.	309,720	54,228	64,938	174	45,000	474,606
Empire Elevator Co.	180,245	19,606	8,060	4,821	12,011	254,743
Consolidated Elevator Co.	361,434	20,981	20,710	10,413	18,740	432,278
Ogilvie Flour Mills Co.	178,627	20,444	36,569	......	31,081	266,721
Western Terminal Elevator Co.	212,944	27,351	12,607	8,353	2,598	263,853
G. T. Pacific	300,240	125,590	15,621	7,564	10,487	459,502
Grain Growers' Grain Co.	415,020	142,934	117,664	......	78,503	754,121
Fort William Elevator Co.	99,624	149,903	20,175	4,993	17,163	291,858
Eastern Terminal Elevator Co.	7,569	13,194	1	......		20,764
Northwestern Elevator Co.	198,840	59,076	46,293	23	9,066	313,298
Port Arthur—						
*Port Arthur Elevator Co.	476,693	175,123	71,936	27	48,924	772,703
Sask. Co-op. Elevator Co.	174,914	80,784	16,947	11,198	5,175	289,018
Canadian Government Elevator	54,894	54,629	15,355	8,216	8,992	142,086
Canadian a/c Imperial Government				62		62
Thunder Bay	211,055	182,706	23,536	1,530	10,793	429,620
Davidson and Smith	57,000	85,643	38,243	....	6,007	186,893
Eastern-Richardson	76,819	34,520	1,418	71	13,989	126,817
Vancouver Can. Gov't. Elevator	2,162	21,192				23,354
	3,950,800	1,297,904	510,073	57,445	318,529	6,134,751
Saskatoon Can. Gov't. Elevator	3,894	19,898	1,538			25,330
Moose Jaw Can. Gov't. Elevator	16,631	47,204	6,264	568	x5,671 1,270	77,608
Calgary Can. Gov't. Elevator	9,312	17,733	7,193	113	x1,000 3,020	38,371
Total Interior Terminal Elevators	29,837	84,835	14,995	681	10,961	141,309
Midland—						
Aberdeen Elevator Co.	187,751	10,020				197,771
Midland Elevator Co.	54,460	164,904				219,364
Tiffin, G.T.P.	298,143					298,143
Port McNicoll	386,786	45,501	9,969			442,256
Goderich—						
Elevator and Transit Co.	460,748	112,530				573,278
Toronto—						
Campbell Flour Mills Co.	59,018	25,125	1,266			85,409
Port Colborne—						
Maple Leaf Milling Co., Ltd.	121,657					121,657
Montreal—						
Harbor Commissioners No. 1	316,264	312,676	520,242		14,343	1,163,525
Harbor Commissioners No. 2	614,961	235,213	255,513		50,857	1,156,544
Montreal Warehousing Co.	872,977	44,332	114,774			1,032,083
Ogilvie Flour Mills Co.	118,362		6,483			124,845
Quebec Harbor Commissioners	71,888	21,572				93,460
West St. John, N.B., C.P.R.	19,321					19,321
Halifax, N.S.	51,199					51,199
Total Public Elevators	4,263,535	971,873	908,247		65,200	6,208,855
Total Quantity in Store	8,244,172	2,354,612	1,433,315	58,126	394,690	12,484,915

*Overshipped. xCorn.

Electric Railway Fare Increases in United States.

The New York State Second District Public Service Commission has authorized the International Ry., Buffalo, to increase fares on Nov. 1. The order will permit the company to sell through conductors on the cars 4 tickets for 25c, or to charge 7c for a single cash fare. The present rate in Buffalo is 5c.

Up to date of writing, 389 cities in the United States, having 55% of the urban population, are paying increased rates. Of this total 29 cities are paying a 10c fare; 19 an 8c fare; 100 a 7c fare; 17 of which pay an additional cent for each transfer, and 164 are paying a 6c fare. Fares in the majority of the other cities have been increased, either by a reduction in the length of zones, the adoption of a zone system, the abolition of reduced rate tickets, or a charge for transfers.

Under the service at cost street railway franchise settlement agreed upon recently in Minneapolis, Minn. (subject to referendum vote in December), the city has the option of buying the Twin City Rapid Transit Co.'s property at stated intervals. The valuation fixed for purchase and rate purposes is $24,000,000 as of Jan. 1, 1919, against nearly $26,000,000 as of Jan. 1, 1916, estimated by the city engineer, and nearly $[illegible],000,000 claimed by the company formerly. The company is to be allowed a 7% return on the valuation. The initial fare will be 5c, with variations of 1c, up or down, with rises or declines in earnings. The city council will have control over capital increases and purchases. A reserve fund must be created for repairs, maintenance, renewals and depreciation. A street railway supervisor will be appointed by the city council.

Electric Railway Department

Quebec Public Utilities Commission's Judgment on Increased Fares for Montreal Tramways Co.

The Quebec Public Utilities Commission gave judgment, Oct. 14, on the appeals of the Montreal Tramways Co., and of the city and other municipalities interested against the Montreal Tramways Commission's decision of Aug. 29, fixing the fares to be charged by the company for the current year. The judgment follows:—Under the contract between the City of Montreal and the Montreal Tramways Co., dated June 28, 1918, provision is made for the operation of the tramways system serving the City of Montreal and neighboring municipalities upon the basis or principle which may be fairly described as service at cost. To control the operations of the company and adjust all matters between the company and the public, the contract provides for the appointment of the Tramways Commission. Roughly speaking, it is the duty of this commission to make each year an allowance to cover all expense connected with the operation and upkeep of the system, the expense to be allowed at a fixed rate per car mile for motor cars operating under their own power and a separate allowance for trailers; the allowance being divided into the two items roughly described as operating cost and cost of maintenance and renewals. It is further provided that in practically all matters of importance an appeal will lie from the decision of the Tramways Commission to the Public Utilities Commission.

Approximately a year ago the Tramways Commission prepared an estimate of revenue and expenditure for the year and based upon that estimate an increase of the tariff in force at the time the contract came into effect. Its decision was appealed to this commission, and on Sept. 20, 1918, we revised its findings in some respects and made certain allowances in regard to fares which appreciably reduced those fixed by the Tramways Commission.

The year having expired the Tramways Commission has undertaken a further revision of the tariff in view of the fact that for 15 months, from Feb. 10, 1918, to June 30, 1919, during which the contract had been in force, there had accumulated a deficit of $1,364,111.74.

In order to determine upon what basis the Tramways Commission proceeded we have to examine the contract. It requires that all revenue which may be earned shall be distributed among six different funds, having preference in the order of their enumeration in the contract. The first of these is described as operating costs and taxes, the second, cost of maintenance and renewals, the third, return upon capital value invested at the rate of 6% per annum, the fourth, city rentals, the fifth, contingent reserve fund, and the sixth provides for division, of any surplus there may be. The contract is exacting in requiring that all first five of these funds shall be provided for from the rate of tolls to be fixed, and it is the business of the Tramways Commission to see that the income arising from the operation of the tramways system is sufficient to cover the requirements. The sinking fund is simply there to take care of any casual surplus that may occur, providing that such surplus shall belong to the company to the extent of 20%, to the city 30%, and to the fund for the reduction of fares, 50%.

In estimating what may be required to be allowed for each car mile, as above stated, the commission must first fix the average density of traffic per car mile, and then base its calculations accordingly. The Tramways Commission has made its estimates and allowances for the various funds according to the experience gained in the operation, as it is bound to do, fixed the density of traffic at an average of 8.4, and made an operating allowance for motor cars and similar allowance of 24.7c a revenue car mile, and of 17.4c for trailers used for the transportation of passengers, for the year ending June 30, 1920. It has also granted the company a maintenance allowance of respectively 8.54 and 7.05c a revenue car mile.

Based upon the estimates required according to this allowance, the Tramways Commission on Aug. 29, 1919, regulated the fares to be charged as follows:—

(a) Day Tariff: From 5 a.m. to midnight, 7c cash, or a ticket to be sold in series of 4 for 25c.

(b) Special Day Tariff: A ticket to be sold in series of 5 for 25c to be good only between 6 and 8 a.m. and 5 and 7 p.m. on week days only.

(c) The present night tariff and school children tariff to remain in force.

There is also a modification in regard to the tariff affecting the City of Lachine, but otherwise there is no change in the tariff in the various places comprised in the territory known as that outside the uniform tariff area which is fixed by the contract. Apart from this slight modification, therefore, any change that has been made affects the uniform tariff territory alone.

From this decision of the Tramways Commission an appeal has been taken to this commission by the cities of Montreal, Verdun and Westmount. The City of Lachine has also appealed, and, apart from joining the other municipalities in the matters affecting the appeal of the City of Montreal, makes a special complaint of its own. Apart from these appeals the company also appeals to us, upon several grounds, some of them concern questions of the interpretation of the contract, which the company submits are purely questions of law and yet remain to be argued. It is agreed that the appeals upon these minor questions cannot sufficiently affect the result to have any appreciable influence upon the fares to be charged. They may therefore be ignored for the present. The main appeal of the company is taken upon the ground that the Tramways Commission has not made a sufficient allowance for operating and taxes, nor a sufficient allowance for maintenance and renewals, and has not taken care, in fixing the tolls or fares, of the accumulated deficit which has been already referred to.

We may deal, first of all, with the appeal filed by the City of Montreal, and which has been joined in by the other municipalities which have appealed. At the outset of the hearing upon the appeals which was fixed for Sept. 23, the city made application for the appointment of an expert to go into the various questions involved, with the view of giving evidence and otherwise assisting the city in prosecuting its appeal. After some objection as to the matter of delay involved had been disposed of, the order then granted the city's application for the appointment of this expert and provided that he be given all possible information and facilities to prepare a report and give evidence upon the matters in issue.

The expert engaged was J. R. Bibbins, of Chicago, who appeared before us Oct. 2, and gave very interesting evidence. The sum total of his evidence was to the effect that he could not find any reasonable ground upon which to challenge the estimates prepared by the Tramways Commission. After this evidence had been presented the Chief City Attorney frankly asked that the Tramways Commission's decision be upheld. It is well here not to overlook the fact that Mr. Bibbins took the ground that in adopting various reforms in respect of the operating of the cars and the supply of power the operating expenses might be considerably reduced, but that there was no prospect of this being done in time to produce such results as would materially affect the operating expenses for the current year. This may be said to effectually dispose of the appeal filed by the City of Montreal so far as its demand for an order lowering the tariff fixed by the Tramways Commission was concerned.

We come now to deal with the appeal of the company, itself, having regard only to what may be called the major portion of its appeal, as distinct from the several questions as to interpretation of different items of the contract which have practically no bearing on the actual result as to the matter of fares. There has been produced before us a statement upon which the Tramways Commission based its finding, and which provides for all of the items included in the five different funds contained in the contract above referred to. It will be quite unnecessary to go into this statement in detail as the greater number of items therein are not challenged at all. We will deal only with those items in which there is substantial difference between the Tramways Commission and the company. The company has prepared a comparative statement of its estimate and that of the Tramways Commission so far as operating expenses and taxes are concerned. The respective totals are $5,805,773.09 for the company, and $5,684,000 for the commission; the main difference being an amount of approximately $103,500 over and above the commission's estimate for the cost of motive power. It will be pertinent here to deal, as interesting the question of this appeal, with the situation in a very general way, in regard to the supply of power. In this respect the company's installation would appear to be defective. There is no central station, and the various outlying stations are supplied from five different sources, without the means of supplementing a deficient supply in one by a surplus from another. This matter is being dealt with in what would appear to us to be a thorough and comprehensive way. Both Mr. Bibbins and ourselves give due credit to the Tramways Commission for its efforts in bringing about this reform. It is quite possible and even probable that when the work now under way has been completed there will be a substantial reduction, it may mean as much as 25% in the total cost of power which is now annually entailed.

The figures under the head of operating allowance and taxes, taking all present features into account, do not appeal to us to afford such variance between those of the company and the estimate of the Tramways Commission in what will be the likely result, as to justify us in disturbing the allowance per car mile which the Tramways Commission has made as above noted.

The next item we have to consider is that of maintenance and renewals. Here there is a very substantial challenge by the company of the estimate arrived at by the Tramways Commission in respect of renewals. The company submits a detailed statement of what it claims to have either expended or contracted for up to date with the authority of the Tramways Commission. This shows a total of $479,277.41 as against the Commission's estimate of $400,000. In addition to this difference there are other items covering discarded property, less credits, which brings the actual total, according to the company's sworn detailed statement to $648,126.11. This is not the sole difference between the company and the commission in respect of its item of maintenance and renewals, but it is the main one and the only one which is substantiated by such detail that in the absence of any proof to the contrary, makes it unquestionably acceptable.

In respect of this matter of maintenance and renewals, Mr. Bibbins was very clear and emphatic. He dwelt upon it with a good deal of insistence, comparing the respective quantities that had been done in various years from 1913 on. He took 1913 as a basic or par quantity and showed that in succeeding years considerably less had been done in varying proportions. He states, and his statement in this respect is simply an affirmation of the elementary truth, that any misplaced economy now in this respect is likely to bring serious reckoning either in the increased cost of maintenance or renewals in time to come. Under these circumstances we feel that we are not justified in allowing anything less in this matter of renewals than the total of $646,326.11, which the company has submitted and proved to us. We therefore require that the extra amount, over and above the estimate of the Tramways Commission, viz.: $248,326.11, shall be taken into account as part of the maintenance and renewals allowance and the rate per car mile altered accordingly.

The other items of difference between the Tramways Commission and the company in respect of this allowance for maintenance and renewals are not to be lightly passed over; but on the other hand we think that any actual difference that may be found to have worked out in results in the course of the year can be taken care of out of the probable revenue to be provided.

We have now to consider what has to be done in respect of the deficit of $1,364,111.74. At first view this deficit appears to be quite startling, but an examination as to how it is composed is not without some consolation. We find that of the total amount no less than $692,694.05 is made up of accrued and unpaid rental to the City of Montreal, provided for in the contract, and $115,722.01 represents the amount which should have gone into the reserve fund since the contract came into operation, and did not. We do not wish it to be inferred for one moment that these two sums are to be regarded as other than a deficit under the contract, but there is a vast difference between the total amount of the deficit and the sum in which the cost of operation and of maintenance and renewals, also the return upon the fixed capital invested has fallen short, viz.: $555,595,59 by which these three items have been exceeded. In other words, if the city was able to and did forego what is called its rental, and there were no reserve fund, the actual deficit would be approximately $500,000. There is no clear and precise provision in the contract to guide us as to what shall be done in the case of a deficit, and we have, therefore, to use our judgment and discretion in regard thereto, bearing in mind all the requirements of the contract, and the existing conditions to which it must be applied. One thing is perfectly clear from the contract, and that is it is the duty of the Tramways Commission, and subsidiarily ourselves, to see that the tolls are such as to cover at least all the first five items of section 92 of the contract, viz.: from operating expenses and taxes to reserve fund, inclusive. This duty is to be done in such a way that no undue burden will be laid upon the public, and, upon the other hand, the system will be maintained in an efficient operating condition, in other words, an efficient and reliable service at cost, as early as this can be installed.

Coming now to the matter of fares we have had to bear several considerations in mind, and it will serve better to state these briefly than at length.

That there is a total present annual expenditure, according to the Tramways Commission's estimates of $10,757,303.13, which covers all of the obligatory five items required by the contract and stated above.

That to this we have added $248,326.11 for maintenance and renewals, according to the reasons already given, making a total of $11,005,629.24.

That there is at present an outstanding deficit of $1,364,111.74, made up as above stated, of which about $550,000 is due to the company, and is a preferred charge to the city's rental or the amount payable to the reserve fund.

That while the present is a time of much uncertainty in regard to market conditions, in view of the termination of the war, and that normal industrial activity is in a fair way of being resumed, it is at least as just to suppose there will be a reduction in most commodities entering into the cost of service and upkeep of the company's system as a further increase.

That in fixing tolls, the contract only indirectly and in a contingent way provides for their reduction, while an increase can be decided upon at least each year.

That certain economies in operation are possible according to the best opinion we have been able to secure, and to a certain extent at least are now being undertaken by the Tramways Commission and the company, the result of which should commence to be effective at an early date and be increasingly appreciable as time to develop them occurs.

That fares should be so adjusted as to facilitate such economies as much as possible. In regard to this matter it was a striking point in Mr. Bibbin's evidence that the speeding up of the cars should be brought about by cutting down stops, and educating the public to board and leave the cars with as little delay as possible. It is quite obvious that the faster the circulation the less the number of cars required, and consequent economy in service. We are aware that steps in this direction have already been taken by the Tramways Commission and we would strongly urge upon its attention Mr. Bibbins' suggestions as to what may be further done in this regard, and the means of doing it.

In regard to delay in the boarding and leaving the cars it is a matter of easy observation that no little time is lost through passengers purchasing tickets, making payment, receiving change, etc. This we hope to do away with as much as possible. If we are to accept Mr. Bibbin's evidence in respect of the matter, and his reasoning in favor of lessening the peak load of traffic in the morning and evening as much as possible is clear and convincing, an elimination of anything tending to increase that load is a right and proper objective.

That fares should be so fixed and adjusted as to yield the revenue required through the public being convinced as much as possible that no more is being charged than is necessary, and avoiding hostility and economies which would diminish the traffic and nullify any increases in fares. In this connection we have been supplied with a long list of cities in which fare increases have occurred, most of them in 1918. Comparing rates in places of similar size and importance to Montreal the tariff we have adopted can by no means be considered burdensome. Also when one takes into account the capital cost involved and operating condition of the system, and the outlay in operation and maintenance are far from excessive. Having regard to all of these matters, we believe we will be consistent with the terms of the contract and do justice to the public and the company in fixing the following schedule of fares, basing our decision upon that of the Tramways Commission, which is approved or modified as in each case specified, viz.:

(a) Day Tariff: From 5 a.m. to midnight, 7c cash, or a ticket to be sold in series of 4 for 25c.

(b) Special Day Tariff: A ticket to be sold in series of 5 for 25c, to be good only between 6 and 8 a.m. and 5 and 7 p.m. on week days only.

Modified to read as follows:

"Day Tariff: From 5 a.m. to midnight, 7c cash, or a ticket to be sold in a series of 5 for 30c, or a ticket to be sold in a series of 44 for $2.50, the former series to be purchasable either at the company's offices or such other places as it or the Tramways Commission may fix, or on the cars, the latter to be purchasable only at the company's offices or such places as it or the Tramways Commission may fix and alter from time to time."

(c) The present night tariff and school children's tariff shall remain in force.

Approved, as well as the remaining provisions of the decision of the Tramways Commission relating to the tariff.

As no mention is made of transfers in the decision before us, we think it better, in view of article 77 of the contract, to affirm that transfers shall be issued free upon the payment of any fare, and as at present. However, should there be a grave abuse in the use of transfers we desire to reserve to the Tramways Commission all possible authority under the contract to deal therewith. This portion of our judgment is, therefore, not to be considered binding upon the Tramways Commission to the extent indicated, subject, of course, to the right of appeal as to any regulations that commission may authorize.

The new schedule of fares became operative Oct. 26.

British Columbia Electric Railway and its Fares Claimed to Be Under Dominion, Not Provincial, Jurisdiction.

The enquiry by the British Columbia Public Utilities Commissioner, J. L. Retallack, into the question of whether fares on the B.C.E.R. lines in Vancouver should remain at 6c, as authorized by the B.C. Legislature last session, until such time as the Commissioner should fix a rate, was suspended Oct. 14, when the commissioner adjourned further hearing on the ground of possible lack of jurisdiction, making the following statement:

"The last hearing of this case was held on Oct. 1, and was adjourned to Oct. 6. On Oct. 4 I postponed the hearing which was to have been held Oct. 6, until today without giving a reason. As this enquiry is being held in the interest of the public in its broadest sense, including both the B.C.E.R. and such of the people of the province as are directly affected, and as these hearings are public, thus affording a means whereby this commission can properly make a public announcement, I considered it necessary to postpone the hearing, which was to have been held Oct. 6, until today, and thus to describe for the public information, what makes at least a further indefinite postponement advisable and what may nullify certain proceedings of this commission in this particular case which have taken place.

"On Oct. 4, Geo. Kidd, General Manager, B.C.E.R., called on me and asked if I was informed as to certain amendments of the Dominion Railway Act this year, and particularly directing my attention to the sub-section 21 of section 2, which defines 'railway,' and sec. 6, which is as follows:

"'The provisions of this act shall, without limiting the effect of the last preceding section, extend and apply to

"'(a) Every railway company incorporated elsewhere than in Canada, and owning, controlling, operating or running trains or rolling stock upon or over any line or lines of railway in Canada either owned, controlled, leased or operated by such company or companies whether in either case such ownership, control or operation is acquired by purchase, lease, agreement or by any other means whatsoever;

"'(b) Every railway company operating or running trains from any point in the United States to any point in Canada;

"'(c) Every railway or portion thereof, whether constructed under the authority of the Parliament of Canada or not, now or hereafter owned, controlled, leased or operated by a company, wholly, or partly within the legislative authority of the Parliament of Canada, or by a company operating a railway wholly or partly within the legislative authority of the Parliament of Canada, whether such ownership, control, or first mentioned operation is acquired or exercised by purchase, lease, agreement or other means whatsoever, and whether acquired or exercised under authority of the Parliament of Canada, or of the legislature of any province, or otherwise, howsoever; and every railway or portion thereof, now or hereafter so owned, controlled, leased or operated shall be deemed and is hereby declared to be a work for the general advantage of Canada.'

"For the benefit of the public, I will say that the last sentence of the section, viz., 'declared to be a work for the general advantage of Canada,' has a special significance, because under the British North America Act works which before or after their execution are declared by the Parliament of Canada to be for the general advantage of Canada are removed from the provincial jurisdiction. Reading this section with such knowledge as having before me evidence that the B.C.E.R. Co. was not incorporated in Canada and that certain portions of its lines are under Dominion jurisdiction, I at once decided to postpone further proceedings pending being able to obtain the opinion of the law officers of the crown."

Hydro Electric Railway Projects in Ontario.

Progress is reported as being made in connection with the various electric railway projects to be built under the Hydro Electric Power Commission of Ontario's auspices. The first construction will, it is said, be first on the western lines out of Toronto, viz.: to Hamilton and Niagara peninsula, and to Guelph and London, for both of which the line from Toronto to Port Credit will be common. The Toronto City Council has passed a resolution assuming its share of the cost of these lines, in the four municipalities where the bylaws were defeated—the estimated additional cost to Toronto being approximately $400,000. It was also decided to ask the commission to proceed with the Toronto-Guelph-London line forthwith. The route running into the city from the west is reported to be roughly as follows:—From the Humber easterly along an elevated way just south of the G.T.R. elevated tracks; from Sunnyside easterly on a right of way paralleling the G.T.R., but perhaps on a different level as far as the western boundary of Exhibition Park; likely under that park via a subway; emerging near Strachan Ave., and thence on harbor commission property to near Bathurst St.; thereafter on an elevated structure along the harbor commission's marginal way to the terminal near the foot of Yonge St.

The Hamilton City Council on Oct. 7, passed a resolution asking the commission to proceed with the St. Catharines portion of the line concurrently with the building of the Toronto-Port Credit section of the line to London. The chairman of the Hamilton Hydro Commission is reported to have said Oct. 10, that the preliminaries for construction were proceeding satisfactorily, and that a start will be made this year.

A press report states that the Hydro Electric Power Commission is considering the proposal to acquire the Dominion Power and Transmission Co.'s electric lines in and around Hamilton, in connection with the project for connecting up Hamilton with the Toronto-London line at Guelph. Another press report stated that a valuation was being made of the company's property with this object in view. Surveys are reported to have been completed for the new lines proposed in this connection, and bylaws have been prepared to be sent on for consideration of city, town and other municipalities interested, the object being to have them voted on at the municipal elections in January. No details have been made public up to the time of writing, as to the route, or the estimated cost to the several municipalities. The line, it is stated, will serve Dundas, Galt, Preston, Guelph, Kitchener and Elmira.

In connection with the project for a line from Toronto easterly, it is reported that the entrance into Toronto will be by a north and south line in the vicinity of Morley Ave., and that the traffic will be taken down to the water front in the vicinity of the union station. Sir Adam Beck has addressed meetings at Whitby, Oshawa, and other points in support of the project, which involves the purchase from the Canadian National Rys. of the unfinished Toronto Eastern Ry. A bylaw favoring this purchase was passed by Pickering Tp. ratepayers, Oct. 12, by 473 to 34. Scarboro Tp. ratepayers will vote on the question Nov. 22, and it is expected that the bylaw as to the whole project, will be voted upon by Toronto and other municipalities at the municipal elections in January, 1920.

It was announced Oct. 15 that application had been made by the Hydro Electric Power Commission to the Ontario Government for the passage of two orders in council, one to authorize the submission of estimates and agreements covering the construction and operation of an electric railway to link up Hamilton, Galt, Preston, Hespeler, Guelph, Kitchener, Waterloo and Elmira; the other to authorize the submitting of an agreement covering the purchase of the Sandwich, Windsor and Amherstburg Ry., and the Windsor & Tecumseh Electric Ry., including the acquiring and operating of the electric distribution systems of Windsor and Sandwich.

The British Columbia Electric Ry. has experienced some trouble recently on its high tension wires from Lake Buntzen power plant. On Sept. 30, the power was off for 25 minutes and shortly afterwards for half an hour before the steam plant could be got into working order. It is said that during the many weeks of dry weather, the insulators on the poles carrying the 34,000 volt lines become covered with a coating of soot, ash and fine dust, presumably from the mills along False Creek. Then when rain fell, this moist accumulation caused short circuits in the lines, in many cases setting fire to the poles. This occurred on Sept. 30, at various points on the lines. Linemen were immediately sent out to locate the trouble, but the physical work of setting up the lines again required time, and there was no assurance that other short circuits might not occur.

The Regina, Sask., City Council, on Oct. 7, refused to carry or reject a bylaw to permit the operation of one-man cars on the Regina Municipal Ry., but adopted an amendment to allow the bylaw to remain on the agenda paper for future meetings.

Winnipeg Electric Railway Authorized to Increase Fares Temporarily.

P. A. Macdonald, Manitoba Public Utilities Commissioner, issued an order, Oct. 3, authorizing the Winnipeg Electric Ry. to charge a 6c fare temporarily, pending the conclusion of the hearing of its application for a permanent increase in fares. The order was as follows:

"This application asked for an increase in fares to provide revenue to meet $302,000, being the amount required to meet one year's increase in wages recommended by the finding of the conciliation board, known as the Mathers award $66,000 of this sum required was to meet a situation created by the fact that the award referred to recommends that the increase should date back to June 26 last, while $107,600 is the sum claimed to be in excess of operating costs and overhead charges over revenue, in the company's operations during the nine months beginning Nov. 1, 1918.

"The application is a special one made during the pendency of a major application by the company for a permanent increase in fares to meet conditions which, it is claimed, have so changed since the date of the contract between the city and the company that the company is not now able to secure a fair return on its investment. This major application involves an elaborate investigation into the company's affairs, and will not be determined probably until the end of the year. Meantime expenditures in wages over and above what have to be provided under the existing scales will have to be met and the company claims it has no means to meet these increases without additional revenue.

"Now considering the three items in the claim, there is a difference in principle between the first and remaining two items. The item $107,000 is for a deficit over nine months, and will be fully examined in the major application, and until it is the commission cannot accept it as proven. In that application it will be fully investigated, as will also the question whether the loss already incurred can be made good by fares to be collected in the future. The item $66,000 for back pay is one that is impossible to fully provide for in this application. This sum is overdue and the company must find means of furnishing it. When its general deficit is increased to that extent, all benefit that the company is entitled to will be provided in the major application. The Mathers award affects the payroll of the company approximately $287,650, and this sum will be the total amount that is in issue in this emergency application. Counsel for the city strongly opposed the application, the usual objection being taken to the appointment of the Utilities Commission, and that the commission has no power to act to vary the contract. These questions are not new and with this application the commission will follow the course adopted of overruling the objections.

"Counsel claimed that other means to overcome the situation should be adopted. It was suggested that more capital should be obtained, that the shareholders should reorganize by surrendering portion of their holdings, that the bondholders should be treated as shareholders and their interest made use of. These questions, together with the question of excessive capitalization, watered stock and large dividends paid in the past, the prices charged for power, and non paying sections, are all more or less interested in the major application, and this commission is not passing judgment on them now.

"This application is analagous to the special application made by the company for an emergency increase for the price of gas to meet the increase in the price of coal in 1918. The application asked for an increase in order that the company might give its shareholders a fair return upon their investment in the gas industry. It was just such an application as is before me at present for an increase in rates on street cars, to provide a fair return on the investment in the street railway department of the company's business, which application is referred to herein as the major application.

"To arrive in a judgment in the gas matter, time was required to investigate the whole of the activities of the company, but there was a sudden jump in the price of coal of 50%, and it was evident that gas could not be supplied under the new conditions at the price then current. Without considering any other question other than what the increase in the price of coal would mean in additional operating costs, an order was made raising the rate to a figure that would make provision for that increase. So in this matter the commission leaves all other questions to be dealt with on the major application and deals only with the amount that will be required to provide for the increase of wages, the additional fare that will be required to meet it and the necessity for an emergent order.

"As justifying it in making a special request at this time, the company submits all its receipts and disbursements for the last nine months. These statements show that without providing any interest on capital investment there has been a deficit of $107,000. This commission does not accept these figures as proven, but considering, with the knowledge that the commission has, of the financial condition of the company for the last three years, during which no dividends have been paid, while different applications for increased mileage have been denied because of the company's financial inability, and while it is common knowledge that similar conditions prevail in street railway enterprises all over the continent, this commission accepts, as a fact, for the purpose of this application only, the statement that the company is not in a position to meet from its earnings the increased amount required to meet the demands of the Mathers award.

"The commission is of the opinion that the company's financial position justifies it in making this application, and that relief is necessary to protect the investment from serious loss. The amount to be provided for is in the neighborhood of $290,000 and I make the following order: Car fares, 6c; 55 tickets for 30c; 9 tickets for 50c; workmen's tickets—conditions as at present—5 for 25c; school children's tickets remain as at present. This to remain until an order upon the major application is made."

The order was also made applicable to the City of St. Boniface, and all other municipalities affected by the fares charged in Winnipeg.

The company proceeded to put the order into effect on Oct. 4, but was not enabled to continue to collect the increased fares throughout the day, as acting on the city council's instruction, the city solicitor made an application to the courts for an injunction prohibiting the company from acting on the order. An interim injunction was granted by Justice Macdonald, who before granting it asked if the city would undertake to make good any loss that might be occasioned to the company by its not being able to charge the extra fare, if the Public Commissioner's decision was upheld by the courts. The required promise was given, and was incorporated in the order of temporary injunction. In obedience to this temporary injunction the company at once reverted to the fares in effect prior to Oct. 4.

On Oct. 8, Justice Galt dissolved the temporary injunction. He held that the agreement between the city and the company was very old and had been confirmed on two occasions by the Manitoba Legislature. Under the Public Utilities Act, the Commissioner was authorized to entertain questions arising out of the operation of tramway companies and the Commissioner appeared to have been given the jurisdiction to adjust all rates, either by decreasing or increasing them, as he found reasonable and fair. Dealing with the question of the validity of the act, he said that he was bound to consider the Court of Appeal's decision which was peculiar, as two judges had held one view and the other two the opposite. The appeal against the act on that occasion, had been dismissed. For this reason, he must assume that the act had been recognized as being valid. He was bound by that decision, and the only question left for him to decide was whether the Public Utilities Commissioner was or was not acting within the jurisdiction of the act when he made his award. Under these circumstances, it having been shown by the defence that the Commissioner was within his jurisdiction under the act in making the award, the present injunction could not be considered.

A. W. McLimont, Vice President and General Manager, then issued the following statement: "In view of the decision dissolving the injunction against our continuing in effect the rates of fare provided by interim order of the Public Utilities Commission, which went into effect Oct. 4, and it having been held by Justice Galt that the Commissioner had jurisdiction to make the order increasing fares, we will re-establish the new rates forthwith. I regret the inconvenience caused the public by the recent charges in fares, but they will realize that these changes were caused by conditions over which we had no control."

The city then carried the case to the Court of Appeals, and on Oct. 17, Chief Justice Perdue reserved judgment on the appeal.

The Winnipeg Electric Ry. is stated by a press report to have entered suit against the city for unstated damages, due to the opposition of the city council to its putting a 6c fare into operation. As stated above, the city obtained an injunction, which was dissolved after five days, preventing the company collecting a 6c fare authorized by a temporary order of the Public Utilities Commissioner. The loss sustained during these five days will probably be the extent of the damages claimed.

The Public Utilities Commissioner is proceeding with his investigation into the company's affairs in connection with its application to a permanent increase of fares. The most important part of these proceedings is the making of a valuation of the company's property and assets.

Sherbrooke Railway & Power Co.'s New Agreement With City.

Some time ago a committee of citizens, consisting of the mayor, two ex-mayors, an alderman, an ex-alderman, the City Attorney and the Vice President of the Board of Trade, was appointed in Sherbrooke, Que., to investigate conditions arising under the contract between the city and the Sherbrooke Ry. & Power Co., the company having stated that, unless concessions were made by the city, the operation of the line would have to be discontinued. As a result of the committee's report a bylaw was submitted to the ratepayers on Sept. 15 and was carried by 852 to 339, every ward giving a majority for it. Its principal provisions are as follows:

The following changes were made in fares:

	New	Old
From 6 a.m. to midnight cash	8c	5c
Tickets	4 for 25c	6 for 25c
Children under 14, cash..........	4c	....
Children under 14, tickets ...	8 for 25c	10 for 25c
From midnight to 6 a.m. cash	15c	10c

The limited tickets good from 6 to 7 a.m., 12 noon to 1.15 p.m., and 6 to 7 p.m., which were sold 8 for 25c, have been abolished. Transfers continue to be given free. The new fares are to remain in effect for a year, from the passing of the bylaw, and thereafter to be subject to revision at the request of either the company or the city. In case of disagreement the fares are to be fixed by the Quebec Public Utilities Commission.

The company is to extend its lines on the following streets. Starting from Aberdeen St., along Alexander, Galt, Belvedere, Short, and Drummond Sts. to Pacific St. This extension to be commenced immediately, and put in operation within six months; the company to make such additional extensions as may be agreed on from time to time between it and the city. The company to double track its line from Strathcona Square, along Wellington St. to King St., and for at least 200 ft. east on King St.

The company to raise its rails to the grade required by the city and to do all work necessary to make the lines correspond to the proposed pavement; the cost of the pavement to be paid by the city and the company to reimburse it in 5 equal annual payments with interest for the amount by which the cost of paving any street may have been under the street, between the rails and for 1½ ft. on the outside of each rail, to be done by the city, from specifications and plans to be furnished by the company. Under the previous bylaw the company had to pay the cost of this work. The company is relieved from any part of the expense of bridge planking, or other surfacing if used, for 5 years. The company is relieved of the cost of snow removal for 5 years.

The Sydney Mines, N.S., Trades and Labor Council recently criticized the p.a.y.e. cars, introduced by the Cape Breton Electric Co. Manager Curtis, in reply pointed out that the new system of collecting fares has the most advantages and the fewest disadvantages of any the company could work out.

Electric Railway Finance, Meetings, Etc.

British Columbia Electric Ry., and allied companies:—

	Aug., 1919	Aug., 1918	2 mons. to Aug. 31, 1919	2 mons. to Aug. 31, 1918
Gross	$667,170	$544,339	$1,309,260	$958,307
Expenses . ..	500,362	455,903	993,343	850,706
Net	166,808	88,436	315,917	107,601

Cape Breton Electric Co.:

	July, 1919	July, 1918	12 mons. to July 31, 1919	12 mons. to July 31, 1918
Gross . .	$48,748.86	$44,532.50	$560,707.43	$490,079.96
Expenses	40,255.04	34,835.41	431,847.30	348,958.14
Net	8,193.82	9,697.09	128,860.13	141,121.82

Hull Electric Co.—The following are the directors and officers elected recently for the current year: President, A. D. MacTier, Vice President, Eastern Lines, C.P.R.; Vice President and General Manager, G. Gordon Gale; Grant Hall, Vice President, C.P.R.; I. G. Ogden, Vice President, Finance, C.P.R.; W. R. MacInnes, Vice President, Traffic, C.P.R.; F. L. Wanklyn, General Executive Assistant, C.P.R.; E. Hanson, Montreal.

Levis County Railway—The annual meeting was held in Montreal, Oct. 18. The following are the directors for the current year: President, S. H. Ewing; Vice President, J. C. Blouin; Secretary-Treasurer, E. A. MacNutt; other directors: A. B. Colville, Hon. R. Dandurand, J. A. Ewing, John Foreman. H. E. Weyman has been reappointed Manager, and J. W. Brown is Assistant Secretary-Treasurer. The company is in a receiver's hands, and is expected to be reorganized shortly.

London St. Ry.—At a meeting of the London, Ont., City Council, Oct. 6, the mayor stated that he had received an offer from the company for the sale of the railway and other property. The price quoted was too high, and he had so informed the company. No other price had since been mentioned. The price asked by the company is reported to have been on the basis of $50 for each $40 share.

The Montreal & Southern Counties Ry. Co.'s annual meeting was held at Montreal, Sept. 25. Following are the directors for the current year: President, H. G. Kelley, President, G.T.R.; Vice President & Treasurer, Frank Scott, Vice President and Treasurer, G.T.R.; Vice President, J. E. Dalrymple, Vice President, Traffic, G.T.R.; General Council, W. H. Biggar, K.C., Vice President and General Counsel, G.T.R.; W. D. Robb, Vice President, Transportation and Maintenance, G.T.R.; Secretary, J. A. Yates. The other officers are: General Manager, W. B. Powell; General Auditor, J. M. Rosevear, Comptroller, G.T.R.

Montreal Tramways Co.—At the recent annual meeting the directors were all re-elected. Following are the officers for the current year: President, E. A. Robert; Vice Presidents, Hon. G. G. Foster, K.C., and J. W. McConnell; Secretary-Treasurer, Patrick Dubee; General Manager, J. E. Hutcheson; Assistant Secretary Treasurer, A. E. Shaw.

Port Arthur Civic Ry.—Fort William Municipal Ry.—At a joint meeting of the Port Arthur Public Utilities Commission and Fort William City Council's Utilities Committee, in Port Arthur, Ont., Oct. 2, it was decided to telegraph Sir Adam Beck, Chairman of the Hydro Electric Power Commission of Ontario, asking him to send an expert to make a report on these electric railways.

Sandwich, Windsor and Amherstburg Ry.—A press report of Oct. 15 states that the Mayor of Windsor, Ont., has been advised by Sir Adam Beck, that he has made application for an order in council permitting the Hydro Electric Power Commission of Ontario to submit to the ratepayers of the border municipalities the question of whether they are in favor of the commission purchasing the S.W.& A.R. An agreement is reported to have been reached between Sir Adam and the company Oct. 13, the amount involved being $2,000,000.

Toronto Railway:

	Sept., 1919	Sept., 1918	9 mons. to Sept. 30, 1919	9 mons. to Sept. 30, 1918
Gross earnings	$641,423	$571,637	$5,206,976	$4,941,182
City percentage	51,314	45,731	922,387	878,337

Toronto and York Radial Ry., and allied companies:—

	Aug., 1919	Aug., 1918	8 mons. to Aug. 31, 1919	8 mons. to Aug. 31, 1918
Gross	$1,083,741	$1,070,567	$8,194,299	$8,476,672
Expenses..	721,687	591,507	5,060,010	4,636,884
Net	362,054	479,060	3,134,289	3,839,788

Winnipeg Electric Ry. and allied companies:—

	Aug., 1919	Aug., 1918	8 mons. to Aug. 31, 1919	8 mons. to Aug. 31, 1918
Gross	$353,194	$288,974	$2,565,812	$2,388,647
Expenses	288,650	217,226	2,030,151	1,820,973
Net	64,544	71,748	535,661	567,494

The surplus in August, after allowing for fixed charges, was $2,547.64.

Mainly About Electric Railway People.

Henry Davis, who dropped dead at his house in Thorold, Ont., Oct. 14, and who was born in England in 1843, was G.T.R. Agent at Merriton, Ont., for 28 years, until Sept., 1898, when he was appointed Travelling Auditor, Niagara, St. Catharines & Toronto Ry., continuing in that position until Sept., 1919.

R. J. Fleming, General Manager, Toronto Ry. Co., is suggested, by the Toronto Globe, to continue to manage the railway when it is taken over by the city in 1921.

P. A. Freeman, heretofore Chief Engineer and Superintendent of Tramways, Nova Scotia Tramways & Power Co., Halifax, has been appointed Chief Engineer.

A. Gaboury, Superintendent, Montreal Tramways Co., and Vice President, Canadian Electric Railway Association, has been elected a member of American Electric Railway Transportation and Traffic Associations' executive committee.

Ira P. Macnab, heretofore Shop Superintendent, Nova Scotia Tramways & Power Co., Halifax, has been appointed Superintendent of Tramways.

D. M. McIntyre, K.C., Chairman, Ontario Railway and Municipal Board, and ex-Registrar, of Queen's University, Kingston, Ont., took part in the installation of E. W. Beatty, K.C., President, C.P.R., as Chancellor of the university on Oct. 16.

Lorne C. Webster, President, Quebec Railway, Light, Heat and Power Co., and one of the Montreal Tramways Co.'s directors, has been elected a director of the Bankers Trust Co., Montreal.

The Saskatoon, Sask., City Council, which invited tenders a short time ago, for 5 one-man safety cars, did not accept any tender, stating that the figures were considered too high.

Increases in Electric Railway, Freight and Passenger Rates.

British Columbia Electric Ry.—See "B.C.E.R. and Its Fares Claimed to Be Under Dominion, Not Provincial, Jurisdiction," on another page of this issue.

Guelph Radial Ry.—The board of conciliation appointed to investigate wages and working conditions recommended in its report, that a straight 5c fare be charged, stating that it was only by charging such a fare that the line could be made to pay. Children under 10 to be charged half fare. This report was adopted by the city council, Oct. 7. In the course of the discussion, Alderman Westoby, chairman of the railways committee, is reported to have that the loss on the railway for this current year is estimated at over $33,000. A committee consisting of three representatives of the council was appointed to meet a similar number each from the chamber of commerce, the retail merchants' association and the trades and labor council, to discuss the whole situation as regards the railway's future.

London St. Ry.—In connection with the bylaw passed recently authorizing the company to charge increased fares on its lines in the city, two actions have been instituted to prevent the company acting on the bylaw's authority. One is an action to quash the bylaw, and the second takes the form of an injunction restraining the company from collecting the increased fares authorized. The city council on Oct. 6, decided to allow the company to defend the actions; both of which were set down for hearing at the sittings of the Ontario High Court in London on Oct. 11, but were adjourned for two weeks. On Oct. 27 Chief Justice Falconbridge gave judgment quashing the bylaw.

Montreal Tramways Co.—See under "Quebec Public Utilities Commission's Judgment on Increased Fares for Montreal Tramways Co.," on another page of this issue.

Moose Jaw Electric Ry.—The bylaws providing for amendments to the company's franchise, and covering the charging of a 6c fare, the operation of one-man cars, etc., were submitted to the vote of the ratepayers, Oct. 18, the 6c fare bylaw being carried by 695 to 245, and the latter by a majority of 628. The new rate of fare was put into effect on Oct. 19.

Nova Scotia Tramways & Power Co.—A Halifax press report, referring to the large amount of betterments and extensions being made by the company on its street railway property in Halifax, says the company will probably apply to the Nova Scotia Legislature next session, for power to charge higher fares, and adds: "This outlay can have but one result, and the citizens know it—that for the better service to follow the completion of the improvements, a higher rate for the use of the tramway must be charged."

Quebec Ry., Light and Power Co.—Quebec City Council on Oct. 3, authorized the company to continue to charge the present rates for its gas service, which were fixed in 1918, for another year, and referred the company's application for power to charge increased fares on its city electric railway to the finance committee. At the Finance Committee's meeting, held prior to the council meeting, W. J. Lynch, General Manager of the company, gave considerable information in elaboration of the reasons for the application for increased fares set out in the company's letter to the council quoted in Canadian Railway and Marine World for October. He stated that the company has 875 employes, representing a population of about 5,000 persons; that the pay roll for 1918 was $649,000; that an increase of 2c an hour had been given in July, that an increase of 3c an hour was promised as soon as increased fares were authorized, and a further increase of 2c an hour was promised for December. Five large double truck cars were due for delivery during October, and five more by the end of November. The extension which the company undertook to make in Belvedere Road was estimated to cost $60,000 at the time it was projected, but with the advanced cost of material and labor, it would now cost $110,000.

The finance committee recommended to the city council, Oct. 17, that the company be authorized to charge increased fares on its lines on condition that its obligations to the city, including the building of the Beauport line and some improvements in Belvedere be carried out. The recommendations were that ordinary tickets be sold 4 for 25c or 17 for $1; and working men's tickets 6 for 25c; children's tickets to be unchanged, and that no charge be made for transfers. The council referred the report back to the committee for further consideration.

Saskatoon Municipal Ry.—The Saskatoon, Sask., City Council decided Oct. 14 to increase the cash fare on the municipal railway from 5c to 6c. Tickets will be sold on the cars at 6 for 35c, and in stores at 5 for 25c. It is stated that the object sought to be obtained by selling the tickets in stores at the latter price is to relieve conductors, as far as possible, of selling tickets and making change.

The Sherbrooke Ry. & Power Co.—Full particulars of the advances in fares are given under "Sherbrooke Ry. and Power Co.'s New Agreement With City," on another page of this issue. The cash fare has been advanced from 5c to 8c.

Toronto & York Radial Ry.—A delegation from Mimico, New Toronto, and Etobicoke, waited on the Ontario Railway & Municipal Board, Sept. 27, and asked for a reduction in the fares charged on the company's Mimico Division, between Sunnyside and Port Credit, and that a reversion be made to the former schedule. he board stated that it could take no action, as the fares charged are under the maximum allowed by the Ontario Railway Act.

The Winnipeg Electric Ry. has been authorized by the Public Utilities Commission to charge increased fares temporarily pending complete investigation of its affairs. The following table shows the rates at Oct. 31, 1918, the rates authorized by the commissioner, effective Nov. 1, 1918, the latest scale authorized by the commissioner, effective Oct. 4, 1919:

	[illegible] Oct. 31	Nov. 1, 1918	Oct. 4, 1919
Cash fare	[illegible]	[illegible]	[illegible]
White tickets, unlimited	[illegible]	[illegible]	[illegible]
Red tickets, [illegible]	[illegible]	Eliminated	[illegible]
Red tickets good from 6 to 8 a.m. and from 5 to 6.30 p.m. All day Sundays and holidays, transfers at all times	8 for 25c	6 for 25c	5 for 25c
Children's tickets	10 for 25c	7 for 25c	7 for 25c [illegible]

Full particulars of the Public Utilities Commissioner's judgment and of the subsequent injunction proceedings, are given under "Winnipeg Electric Railway Authorized to Increase Rates Temporarily," on another page of this issue.

Electric Railway Notes.

The Toronto Railway has placed p.a.y.e. cars on its Yonge St. route.

The Kitchener & Waterloo St. Ry. is reported to have bought three p.a.y.e. cars from Cleveland St. Ry.

The Winnipeg Electric Ry. during October received 2 semi steel cars from Ottawa Car Manufacturing Co.

The Chatham, Wallaceburg and Lake Erie Ry.'s Standard Freight Tariff C.R.C. 576, effective Nov. 8, has been approved by the Board of Railway Commissioners.

The Windsor, Essex and Lake Shore Rapid Ry.'s operating rules have been recommended to the Governor General in council for sanction, by the Board of Railway Commissioners.

The Edmonton, Alta., city commissioners received tenders up to Oct. 4, for the privilege of advertising on the back of 5,000,000 red street car tickets, of which approximately 25,000 are used daily.

The Winnipeg City Council is reported to have formulated plans to eliminate within six years street car transportation in Winnipeg, and to replace it with a municipal motor bus service. The Winnipeg Electric Ry. franchise expires in 1927.

The Hull, Que., City Council on Oct. 6, instructed the City Solicitor to write to the Hull Electric Co., and impress on it its obligations to fulfil one of the conditions of its franchise which calls for a satisfactory car service within the city limits.

The Glace Bay, N.S., town council held a special meeting, Oct. 15 to discuss the electric railway service given in the town by the Sydney and Glace Bay Ry., operated by the Cape Breton Electric Co., with which dissatisfaction was expressed.

The Niagara, St. Catharines & Toronto Ry. has had one of its local cars converted into a p.a.y.e. car by Preston Car & Coach Co., the work including the addition of a longer rear vestibule. It is probable that 10 or 11 more cars will be converted similarly.

The Sudbury-Copper Cliff Suburban Electric Ry. has ordered a double truck combination snow sweeper and snow plough of wood from Ottawa Car Manufacturing Co. The dimensions will be: length of flat car, 32 ft.; width of flat car, 9½ ft.; length of cab, 9 ft.; width of cab, 7 ft.; approximate length over all, 42 ft.

London, Ont., City Council has appointed a special assessment committee to take up with the assessment commissioner the question of the assessment of the assessable property in the city. One of the properties which will be affected is the London St. Ry., which this year is assessed at [illegible], of which $101,[illegible] is for rails, poles, wires, etc., on the streets, assessed on a basis of [illegible] a mile fixed in [illegible]. It is reported that the new assessment on the company's lines and other property will be put at approximately [illegible] as the valuation for 1920.

Electric Railway Projects, Construction, Betterments, Etc.

Brantford Municipal Ry.—The Board of Railway Commissioners has approved the proposed location of the Terrace Hill extension at Brantford, Ont. The bylaw authorizing the building of this extension was approved by the ratepayers at the municipal elections on Jan. 1. The route as outlined in the bylaw was from the junction of Market and Marlboro Sts., extending to St. Paul and Brant Ave., but the exact location was not defined. The matter was under discussion by the council in May, but it is only recently that the route has been definitely laid down. Construction will probably be started at an early date. (June, pg. 324).

British Columbia Electric Ry.—At a recent meeting of the Point Grey, B.C., municipal council, the reeve is reported to have stated that the B.C.E.R. was completing arrangements for extending its tracks on Grenville St., from the present terminus at Twenty-fifth Ave., as far as Forty-first Ave. (Oct., pg. 553).

Calgary Municipal Ry.—A delegation representing the North Hill district, waited on the Calgary, Alta., city commissioners, Sept. 21, in connection with the Center St. extension of the Calgary Municipal Ry., now under construction. After discussing the propositions made the commissioners decided to recommend to council that the line run up Center St., crossing the double tracks on Sixteenth Ave. to Twentieth Ave., turn west as far as Fourth St. W., turn south on this street and run back to Twelfth Ave., then turn west to rejoin the line on Center St. This recommendation was adopted Sept. 29 by the city council which also decided to build a single track extension from Twentieth Ave. and Center St. to join with the Tuxedo line, and for the extension of that line north to Thirty-second St. The city council's decision was not considered satisfactory by the ratepayers of the North Hill district, who called a meeting to discuss the matter. These ratepayers are desirous of having the present Tuxedo line, which was laid under an agreement with the Canadian Estates, taken up, and relaid along Center Ave. (Oct., pg. 553).

Edmonton Radial Ry.—The Edmonton, Alta., City Council's utilities committee on Sept. 25, authorized the extension of the Edmonton Radial Ry. on Brandon St., for not less than five, nor more than nine blocks, the distance to be governed by the material on hand; the work to be done during this year. This proposal was discussed by the city council Oct. 7, when delegates from the localities interested were present and presented alternative propositions. After discussion the council referred the whole matter back to the utilities committee. (Aug., 1918, pg. 348).

Fort William Municipal Ry.—A press report states that the utilities committee has recommended the Fort William, Ont., City Council to purchase interlocking and derail switches for use on the electric railway lines at an estimated cost of $1,900. (Aug., pg. 449).

Levis County Ry. A press report states that the Levis, Que., City Council has asked the company to place its tracks in the center of Begin Ave. (June, [illegible]).

London St. Ry.—The City Engineer reported to the London, Ont., City Council, Sept. 30, that the company had not done any paving work on its track during this year, notwithstanding that it undertook to do $15,000 worth on specifically named streets this year, in consideration of being given the right to charge increased fares. In reference to paving on Richmond and Oxford Sts., the company asked the city to do the work and charge it against the company. It is said that the city will ask the company to do the paving on Rectory St. immediately. (Feb., pg. 88).

Niagara Falls Park and River Ry.—We are officially advised in connection with the readjustment and relocation of tracks at Chippawa and Queenston, Ont., respectively, that these changes have and will be made to facilitate the operation of the Hydro Electric Power Commission of Ontario's water power development. The change at Chippawa was made to facilitate dredging by the commission in that locality, and the relocation of the tracks at Queenston to be made provides for tracks to the commission's new hydraulic plant. A construction railway will be built, 2¼ miles long, connecting the Michigan Central Rd., through Queenston, with the power house site. Running rights have been granted to the commission over a portion of the company's line, and a section of the line will be relocated. The tracks will be used jointly by the company and the commission. The work at Chippawa consists merely of shifting the double track line a little further back from the creek than at present, in fact the plan shows that the new outside track will run for the greater part of the distance to be shifted on the line of the present inside track. The change at Queenstown is a much larger piece of work. It includes the abandonment of the present track from the corner of Queen and Dumfries Sts., along Dumfries St., across Princess and Front Sts., and round the curve to plot F., and the replacing of the same by a line along Queen St. from the corner of Dumfries St., to the River Road, thence curving round to plot F. This piece of line is to be built by the commission for the company and the commission will build for its own purposes a line to connect with the company's track near plot F., and another line starting from the company's tracks, just below River Road.

The Nova Scotia Tramways and Power Co., is, we are officially advised, undertaking a rather large rebuilding programme in Halifax, N.S., to prepare for extensive street paving. The work is being started this year and will be completed during 1920. The company's work consists of relaying 26,100 ft. of track of which 16,600 ft. is double track, and 9,500 ft. single track. The track to be relaid is all on unpaved streets, and is at present laid on a thin layer of gravel ballast. The new track will consist of a 60 lb. 6 in. rail, laid on a 6 in. concrete base with scoria block paving.

Only one piece of new line is contemplated, viz.: 3,000 ft. of double track on Cogswell St., between Gothingen St. and Windsor St., to provide a short route from the west end of the city into the business district.

Ottawa Electric Ry.—A press report states that the Ottawa City Council proposes to have plans prepared for making a number of extensions to the electric railway lines in the city, in preparation for the taking over of the lines when the company's franchise expires in 1923.

Regina Municipal Ry.—At a meeting of the special railway committee of the Regina, Sask., City Council, Oct. 13, the question of future extensions of the municipal railway was discussed. Commissioner Thornton is reported to have stated that a line, as originally planned, along Victoria Ave., east of Broad St., will ultimately be built, but that it may be two or three years before any construction will be done on it. He is also reported to have said that the project of constructing a line along the Boulevard has been abandoned; that the rails for this extension are in stock, but that it will be some time before any construction work will be done. (Nov., 1918, pg. 505).

Sherbrooke Ry. & Power Co., under a new agreement, entered into between the company and the City of Sherbrooke, Que., the company is to extend its railway on the following streets: starting from Aberdeen St., along Alexander, Galt, Belvedere, Short and Drummond Sts., to Pacific St. This extension of 4,800 ft. to be commenced immediately, and put into operation within six months. The company is also making such additional extensions as may be agreed upon from time to time between it and the city. The company is to double track its line from Strathcona Square along Wellington St. to King St., and for a distance of, at least, 200 ft. east on King St., a total of 1,700 ft.

Toronto Civic Ry.—The Toronto City Council has passed a bylaw providing for the extension of its Bloor St. line to Runnymeade Rd., in Ward 7, at an estimated cost of $160,000.

It was reported Oct. 2, that plans for the construction of the Mount Pleasant car line had been approved by the Ontario Railway and Municipal Board. It subsequently transpired that the plans had been sent on by the Board of Control without having been approved by the city council, and that the approval of the O.R. and M. Board had been withdrawn owing to objections having been raised by the Metropolitan Ry. The hearing of the application for the approval of the plans, which show a crossing of the Metropolitan Ry. at Yonge St., and St. Clair Ave., was fixed for Oct. 27.

Toronto Ry.—The Ontario Railway and Municipal Board is reported to have ordered the Toronto Ry. to start building the Pape Ave. line by April 15, 1920, and to complete it by July 15.

What Is Reasonable Air Space for Passengers—Holding the ordinance requiring 30 cu. ft. of air space for each passenger in a closed street car "not legally unreasonable," a Detroit judge has fined the Detroit United Ry. $250 in a test case. Passed as a public health measure in 1916, the ordinance has never been enforced. D.U.R. attorneys contended that the ordinance was "legally unreasonable," and in support of this contention summoned witnesses from Cleveland to testify that a plan to enforce a similar measure there was halted by an angry public before its enforcement was a day old.

The Hull Electric Co. is, we are officially advised, going to add two 800 k.v.a. transformers, and switching equipment to its substation in Hull, Que.

Recommendations for Taking Over the Toronto Railway by the City.

The Toronto Transportation Commission reported to the city council recently the following recommendations prepared by a subcommittee, consisting of Thos. Bradshaw, Finance Commissioner; R. C. Harris, Works Commissioner, and E. L. Cousins, General Manager and Chief Engineer, Toronto Harbor Commission:—

1. That a commission of six members be appointed and constituted for and on behalf of the City of Toronto, for the following purposes, viz.:—(a) To take over the Toronto St. Ry. system, in accordance with the terms and conditions of the agreement between the city and the Toronto Ry. Co. in that behalf. (b) To take over the civic car lines and such properties as have been acquired in connection therewith. (c) To deal generally with all matters relating to local transportation within the city. (d) To locate and construct such street railway lines prior to and after Sept. 1, 1921, as will, in conjunction with the existing street railway lines, provide an adequate system of street railway transportation. (e) To provide adequate modern plant, equipment and other facilities, and to acquire all necessary property therefor. (f) To take charge of, administer and operate transportation facilities now owned or operated, or which may be acquired, by the municipality; to regulate and control all matters relating thereto; to make rules and regulations and enforce same, concerning matters within its powers, and to generally do and perform everything whatsoever necessary to fully and effectively accomplish the purposes for which it is created.

2. That the underlying principle in the administration and operation of the transportation system, shall be the provision of an adequate and efficient service, and that only such rates of fares shall be charged as will secure this, and will, at the same time, make the system self-sustaining, including the maintenance of the property in good condition, and due provision for renewals, depreciation, and debt charges.

3. (a) That such commission be known as the Toronto Transportation Commission, the members thereof to act without salary, or other emoluments.

(b) The commission to be composed of six representatives, as follows:—1. One from the Toronto Board of Trade. 2. One from labor. 3. One from the Canadian Manufacturers' Association, Toronto Branch. 4. One from the Toronto Electric Commissioners. 5. The mayor of the city. 6. The Commissioner of Finance for the city. Representatives numbered 1 to 4 to be severally nominated by the respective bodies named, and appointed only by a two-thirds vote of the city council; the mayor and the Commissioner of Finance to act by virtue of their offices.

(c) The first four commissioners appointed shall hold office as follows: In the first instance, all for a continuous period of three years, at the expiration of which time the first named representative shall retire, and at the expiration of each year thereafter, the other representatives shall retire, in the order named in sub-section 3 (b) hereof. The mayor and the Commissioner of Finance for the city to act during tenure of office.

(d) Upon the retirement of a member as set out in sub-sec. 3 (c), the city council to appoint upon nomination for four years, a representative from the body or organization from which the retiring member had been selected, and in the manner set out in sub-sec. 3 (b).

(e) Any retiring member, upon renomination, to be eligible for reappointment by council.

(f) Any member resigning, dying, or failing or being unable to attend to his duties as commissioner, to be succeeded for the balance of his term, by another member nominated and appointed in the same manner as was the outgoing member.

4. That the city be empowered, upon the requisition of the commission, and the passing of the necessary bylaw, to obtain loans for and on behalf of the commission, through the issue of consolidated loan debentures to the extent necessary to give effect to the commission's requirements and that such loans shall not operate in reduction of the city's borrowing powers.

5. That immediately after the close of each calendar year, the commission shall prepare, report to council, and publish, a complete audited and certified financial statement of its affairs, including revenue and expense account, balance sheet and surplus statement, to be accompanied by a general report of its operation during the year.

All the books, documents, transactions, etc., of the commission shall be at all times open for inspection by the city's Audit Department.

6. That the Corporation Counsel, Major G. R. Geary, K.C., in association with W. N. Tilley, K.C., and A. C. McMaster, K.C., who have been retained by the city in connection with all matters relating to the acquisition of the Toronto Ry., be directed to forthwith prepare the requisite application for legislation to effect the intent of this report, including any provisions they jointly deem necessary, and to submit same for the approval of the city council at the earliest date possible.

7. That the city make application to the Ontario Legislature for the repeal of Sec. 4 of chap. 98, 4 Geo. V., which authorizes the corporation to pass bylaws appointing a body to be known as the Toronto Transportation Commission, and that anything in any act of the Ontario Legislature, inconsistent with the provisions or intent of the application for legislation provided for in this report, shall not apply to the City of Toronto.

8. That the draft legislation, as approved by council, be placed before the qualified ratepayers on Jan. 1, 1920, and that they be requested to vote upon the question: "Are you in favor of a Toronto Transportation Commission, substantially as set forth in the application for legislation to the Ontario Legislature as passed by the city council on the .... day of .... 1919?"

9. That upon the passage of the required legislation, the commission be forthwith appointed and constituted.

10. That so soon as the commission deems wise, the city council serve the Toronto Ry. Co. with notice of its intent to take over the railway according to the terms of the agreement between the city and company. That in any event the council serve such notice before Sept. 1, 1920, in order to preserve its rights.

Electric Railway Employes' Wages, Working Conditions, Etc.

British Columbia Electric Ry.—A board of Conciliation, consisting of H. A. Stone, Chairman, T. W. Fletcher, representing the company, and T. J. Coughlan, representing the men, was appointed recently to investigate wages and working conditions of B.C.E.R. employes, following a demand by the men for increased wages. The agreement under which the men were working was signed July 10, 1918, and the rates of wages and conditions of employment named therein were to continue in force until changed by the parties thereto.

Guelph Radial Ry.—The report of the Board of Conciliation, composed of Judge C. G. Snider, Hamilton, Ont., Chairman; H. Mahoney, Guelph, representing the company, and T. Hall, Guelph, representing the men, which considered the employes' application for increased wages and changes in improved working conditions, was made public Sept. 30. The board recommended that the line be operated in future on the no-turn system, 9 hours to constitute a days work, to be served within 12 consecutive hours, thus giving a 54 4hour week, instead of the present 67 to 70 hour week. The wage scale recommended was as follows: First year, 38c; second year, 39c; third year and after, 41c. The old rates are reported to have averaged 32c. Time and a half to be paid for overtime, but not when replacing a sick man. The award was accepted by the city council, Oct. 7, and also by the men. It is estimated that in order to carry the new agreement into effect the number of employes will have to be increased from 18 to 22. The Conciliation Board also recommended that in order to provide funds to meet increased wages, a straight 5c fare be charged for all persons except children under 10, and that they be given half fare.

Dominion Power & Transmission Co.—Although the Hamilton St. Ry.'s wages agreement with conductors and motormen does not expire until April 1, 1920, the men asked recently for an advance in wages, and subsequently applied for a board of conciliation. The company then agreed to give an advance of 4c an hour, which was accepted. The following are the new rates, per hour, also those on the company's interurban lines:

	City	Interurban
1st 6 months	[illegible]	[illegible]
2nd 6 months	[illegible]	[illegible]
1st year	[illegible]	
2nd year	38c	39c
3rd year and after	[illegible]	[illegible]

Winnipeg Electric Ry.—The board of conciliation, which submitted recently, with Chief Justice Mathers as Chairman, the following wages per hour, for conductors and motormen: 1st 6 months, 46c; 2nd 6 months, 49c; 2nd year, 52c; 3rd year and after, 55c. The award was accepted by the men, but the company stated it could not accept it until an increase in passenger fares was permanently settled.

The Winnipeg Electric Ry. is contemplating changing the routing of several of its important street car lines, to give improved service, by eliminating much of the traffic congestion which exists during the rush hour period, particularly at the corner of Main St. and Portage Ave., which has always been a congested location, not only for pedestrians, but also for street cars and other vehicles.

Marine Department

Canadian Government Merchant Marine, Ltd., Shipbuilding, Operation, Etc.

Orders for Steamships—As stated in Canadian Railway and Marine World for October, the Marine Department was in negotiation with Canadian Vickers Ltd., Montreal, for 4 more steel cargo steamships of approximately 8,100 tons each, and with the Midland Shipbuilding Co., Midland, Ont., for one steel cargo steamship, but up to the time of writing, Oct. 22, no official announcement had been made as to the closing of any additional contracts. There appears, however, to be no doubt that 4 more steamships of approximately 8,100 d.w. tons each are being ordered from Canadian Vickers Ltd., and that the Midland Shipbuilding Co. will be given an order for one ship, the type and tonnage of which do not appear to have been decided. Negotiations are said to be in progress with the Nova Scotia Steel & Coal Co., New Glasgow, N.S., and with Wallace Shipyards Ltd., North Vancouver, B.C., for additional ships.

Keels Laid—Since Canadian Railway and Marine World for October was published, we have been advised of the laying of the following keels for steel cargo steamships for Canadian Government Merchant Marine Ltd.:

S.s. Canadian Reaper; Marine Department contract 42; builder's yard no. 1; approximately 8,100 d.w. tons; Prince Rupert Drydock & Engineering Co., Prince Rupert, B.C.; Sept. 27.

S.s. Canadian Cruiser, Marine Department contract 38; builder's yard no. 3; approximately 10,500 d.w. tons; Halifax Shipyards Limited, Halifax, N.S., Oct. 2, 1919.

S.s. Canadian Constructor, Marine Department contract 39; builder's yard no. 4; approximately 10,500 d.w. tons; Halifax Shipyards Ltd., Halifax, N.S., Oct. 6, 1919.

Names of Steamships—Since the last list of names chosen by the Marine Department for steel cargo steamships for Canadian Government Merchant Marine Ltd., was published in Canadian Railway and Marine World, we have been advised of the following additional ones:

Canadian Armourer; Marine Department contract 29; builder's yard no. 1; Harbour Marine Co., Victoria, B.C.; approximately 8,100 d.w. tons.

Canadian Composer; Marine Department contract 30; builder's yard no. 2; Harbour Marine Co., Victoria, B.C.; approximately 8,100 d.w. tons.

Canadian Runner; Marine Department contract 32; builder's yard no. 43; Port Arthur Shipbuilding Co.; Port Arthur, Ont.; approximately 4,300 d.w. tons.

Canadian Carrier; Marine Department contract 33; builder's yard no. 44; Port Arthur Shipbuilding Co., Port Arthur, Ont.; approximately 4,300 d.w. tons.

Canadian Cruiser; Marine Department contract 38; builder's yard no. 3; Halifax Shipyards Ltd., Halifax, N.S.; approximately 10,500 d.w. tons.

Canadian Constructor; Marine Department contract 39; builder's yard no. 4; Halifax Shipyards Ltd., Halifax, N.S.; approximately 10,500 d.w. tons.

Canadian Reaper; Marine Department contract 42; builder's yard no. 1; Prince Rupert Drydock & Engineering Co., Prince Rupert, B.C.; approximately 8,100 d.w. tons.

Canadian Thrasher; Marine Department contract 43; builder's yard no. 2; Prince Rupert Drydock & Engineering Co., Prince Rupert, B.C.; approximately 8,100 d.w. tons.

Canadian Farmer; Marine Department contract 46; builder's yard no. 65; Collingwood Shipbuilding Co., Collingwood, Ont.; approximately 3,750 d.w. tons.

Canadian Observer; Marine Department contract 47; builder's yard no. 66; Collingwood Shipbuilding Co., Collingwood, Ont.; approximately 3,750 d.w. tons.

Canadian Government Merchant Marine Ltd., Steel Cargo Steamship, Canadian Seigneur, approximately 8,100 d.w. tons, proceeding down the St. Lawrence River at Montreal, loaded.

Launchings of Steamships—Since Canadian Railway and Marine World for October was published, we have been advised of the following launchings:—

S.s. Canadian Sealer; Marine Department contract 40; builder's yard no. 5; approximately 2,800 d.w. tons; Nova Scotia Steel & Coal Co., New Glasgow, N.S.; Oct. 8.

S.s. Canadian Trapper; Marine Department contract 17; builder's yard no. 459; approximately 4,100 d.w. tons; Davie Shipbuilding & Repairing Co., Lauzon, Que.; Oct. 9.

S.s. Canadian Sower, Marine Department contract 20a; builder's yard no. 210, approximately 3,400 d.w. tons, Port Arthur Shipbuilding Co., Port Arthur, Ont., Oct. 9.

S.s. Canadian Aviator; Marine Department contract 6; builder's yard no. 101; approximately 5,100 d.w. tons; Wallace Shipyards Ltd., North Vancouver, B.C.; Oct. 9.

S.s. Canadian Navigator, Marine Department contract 23; builder's yard no. 73; approximately 4,300 d.w. tons; Canadian Vickers Ltd., Montreal, Oct. 18.

Delivery of steamships—In addition to the steamships mentioned in Canadian Railway and Marine World previously, the following has been delivered to the Marine Department, and was transferred to Canadian Government Merchant Marine Ltd., for operation, on the date mentioned.

Sept. 24; s.s. Canadian Miller; Marine Department contract 26; builder's yard no. 70; approximately 8,100 d.w. tons; Canadian Vickers Ltd., Montreal, builders. She was loaded at Montreal, with a general cargo, and sailed Sept. 29 for Liverpool.

Deadweights of Steamships—Canadian Railway and Marine World for September contained a table showing the approximate d.w. tons provided for in contracts for 8 steel cargo steamships, ordered by the Marine Department for Canadian Government Merchant Marine Ltd., and the finally determined weights for which the builders are paid at the price per long d.w. ton stated in the contract. The following additional information has been received:

	Approximate.	Determined.
Canadian Seigneur...............	8,100	8,391

Insurance on Steamships—The Minister of Railways, in answer to questions, stated in the House of Commons, Oct. 9, that 11 steel cargo steamships were being operated by Canadian Government Merchant Marine Ltd., and gave their names, d.w. tonnages and cost, full particulars of which appear in the table on page 616 of this issue. The insurance carried on the ships is $9,115,907, as follows: Canadian companies, $139,091; British companies, $6,348,691; United States companies, $2,628,125.

Canadian Vickers Ltd., Montreal, launched the s.s. Canadian Navigator; Marine Department contract 23; builder's yard no. 73; approximately 4,300 d.w. tons; Oct. 18. The christening ceremony was performed by Mrs. C. F. M. Duguid, wife of the Naval Constructor, Marine Department. The company expects to launch two more steel cargo steamships as follows:

S.s. Canadian Spinner, Marine Department contract 27; builder's yard no. 71; approximately 8,100 d.w. tons, in November.

S.s. Canadian Planter; Marine Department contract 28; builder's yard no. 72; approximately 8,100 d.w. tons in November.

Davie Shipbuilding & Repairing Co., Lauzon, Que., which has contracts from the Marine Department for 2 steel cargo steamships, approximately 5,100 d.w. tons each, for Canadian Government Merchant Marine Ltd., the keels for which were laid Mar. 11 and 28, respectively, launched the s.s. Canadian Trapper, Marine Department contract 17; builder's yard no. 459; Oct. 9. The christening was performed by Mrs. Chas.

Duguid, wife of the Naval Constructor, Marine Department. The ship is of the single deck type with poop bridge and forecastle, her dimensions being: length, overall, 344 ft.; length, b.p., 331 ft.; breadth, moulded, 40½ ft.; depth, moulded, 25½ ft.; draft, loaded, 21 ft. 8 in. She will be equipped with triple expansion engines with cylinders 25, 41 and 68 in. diar. by 45 in. stroke, supplied with steam by 3 single ended boilers, each 14 x 11½ ft. at 180 lb. for a speed of 11 knots an hour. It is announced that the interior work and the placing of the propelling and other machinery is to be done by Tidewater Shipbuilders Ltd., Three Rivers, Que. It is expected that the Canadian Trapper will be completed and ready for sea by the end of November. A full description of this type of ship was published in Canadian Railway and Marine World for Oct., 1918.

Halifax Shipyards Ltd., Halifax, N.S., has contracts from the Marine Department for 2 steel cargo steamships, approximately 8,100 d.w. tons each, and for 2 approximately 10,500 d.w. tons each, for Canadian Government Merchant Marine Ltd. The keels for the 2 of 8,100 tons each were laid Feb. 24, and Mar. 15, respectively, and the keels for the 2 of 10,500 tons each were laid as follows: s.s. Canadian Cruiser; Marine Department contract 38; builder's yard no. 3; Oct. 2; s.s. Canadian Constructor; Marine Department contract 39; builder's yard no. 3; Oct. 6.

Harbour Marine Co., Victoria, B.C.—Steady progress is reported on the 2 approximately 8,100 d.w. ton steel cargo steamships under construction for Canadian Government Merchant Marine Ltd. Nearly all the floor plates are in place and a start has been made in the erection of the frames. Work is proceeding simultaneously on both ships.

Nova Scotia Steel & Coal Co., New Glasgow, N.S.; which has contracts from the Marine Department for 2 steel cargo steamships, approximately 2,800 d.w. tons each, for Canadian Government Merchant Marine Ltd., the keels for which were laid Mar. 27 and 31, respectively, launched the s.s. Canadian Sealer, Marine Department contract 40; builder's yard no. 5, Oct. 8.

Port Arthur Shipbuilding Co., Port Arthur, Ont., launched the s.s. Canadian Sower, Marine Department contract 20a; builder's yard no. 42; approximately 3,400 d.w. tons; Oct. 9; Mrs. Wodehouse, wife of Lieut.-Col. Wodehouse, C.A.M.C., and daughter of F. H. Keefer, M.P., for Port Arthur and Kenora, officiating at the christening. The Canadian Sower is the fourth ship built by the company for Canadian Government Merchant Marine Ltd. this year, and will be delivered before the close of navigation.

The s.s. Canadian Adventurer, Marine Department contract 19a, builder's yard no. 41, approximately 3,400 d.w. tons, launched Sept. 8, was completed and delivered Oct.

During the winter the company will proceed with the building of the s.s. Canadian Runner, and the s.s. Canadian Carrier; Marine Department contracts 32 and 33; builder's yard nos. 43 and 44; each approximately 4,300 d.w. tons; the keels for which were laid Aug. 29. They will be launched early next spring.

Prince Rupert Drydock & Engineering Co., Prince Rupert, B.C., laid the keel for steel cargo steamship, Canadian Reaper, Marine Department contract 42; builder's yard no. 1; approximately 8,100 d.w. tons on Sept. 27, and expected to lay the keel for Marine Department contract 43; builder's yard no. 2; also approximately 8,100 d.w. tons, towards the end of October.

Wallace Shipyards Ltd., North Vancouver, B.C., received from the Marine Department contracts for 4 steel cargo steamships, two of approximately 4,300 d.w. tons each, and 2 of approximately 5,100 d.w. tons each. The 2 of 4,300 tons each, s.s. Canadian Volunteer and s.s. Canadian Trooper, were launched Apr. 5 and May 31, respectively. The first of the 5,100 ton ones, s.s. Canadian Aviator; Marine Department contract 6; builder's yard no. 101; was launched Oct. 9. The second 5,100 ton one, s.s. Canadian Raider, is expected to be launched about Nov. 15.

The s.s. Canadian Aviator was sent into the water practically fully equipped with machinery and fittings. The main engines were built by Wallace Shipyards Ltd., the boilers by Vulcan Iron Works, and the winches and smoke stacks by North Shore Iron Works. The christening ceremony was performed by Mrs. Stevens, wife of H. H. Stevens, M.P. for Vancouver Center. This ship is the third launched by the company for Canadian Government Merchant Marine, and the first of two having an approximate d.w. tonnage f 5,100. The s.s. Canadian Aviator has the following dimensions: length, overall, 344 ft.; length, b.p., 331 ft.; breadth, moulded, 46½ ft.; depth, moulded, 25½ ft.; draft, loaded, 21 ft. 8 in. Cargo will be handled by 11 steam winches, operated by steam derricks of 5 tons capacity, supported from steel posts instead of from the masts. The propelling machinery consists of triple expansion engines with cylinders 25, 41 and 68 in. diar. by 45 in. stroke, 2,500 i.h.p., supplied with steam by 3 single ended boilers, each 14 x 11½ ft. at 180 lb. for sea speed of 11 knots an hour loaded. A full description of the 5,100 type of ships was given in Canadian Railway and Marine World for Oct., 1918.

The Kingsley Navigation Co.'s s.s. E. D. Kingsley, which has been built at Fort William, Ont., by Canadian Car and Foundry Co., was expected to be ready for delivery to her owners by the end of October. She will load grain at Fort William for Montreal, and there take on a cargo of flour for St. John, N.B., where she will take on a general cargo for New York. No definite arrangements had, at the time of our advice, been made as to a cargo from New York, but it was hoped to obtain a direct cargo for Vancouver, B.C. The head office of the owning company is at Vancouver, J. F. Tener being Managing Director, and P. J. Maw, Secretary-Treasurer. The s.s. E. D. Kingsley will be operated in the coast trade between Puget Sound and northern ports, which occasional trips to California and South American ports. Capt. M. Uldall has been appointed master, and J. F. Price, chief engineer. The company also owns and operates the s.s. Queen City between Puget Sound and northern ports.

Esquimalt Drydocks—A Victoria, B.C., press dispatch of Oct. 16 says that, following negotiations which have been in progress for several weeks, Skinner Cove, Esquimalt, has been selected as the site of a drydock to be built by the Dominion Government. As stated previously in Canadian Railway and Marine World, the government in 1914 acquired a site at Lang's Cove, Esquimalt, for the purpose of erecting a drydock of the first class. The existing government drydock at Esquimalt has the following dimensions: Length on blocks, 430 ft.; length, over all, 450 ft.; width of gate, 65 ft.; width at top, 90 ft.; depth over sill, 26½ ft.

Details of the Different Types of Steamships for Canadian Government Merchant Marine Ltd.

The following are comparative details of the seven different types of steamships being built for Canadian Government Merchant Marine Ltd.:

	2,800 ton.	3,400 ton.	3,750 ton.	4,300 ton.	5,100 ton.	8,100 ton.	10,500 ton
Length overall	250 ft	260 ft.	260½ ft.	333 ft. 7 ins.	344 ft.	413 ft. 1 in.	445 ft.
Length, bet. perpendiculars	240 ft.	251 ft.	251 ft.	320 ft.	331 ft.	400 ft.	430 ft.
Breadth moulded	38 ft.	43½ ft.	43½ ft.	44 ft.	46½ ft.	52 ft.	56 ft.
Depth moulded	20½ ft.	23 ft.	26 ft.	25 ft.	25½ ft.	31 ft.	38 ft.
Draft loaded	17¼ ft	20 ft.	22 ft. 2 in.	21 ft. 2 ins.	21 ft. 8 ins.	25 ft. 1 in.	29 ft.
Type	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	Lake, s.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	2d., p.b. & f'c's'le	3d., p. & f'c's'le
Engines—Type	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion
Cylinders diar.	17½ x 28¾ x 47 ins.	20½ x 34 x 56 ins.	18 x 30 x 50 ins.	25 x 41 x 67 ins.	25 x 41 x 68 ins.	27 x 44 x 73 ins.	29½ x 50 x 80 ins.
Stroke	33 ins.	40 ins.	36 ins.	45 ins.	45 ins.	48 ins.	54 ins.
Ind. h.p.	[illegible]	1,300	1,200	1,800	2,500	3,000	4,000
Boilers—Type	Single ended	Single ended	Single ended	Single ended	Single ended	Single ended	Single ended
No.	2	2	2	2	3	3	4
Diar. and length	12¾ x 10¾ ft.	15 x 11 ft.	14 x 10¾ ft.	15½ x 11½ ft.	14 x 11½ ft.	15½ x 11½ ft.	15½ x 11¾ ft.
Working pressure	180 lbs.	190 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.
Furnaces—No.	2	6	6	6	9	9	12
Grate surface	60 sq. ft	135 sq. ft.	100 sq. ft.	132 sq. ft	156 sq. ft	198 sq. ft.	270
Heating surface	3,000 sq. ft.	4,670 sq. ft.	3,900 sq. ft.	5,162 sq. ft.	7,275 sq. ft	7,743 sq. ft.	10,500 sq. ft.
Speed	8½ knots	9 knots	9 knots	11 knots	11 knots	11 knots	12 knots
Classification	Lloyd's	Lloyd's	Brit. Corp.	Lloyd's	Lloyd's	Lloyd's	Lloyd's

Orders for Steel Cargo Steamships for Canadian Government Merchant Marine Ltd.

The following is a complete list of steel cargo steamships which the Dominion Marine Department has been authorized, by order in council, to place orders for, and which orders are to be carried out. The figures given in the column headed "Long tons d.w." and which are preceded by an asterisk (*) show the total deadweight capacities as determined after the ships have been completed. The other figures in that column not preceded by an asterisk show the approximate total deadweights, subject to modification as they may vary above or below the figures given and as may be ascertained after the ships are completed, and of course, the total prices will vary accordingly.

The following contractions are used in the column giving the type of the vessels to be built:—s.d., single deck; 2.d., two deck; 3.d., three deck; lake, lake type; p., poop; b., bridge; f'c's'le, forecastle.

Contract	Contract date	Name	Builder	Yard no.	Long tons d.w.	Price per ton d.w.	Total price	Type	Classification	Speed, knots	Keel laid	Launched	Delivered.
1	Mar. 4, 1918	Canadian Voyageur	Canadian Vickers Ltd., Montreal	66	*4,575	$207.	$ 947,025	S.d., p., b. and f'c's'le	Lloyd's	11	June 11, 1918	Nov. 23, 1918	Feb. 22, 1919
2	May 22, 1918	Canadian Pioneer	" "	67	*8,108	180.	1,513,440	2.d., p., b. and f'c's'le	"	11	July 17, 1918	Dec. 3, 1918	May 9, 1919
3	May 18, 1918	Canadian Warrior	Collingwood Shipbuilding Co., Collingwood, Ont.	61	*3,995	205.	818,975	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	Not stated	Dec. 21, 1918	Apr. 26, 1919
4	Mar. 15, 1918	Canadian Volunteer	Wallace Shipyards Ltd., North Vancouver, B.C.	100	*4,530	207.	937,710	S.d., p., b. and f'c's'le	Lloyd's	11	Oct. 1, 1918	Apr. 5, 1919	June 19, 1919
5	Nov. 25, 1918	Canadian Trooper	" "	106	4,300	217.	933,100	S.d., p., b. and f'c's'le	"	11	Nov. 15, 1918	May 31, 1919	Aug. 7, 1919
6	Nov. 25, 1918	Canadian Aviator	" "	101	5,100	210.	1,071,000	S.d., p., b. and f'c's'le	"	11	Apr. 5, 1919	Oct. 9, 1919	
7	Nov. 25, 1918	Canadian Raider	" "	102	5,100	210.	1,071,000	S.d., p., b. and f'c's'le	"	11	May 31, 1919		
10	July 5, 1918	Canadian Recruit	Collingwood Shipbuilding Co., Collingwood, Ont.	62	*3,964	205.	812,620	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	June 3, 1918	May 3, 1919	June 7, 1919
11	Oct. 17, 1918	Canadian Signaller	" "	63	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	Jan. 16, 1919	June 28, 1919	Aug. 30, 1919
12	Oct. 17, 1918	Canadian Gunner	" "	64	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	Feb. 10, 1919		
13	Aug. 9, 1918	Canadian Settler	Tidewater Shipbuilders Ltd., Three Rivers, Que.	5	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	Lloyd's	11	Jan. 8, 1919	Sept. 20, 1919	
14	Aug. 9, 1918	Canadian Rancher	" "	6	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Jan. 10, 1919		
15	Jan. 24, 1919	Canadian Fisher	" "	7	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Sept. 20, 1919		
16	Jan. 24, 1919	Canadian Forester	" "	8	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11			
17	Sept. 4, 1918	Canadian Trapper	Davie Shipbuilding & Repairing Co., Lauzon, Que.	459	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Mar. 11, 1919	Oct. 9, 1919	
18	Sept. 4, 1918	Canadian Hunter	" "	460	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Mar. 28, 1919		
19	Sept. 4, 1918	Canadian Trader	Port Arthur Shipbuilding Co., Port Arthur, Ont.	39	*3,341	205.	684,905	Lake, s.d., p., b. and f'c's'le	"	9	Dec. 9, 1918	May 5, 1919	July 18, 1919
19a	Mar. 1, 1919	Canadian Adventurer	" "	41	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Mar. 31, 1919	Sept. 8, 1919	
20	Sept. 4, 1918	Canadian Sailor	" "	40	*3,357	205.	688,185	Lake, s.d., p., b. and f'c's'le	"	9	Dec. 10, 1918	May 31, 1919	Aug. 7, 1919
20a	Mar. 1, 1919	Canadian Sower	" "	42	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Mar. 31, 1919	Oct. 9, 1919	
21	Sept. 13, 1918	Canadian Mariner	Halifax Shipyards, Ltd., Halifax, N.S.	1	8,100	195.	1,579,500	2.d., p., b. and f'c's'le	"	10	Feb. 24, 1919		
22	Sept. 13, 1918	Canadian Explorer	" "	2	8,100	195.	1,579,500	2.d., p., b. and f'c's'le	"	10	Mar. 15, 1919		
23	Oct. 11, 1918	Canadian Navigator	Canadian Vickers Ltd., Montreal	73	4,300	215.	924,500	S.d., p., b. and f'c's'le	"	11	Jan. 22, 1919	Oct. 18, 1919	
24	Oct. 11, 1918	Canadian Ranger	" "	68	*8,382	188.	1,575,816	2.d., p., b. and f'c's'le	"	11	Aug. 26, 1918	Apr. 19, 1919	May 23, 1919
25	Oct. 11, 1918	Canadian Seigneur	" "	69	8,400	188.	1,579200	2.d., p., b. and f'c's'le	"	11	Nov. 30, 1918	May 7, 1919	Aug. 14, 1919
26	Oct. 11, 1918	Canadian Miller	" "	70	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	Dec. 2, 1918	Aug. 16, 1919	
27	Oct. 11, 1918	Canadian Spinner	" "	71	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	Apr. 23, 1919		
28	Oct. 11, 1918	Canadian Planter	" "	72	8,100	188.	1,522,800	2.d., p., b. and f'c's'le	"	11	May 10, 1919		
29	Jan. 24, 1919	Canadian Armourer	Harbour Marine Co., Victoria, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	July 14, 1919		
30	Jan. 24, 1919	Canadian Composer	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Aug. 9, 1919		
31	Dec. 11, 1918	Canadian Beaver	Collingwood Shipbuilding Co., Kingston, Ont.	15	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	Apr. 7, 1919		
32	Mar. 1, 1919	Canadian Runner	Port Arthur Shipbuilding Co., Port Arthur, Ont.	43	4,300	215.	935,250	S.d., p., b. and f'c's'le	Lloyd's	10½	Aug. 29, 1919		
33	Mar. 1, 1919	Canadian Carrier	" "	44	4,300	215.	935,250	S.d., p., b. and f'c's'le	"	10½	Aug. 29, 1919		
34	Nov. 22, 1918	Canadian Importer	J. Coughlan & Sons, Vancouver, B.C.	11	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Apr. 26, 1919		
35	Nov. 22, 1918	Canadian Exporter	" "	12	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	May 3, 1919		
36	Nov. 22, 1918	Canadian Inventor	" "	13	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	July 24, 1919		
37	Nov. 22, 1918	Canadian Prospector	" "	14	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11			
38	Dec. 10, 1918	Canadian Cruiser	Halifax Shipyards Ltd., Halifax, N.S.	3	10,500	197½	2,073,750	3.d., p., and f'c's'le	"	12	Oct. 2, 1919		
39	Dec. 10, 1918	Canadian Constructor	" "	4	10,500	197½	2,073,750	3.d., p., and f'c's'le	"	12	Oct. 6, 1919		
40	Mar. 31, 1919	Canadian Sealer	Nova Scotia Steel & Coal Co., New Glasgow, N.S.	5	2,800	210.	588,000	S.d., p., b. and f'c's'le	"	8½	Mar. 27, 1919	Oct. 8, 1919	
41	Mar. 31, 1919	Canadian Miner	" "	6	2,800	210.	588,000	S.d., p., b. and f'c's'le	"	8½	Mar. 31, 1919		
42	Feb. 21, 1919	Canadian Reaper	Prince Rupert Dry Dock and Engineering Co., Prince Rupert, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11	Sept. 27, 1919		
43	Feb. 21, 1919	Canadian Thrasher	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le	"	11			
44	Jan. 23, 1919	Canadian Otter	British American Shipbuilding Co., Welland, Ont.	4	4,350	215.	935,250	S.d., p., b. and f'c's'le	Brit. Corp.	10	Mar. 29, 1919		
45	Jan. 23, 1919	Canadian Squatter	" "	5	4,350	215.	935,250	S.d., p., b. and f'c's'le	"	10	July 14, 1919		
46	Sept. 11, 1919	Canadian Farmer	Collingwood Shipbuilding Co., Collingwood, Ont.	65	3,950	180.	711,000	Lake, s.d., p. b., and f'c's'le	Lloyd's	11			
47	Sept. 11, 1919	Canadian Observer	" "	66	3,950	180.	711,000	Lake, s.d., p. b., and f'c's'le	"	11			
48	Sept. 2, 1919		Dominion Shipbuilding Co., Toronto	10	3,500	180:	630,000	Lake, s.d., p., b. and f'c's'le	"	11			
49	Sept. 2, 1919		" "	11	3,500	180.	630,000	Lake, s.d., p., b. and f'c's'le	"	11			
					280,502		$55,716,026						

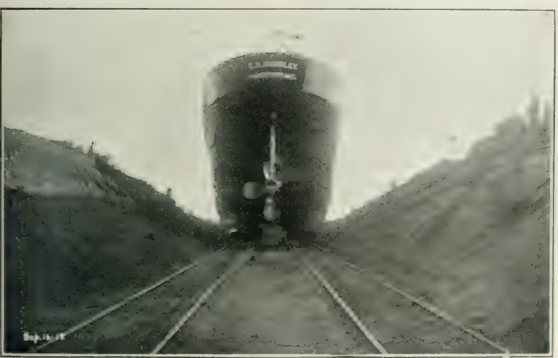
General Shipbuilding Matters Throughout Canada.

B. Belliveau & Co., Belliveau's Cove, N.S., launched the three-masted schooner Rosanne Belliveau, completely rigged and ready for sea, early in October. Her dimensions are: length, overall, 135 ft.; length, over keel, 105 ft.; breadth, 30 ft.; depth, 11 ft.; 281 tons net. She is classed A1 for 12 years in Bureau Veritas and loaded lumber at Belliveau's Cove for the West Indies.

Canadian Car and Foundry Co., Fort William, Ont., launched the 1,500 ton s.s. E. D. Kingsley, for Kingsley Navigation Co., Vancouver, B.C., at its Fort William yards, adjacent to the Kaministikwia River, Sept. 16. This ship is of the single deck type, with long poop and forecastle, and steel deckhouse on poop, with wheel house and chart room above. It is built on the transverse system, with the propelling machinery located aft of amidships. There are two cargo hatches in the forward hold, and one in the aft hold, no. 1 extending from the collision bulkhead to the boiler room bulkhead, and no. 2 from the engine room bulkhead to the after peak bulkhead. There is a double bottom, 3 ft. deep, extending from the collision bulkhead to the after peak bulkhead, divided by transverse oil and water tight floors into a number of compartments. Following are the chief dimensions:

Length overall	209 ft.
Length b.p.	200 ft
Breadth moulded	32 ft.
Depth moulded	17 ft.

The system adopted in launching vessels built at this yard, is unique. The main erecting shop is approximately 1,000 ft. from the Kaministikwia River, and there is a difference in elevation between the water level and the grade at the plant, of approximately 40 ft. Vessels are built adjacent to the plant, rather than close to the water, and are then conveyed to the water's edge by special means. A special building was erected for the building of hulls, and there are 6 building berths. This building is of steel and concrete construction, and is served with overhead travelling cranes to facilitate the application of steel. After a hull is completed, it is supported on cradles, which are carried on specially constructed trucks, which are shown in the accompanying illustration. The hull is then pulled out of the building by a locomotive, on to a transfer table, allowing the hull to move sideways in either direction to line it up with the double line of tracks running from the transfer table to the river. The hull is then moved toward the river by a locomotive, crossing, on the way, Montreal St., the Grand Trunk Pacific Ry., and the Fort William Municipal Ry. Immediately after crossing these tracks, the incline to the water commences, being about an 8% grade. At this point another locomotive is attached, and the hull then descends to the river by its own weight, and is held in check by a cable attached to the bow. The river bank was excavated to obtain this grade and also deep enough to form a slip in from the river, the railway tracks being laid practically to the river bed to allow the trucks to go right into the water. Immediately the trucks go deep enough into the water, the hull floats off and the cradles are hauled in for future use.



Launching of Steel Cargo Steamship E. D. Kingsley, by Canadian Car & Foundry Co., at Fort William, Ont.

Canadian Vickers, Ltd., Montreal—The s.s. Alsace, which was launched at this yard, Sept. 27, for French interests, is being fitted out at the company's works and will be completed, and ready for sea before the close of navigation.

Cholberg Shipbuilding Co., Victoria, B.C., which was organized some little time ago to build wooden vessels with auxiliary power, chiefly for Norwegian interests, has issued a prospectus for the re-arrangement of the company on a co-operative basis to cover both shipbuilding and operating, under the name of British Columbia Ship Owners, Ltd. The proposed capital is stated to be $600,000 in shares of $100 each, and sailing vessels only, are to be built. The prospectus states that it costs $240,000 to build and equip each vessel, and that on a cargo of lumber from Victoria to England, at present freight rates, there would be gross earnings of $82,[illegible]

Doucett Shipbuilding Co., Meteghan River N.S., launched the tern schooner Celeste D., early in October. Her dimensions are: length, overall, 164 ft.; length, over keel, 145½ ft.; breadth, 37½ ft.; depth, 13 ft.; tonnage, [illegible] gross, 594 net. She is equipped with a 15 h.p. Fairbanks-Morse engine for hoisting purposes, and, if necessary, power can be attached to the ship's pumps. She is classed A-1 for 12 years in Bureau Veritas.

Fauquier & Porter, Hantsport, N.S., have discontinued building wooden ships. The yard has been dismantled and the plant disposed of.

Halifax Shipyards Ltd., Halifax, N.S., has on hand for repairs 4 steamships, one being the s.s. Troja, which was salvaged recently in the Bay of Fundy, and the second one is the Dominion Government car ferry Scotia. The latter is being fitted with a new bow.

Halifax, N.S., press dispatch, Oct. 21.—About 1,200 men are now employed at the Halifax Shipyards, and there is much activity about the entire plant. None of the employes are foreigners, and [illegible] of them are service men, 359 having returned from overseas and 62 being on home service. The payroll for September was $144,684. The company's shipbuilding operations are now entering an interesting stage. Four keels have been laid, two of them within the last few weeks, and the work is being pushed ahead rapidly.

J. F. Paige, General Manager Port Arthur Shipbuilding Co., Port Arthur, Ont., is reported to have resigned to enter the Halifax Shipyards' service.

National Shipbuilding Co., Levis, Que.—The s.s. Pomone has been completed by this company and was dispatched to New York recently, to load cargo for Algiers, Tunis and Marseilles. This ship was formerly the Dominion Government dredge Galveston, and was purchased by Hutchison and Dussault, for conversion by the National Shipbuilding Co., into an ocean freight steamship, and eventually sold to Affreteurs. Reunis, Paris, France, which operates the Three Star Line, chiefly in the Mediterranean trade. The reconstruction was done during the winter of 1918-19, and the rebuilt ship was launched 95% completed, and fitted out May 31. The work consisted of the removal of all superstructure, dredging equipment and hoppers, and the construction of a new double bottom with ballast tanks, cargo holds, with 2 new water tight bulkheads, raising of the forecastle and poop decks by 8 ft., new steel decks, a bridge, deck and deckhouse amidships, with chart room and navigating bridge above, crew's quarters in the forecastle and petty officers' quarters in main deck house, new masts with cargo booms and all standing and running rigging complete, 3 cargo hatches, deck winches, capstan and other deck accessories, new rudder, rudder stock and quadrant, rearrangement of engine room and boilers with steam and water piping and complete electric lighting installation. The ship was put under a series of trials June 21, under the supervision of Bureau Veritas officials. She has the following dimensions: length b.p., [illegible] ft.; beam, [illegible] ft.; depth, moulded, [illegible] ft.; tonnage, 3,110 d.w.

Port Arthur Shipbuilding Co., Port Arthur, Ont.—J. F. Paige, General Manager, is reported to have resigned and to have received an appointment from Halifax Shipyards Ltd., Halifax, N.S.

Sorel Shipbuilding and Dry Dock Co.

Ltd., Sorel, Que., creditors have petitioned for a winding up order.

Yarrows Ltd., Victoria, B.C., is reported to have received an order for the construction of a steel ferry steamship of the shallow draft type for operation across the Fraser River, at Mission, B.C. It is stated that the ship will be double ended 90 ft. long, 30 ft. beam, and that on completion the hull will be towed to New Westminster, where two engines with a total of 180 h.p. will be installed.

Shipbuilding in Canada for British Government.

The s.s. War Fury was launched by the Midland Shipbuilding Co., at Midland, Ont., Oct. 16, the christening ceremony being performed by Mrs. W. I. Gear, wife of the Director of Steel Shipbuilding, Imperial Munitions Board. This vessel is of the same type as those built by various companies throughout Canada, for the British Government, under orders from the Imperial Munitions Board. She is of steel throughout, with single deck, poop, bridge and forecastle, and built on the transverse system with inner bottom throughout. Her dimensions are: length, overall, 261 ft.; length, between perpendiculars, 251 ft.; breadth, moulded, 43½ ft.; depth, moulded, 23 ft.; tonnage, 2,240 gross; 3,450 d.w. Cargo will be handled by 4 steel derrick posts, fitted with 8 booms, each boom being served by a 7 x 12 in reversible double drum steam winch. The propelling machinery consists of a triple expansion surface condensing engine, with cylinders 20½, 33 and 54 in. diar. by 40 in. stroke, by John Inglis Co., Toronto, supplied with steam by 2 Scotch boilers, 11 ft. long by 15½ diar. at 185 lbs. The deck winches and windlasses are supplied by Clarke Chapman & Co., and the steering engine by John Hastie and Co., both of England. The vessel is expected to leave Midland, for the seaboard, about Nov. 1.

With the launching of this vessel, the last of the orders placed for the British Government in Canada, for war purposes, is completed. During 1917 and 1918, orders were placed in Canada for 43 steel vessels, at an approximate cost of $40,000,000, and for 46 wooden vessels, costing approximately $24,500,000. The approximate d.w. tonnage of the steel steamships is 211,300, and of the wooden steamships 128,000, an aggregate of 339,300 d.w. tons. The first of the steel steamships was launched May 18, 1917, by Wallace Shipyards Ltd., North Vancouver, B.C., and the first wooden steamship, Dec. 28, 1917, by the Foundation Co., Victoria, B.C.

Prior to the war, shipbuilding had been carried on in Canada in a more or less desultory fashion, chiefly on account of the much lower cost of building in other countries, and, it is claimed, owing to the lack of aid by the Dominion Government, in the form of cash subsidies, or tariff restrictions and alleviations. The placing of these orders by the British Government, gave the necessary impetus to the industry, and the labor conditions consequent on the war, aided in making the cost of shipbuilding in the Dominion more nearly approximate that prevailing in other countries, and in some cases there was a distinct advantage with the Dominion. Several new shipbuilding companies were formed and most of these are still in operation, building vessels for the Dominion Government, and for other allied and neutral countries. A few of these yards, which built wooden steamships on the completion of their contracts have closed their yards, but in the circumstances as they existed at the time, this can only be regarded as inevitable. It remains that the distribution of these orders gave shipbuilders a direct incentive to expand the shipbuilding industry, and an opportunity to place it on a sound and lasting basis.

Canada Steamship Lines' Expansion Plans.

Montreal press dispatch, Oct. 24.—Following on the success that has attended the operations of Canada Steamship Lines on the Atlantic, the report is heard in local shipping circles that important extensions to the ocean service are under consideration. At present the Canada Steamship Lines, through its subsidiary, La Campagnie Canadienne Transatlantique, is operating a passenger and freight service from Canadian to French ports. The amount of traffic that has been booked from Canada and the demand for shipments to other European countries will now, it is said, result in additional arrangements being made. According to present plans, these arrangements will all be completed well before the opening of the next season of navigation on the St. Lawrence. E. Dal Paize, who is a director of La Compagnie Canadienne Transatlantique and Managing Director of La Compagnie General Transatlantique of Paris, France, is expected to reach the city within the next few days to confer with J. W. Norcross, President, Canada Steamship Lines, regarding the extensions now under consideration.

Icebreaking Steamship J. D. Hazen—The Solicitor General stated in the House of Commons recently, in answer to an enquiry, that the British Government was advised, Feb. 26, 1916, that the Dominion Government would agree to transfer this ship to the Russian Government. The ship, in its then unfinished condition, was, on the British Government's request, transferred to the Russian Government, the consideration being that the total amount expended by the Dominion Government on construction, should be refunded. As far as the government is aware, the further disposition of the ship rests with the Russian authorities. The Dominion Government having received payment in full for the ship, the delegates to the peace conference did not insist on the ship's return. The government has under consideration the building of another icebreaking steamship to facilitate winter navigation in the lower St. Lawrence.

Toronto Harbor Life Saving Stations—The operation of the life saving stations in Toronto Harbor, controlled formerly by the Naval Service Department, has been transferred to the Toronto Harbor Commissioners, and new stations are to be equipped at the eastern and western channels, and at Scarboro Beach and the Humber River. J. M. Allin, who was appointed Inspector of Dredging in 1901, and Deputy Harbor Master in 1907, has been given charge of the life saving stations and police patrol.

St. Lawrence River Channel Dredges—It was officially stated in the House of Commons recently that the following number of dredges were in service between Quebec and Montreal during the navigation seasons of 1911 to 1918, both inclusive: 1911, 11; 1912, 12; 1913, 13; 1914, 1915 and 1916, 16; 1917, 11; 1918, 5.

Dominion Government Terminal Elevator at Vancouver, and Grain Shipments to England.

In answer to questions in the House of Commons, Oct. 8, the Minister of Railways gave the following information:

Construction on the government terminal grain elevator at Vancouver commenced in 1915. Power was first laid May 10, 1916. The building was erected by contract, by Barnett McQueen Co., Fort William, Ont., the total cost of construction at commencement of operation, including machinery and equipment, being $760,671.39. Its total storage capacity is 1,500,000 bush. The cost of the per bushel capacity was $50^{711/1000}$ cents. The superintendent of construction was C. D. Howe.

The following grain has passed through the elevator: 1916-1917, 216,284 bush.; 1917-1918, 671,205 bush.; 1918-1919, 889,234 bush.

The financial results for the fiscal years ended July 31, were: 1916-1917, earnings, $4,731.24, net loss $11,506.98; 1917-1918, earnings, $9,422.81, net loss, $4,641.59; 1918-1919, earnings, $22,043.65, net income, $13,514.54. There are six employes.

No overage has existed at Vancouver elevator in commercial grades. We have, however, disposed of grain sweepings as follows: 1916-17, nil; 1917-18, $4^{1820/2000}$ tons at $51.30 a ton, $251; 1918-1919, $124^{1370/2000}$ tons at $72.40 a ton, $8,995.44. Total, $129^{1190/2000}$ tons. Value, $9,146.44.

The following wheat and other grain passed through the elevator en route to European markets via Panama Canal: Wheat—1 hard, 15,165.50 bush.; 1°, 151,296.20 bush.; 2°, 94,107.00 bush.; 3°, 59,340.20 bush.; No. 1, 40,154.10 bush.; No. 2, 9,845.50 bush.; No. 4, 23,459.30 bush.; No. 5, 13,232.40 bush.; Australian, 173,979.10 bush. Total, 580,580.50 bush.

The moisture content of the wheat when landed in Liverpool, after passing through the Panama Canal, compared with moisture test made before being loaded from elevator in Vancouver, was as follows:

Parcel.	Sampled at loading. %	Sampled at discharging. %
B	14.0	14.1
E	13.8	13.7
Y	15.0	14.7
C	13.2	13.1
D	13.6	13.5

Stevedores Limited has been incorporated under the Dominion Companies Act, with a capital of $10,000 and office at Montreal, to carry on a general stevedore, wharfinger and warehouse business, and in connection therewith to own and operate grain elevators, steam and other vessels, etc., and to act as common carriers by water. The provisional directors are Hon. W. J. Shaughnessy and employes of his legal firm.

Engineering Service Ltd., has been incorporated under the Dominion Companies Act, with $20,000 authorized capital, and office at Montreal, to carry on a general engineering business, and to design and build railways, bridges, piers, docks and other works. G. Crutchlow and R. L. D. Mackie, engineers, Montreal, are chiefly interested.

The Lord Strathcona Steamship Co. Ltd., has been under the Dominion Companies Act, with $1,500,000 authorized capital and office at Montreal, to own and operate steam and other vessels and carry on a general navigation business.

Atlantic and Pacific Ocean.

A London, Eng., press report states that of 43 German line steamships, all upwards of 10,000 gross tonnage each, the United States has 25, Great Britain 6, Italy 2, and Brazil 1, with 9 unallotted.

The United States House of Representatives, on Oct. 2, passed a bill changing the system of measurement of vessels passing through the Panama Canal, which provides an increase of approximately 15% in canal revenues.

A steamship service between U.S. ports and Ireland is stated to have been arranged for, in order to meet the demands of a number of U.S. industrial concerns having branches in Ireland. It is stated that Henry Ford, the automobile manufacturer, is to provide the service.

It is reported that communications are taking place between the Canadian Trade Commission in London, Eng., and the Governor of the Gold Coast, West Africa, for the establishment of a direct steamship line between Canada and ports on the west and southwest coast of Africa.

British Government passenger returns to the end of June, in and out of Great Britain, show to British North America outward 31,000, inward 23,000; Australia, outward 6,000, inward 2,500; South Africa, outward 1,500, inward 5,000; United States, outward 11,000, inward 24,000.

The Overseas Shipping Co. is reported to have arranged to start a steamship service in November, between Vancouver and the west coast of South America. The steamships Joan of Arc, Sinaola, and Regulus, are mentioned for the service which will carry chiefly sugar for British Columbia refineries.

A London, Eng., press report of Oct. 2, stated that plans were being discussed there, among a number of independent shipping men, for a steamship service between Canada, the U.S. and the Levant, that some well known Montreal shipping men are interested and that developments may be expected shortly.

A Franco-Belgian shipping combine is reported as being formed, with a capital of 25,000,000 francs, that the preponderance of influence in the company will be Belgian, and that its steamships will sail under the Belgian flag, from Antwerp, to Canada, the United States, the South Antilles and other points in the Pacific.

The Bishop Navigation Co.'s s.s. Iver Heath, formerly the Canadian Pacific Ocean Services' s.s. Lak e Manitoba, which has been completely rebuilt by Halifax Shipyards, Ltd., underwent her trial trips, Oct. 12. She developed a speed of 14 knots an hour, and prceeded subsequently to Philadelphia, Pa., where she took on a cargo of coal for Genoa, Italy.

The Canadian Trade Commission has announced that a direct steamship service between Canada and Norway has been arranged. The s.s. Ranenfjord sailed from Norway Sept. 26, for Montreal and left Montreal for Norway, Oct. 15, to call at Bergen, Stavanger and Christiania. The service is under the management in Canada of Canadian Pacific Ocean Services, Ltd.

W. Grant Morden, M.P., of the Canada Steamship Lines, Ltd., London, Eng. advisory board, is reported to have stated that the company intends to increase its ocean service in the near future, and that in addition to the services already given jointly by Canada Steamship Lines, and Canadian Trans-Atlantic Co., to France, similar services are to be inaugurated between Canada, Belgium and Holland.

The Marine Navigation Co. of Canada, is reported to have completed arrangements for the establishment of a direct steamship service between Canada and Brazil. For this purpose, it is stated, 5 steamships of approximately 5,000 d.w. tons each are nearing completion in Holland, which, when finished, will be registered in Canada. It is said that the first sailing from Montreal will take place this year and that during the winter, sailings will be made from St. John, N.B.

The Canadian Pacific Ocean Services' s.s. Empress of France, formerly s.s. Calgarian, which arrived at Quebec early in October, has been thoroughly overhauled and refitted, subsequent to her service as an auxiliary steamship during the war. Lieut. R. N. Stuart, V.C., D.S.O., is her first officer. The auxiliary steamship on which he was engaged during the war did considerable service and two V.C.'s were awarded, one for officers and one for the crew, each party having to elect the individual to whom it was to be given, the officers unanimously electing Lieut. Stuart.

Elder Dempster & Co. are extending their steamship service out of Montreal, chiefly with South African ports. Two new ships, New Brunswick and New Texas, were in Montreal recently taking cargo for Cape Town. These ships were built at Belfast, Ireland, and have approximately 4,044 d.w. tons capacity. The s.s. New Texas carried 5 locomotives for the South African Government Rys., which were built by Montreal Locomotive Works. Another steamship of similar type is expected in Montreal shortly, named New Toronto, and these three will be followed by another three, all intended for the Canadian-South African trade.

Maritime Provinces and Newfoundland.

The Dominion Coal Co.'s s.s. Corunna, is under going boiler repairs at Halifax, N.S.

The Harbor Grace, Nfld., shipbuilding plant was partly destroyed by fire, Oct. 2.

The British s.s. Chelston, which ran ashore at St. Paul's Island, several weeks ago, broke up and became a total loss during heavy weather Oct. 1. Attempts to salve her met with no success and the greater part of her cargo was also lost. She was owned in Glasgow, Scotland.

The Red Cross Line's s.s. Rosalind, ran aground on Crow's Reef, while en route from St. John's, Nfld., to New York, towards the end of September. The freight, which consisted chiefly of fish, was lightered, and a large hole in the bottom of the vessel was stopped to enable her to be taken to port for complete examination and repairs.

The Minister of Public Works stated in the House of Commons, Oct. 6, that a petition had been received from residents of Park Corner and Sea View, P.E.I. asking the department to dredge out Graham's River, to make it suitable for a boat harbor, but that it was not proposed to take any action, as the estimated cost of the harbor petitioned for is approximately $40,000, and there are harbors within five miles on either side.

Province of Quebec Marine.

The Minister of Marine stated in the House of Commons recently that the government had received a petition from Isle Aux Coudres, Charlevoix County, asking the construction of a breakwater on the southwest side of the island, and that the matter was under consideration.

The wrecked s.s. Montmagny, which has been lying under water near the Isle of Orleans for several years, and which was purchased by Dussault Bros., Levis, Que., with a view to raising her, is reported to have been abandoned after a fourth unsuccessful attempt at salvage.

Judgment was given in the Exchequer Court, at Montreal, at the end of September, allowing the appeal with all costs, of Canadian Vickers, Ltd., from a judgment of the Admiralty Court in 1918, which reduced the company's claim of $52,983.34 to $35,000, for work done on the s.s. Susquehanna. Judgment was entered for $40,484.95 and costs.

The Minister of Public Works stated in the House of Commons recently, in answer to questions, that five tenders were received for building a wharf at

Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marie Canals during August, 1919.

ARTICLES.		Can. Canal	U.S. Canal	Total
Eastbound.				
Lumber	m. ft. b. m.	1,132	38,067	39,199
Flour	Barrels	399,040	536,660	935,700
Wheat	Bushels	1,068,001	419,217	1,487,218
Grain, other than wheat	Bushels	3,089,867	2,194,874	5,284,741
Copper	Short tons	1,340	8,873	10,213
Iron Ore	Short tons	63,456	4,664,538	4,727,994
Pig Iron	Short tons	175	—	175
Stone	Short tons	5,887	4,175	10,062
General Merchandise	Short tons	3,098	4,610	7,708
Passengers	Number	6,645	3,075	9,720
Westbound.				
Coal, soft	Short tons	42,300	1,147,278	1,189,578
Coal, hard	Short tons	6,700	179,687	186,387
Iron Ore	Short tons		1,054	1,054
Mfd. Iron and Steel	Short tons	17,414	6,696	24,110
Salt	Short tons	1,243	10,271	11,514
Oil	Short tons		41,901	41,901
Stone	Short tons		14,654	14,654
General Merchandise	Short tons	10,881	50,261	61,142
Passengers	Number	7,453	2,917	10,370
Summary.				
Vessel passages	Number	219	1,884	2,103
Registered tonnage	Net	750,842	4,407,358	5,158,200
Freight—				
Eastbound	Short tons	219,779	4,860,872	5,080,651
Westbound	Short tons	89,148	[illegible]	[illegible]
Total Freight	Short tons	308,927	[illegible]	6,600,961

Notre-Dame-des-Sept-Douleurs, Isle-Verte, Que., the lowest being from N. Letourneau and J. A. Fortier, which was accepted. The department intends to proceed with the work immediately, so that Isle Verte people may be in a position to use the wharf next spring in shipping sea products.

Ontario and the Great Lakes.

The Naval Service Department's Hydrographic Branch, has issued a new chart of Lake Erie, eastern portion.

The Department of Railways and Canals received tenders, Oct. 20, for the reconstruction of the east pier at Port Maitland.

The s.s. Magnolia, registered at Midland, as owned by Canada Steamship Lines, Ltd., has had her name changed to Luckport.

The Webster Steamship Co.'s s.s. Richard W., ran aground in Lake St. Louis, early in October, when proceeding from Kingston to Ogdensburg for cargo.

The Railways & Canals Department invited tenders recently for placing stone protection on the summit level of the Welland Canal between Thorold and Port Colborne, but no tenders were submitted.

Canada Steamship Lines' s.s. W. Grant Morden, arrived at Port McNicoll early in October, with 503,156 bush. of wheat from Fort William. This is claimed to be a record cargo, the previous record having been 493,000 bush. by the s.s. William P. Snider, Jr.

The Montreal Transportation Co.'s barge Hilda, broke from her tug during a gale, near the Gallop Islands, Lake Ontario, towards the end of September, and ran ashore at Stony Point near Henderson Harbor. She carried 35,000 bush. of wheat and was bound from Buffalo, N.Y., to Montreal. She was released early in October.

The Hydro Electric Power Commission of Ontario is operating a drill scow in the neighborhood of Morrisburg, and Cat Island, and navigators are asked to assist in the operation by causing as little disturbance as possible when passing. The scow exhibits the usual signals for a vessel not under command, as prescribed in the rules of the road for the Great Lakes.

The schooner Bertie Calkins, while taking coal from Oswego, N.Y., to Belleville, sprang a leak during heavy weather, Oct. 12, and sank. There was no loss of life, the crew reaching land in the boats. The schooner was owned by R. G. K. Hepburn, and T. L. Vandusen, of Picton, and was built at Two Rivers, Wis., in 1874. It is expected that she will be raised and taken to Belleville.

The U.S. Lake Survey reports the stages of the Great Lakes in feet above mean sea level for September as follows: Superior, 602.55; Michigan and Huron, 580.81; St. Clair, 575.61; Erie, 572.75; Ontario, 246.86. Compared with the average September levels for the past 10 years, Superior was 0.08 ft. below; Michigan and Huron, 0.14 ft. above; Erie, 0.38 ft. above; Ontario, 0.73 ft. above.

The s.s. T. J. Waffle, owned by Swift & Co., Kingston, is believed to have foundered in Lake Ontario, Sept. 22. She sailed from Fairhaven, N.Y., that day with coal for ingston, and during Sept. 24, wreckage and life preservers bearing the name of the vessel were found on the beach near Oswego. There were known to be on board, in addition to the master, Capt. C. Beaupre, a crew of 6 men and one woman. The vessel was built at Westport, Ont., in 1914, and had an oak hull, and was equipped with high pressure engine with cylinder 12 in. diar. by 14 in. stroke, supplied with steam by a single firebox boiler, 4 ft. 8 in. diar. by 8 ft. long, at 150 lbs. Her dimensions were: length, 105 ft.; breadth, 22 ft. 5 in.; depth, 8 ft.; tonnage, 202 gross, 104 net.

British Columbia and Pacific Coast.

The Union Steamship Co.'s s.s. Camosun, which arrived at Vancouver, Oct. 17, with a broken rudder post, is being repaired by Wallace Shipyards, Ltd.

The C.P.R. s.s. Princess Alice, was laid up early in October, for her annual overhaul. As soon as this is completed she will replace the s.s. Princess Charlotte, which will also be overhauled.

A test action had been entered against the C.P.R., for unstated damages, for the loss of A. R. McLean, when the s.s. Princess Sophia ran ashore on the rocks, and eventually sank, in the Lynn canal about a year ago.

An uncharted rock, marked by kelp, is reported 300 ft. northwest of the island situated north of Safa Island in the Pearse Canal. There is a depth of 17 fathoms inside the rock, and over 30 fathoms in the channel north of the rock.

The acting Minister of Marine stated in the House of Commons, Oct. 22, that the operation of Bamfield life saving station had been temporarily suspended on Aug. 15, and that applications had been invited to fill the positions of crew at the stations, with a view to put it into operation for the coming winter.

The acting Minister of Marine and Fisheries has, according to an Ottawa press dispatch of Oct. 21, given notice of an amendment to the Shipping Act, to provide that ships registered in Canada, employed in voyages between ports in British Columbia and San Francisco, or any United States port north of San Francisco, shall be exempt from the payment of pilotage dues.

The Dominion Government lighthouse steamship Leebro left Victoria, Oct. 8, to place four new aids to navigation in northern waters, viz., a new gas light at Camp Point, Grenville Channel, an oil light at David Point, near Ocean Falls; a gas light on Kinnahar Island, new Prince Rupert, and a gas light on Gin Rock. The light house steamship Newington has left Victoria for the west coast of Vancouver Island, to examine and overhaul aids to navigation there.

The British Admiralty is reported to have raised 440 sunken ships during the last four years, which, with cargoes, are valued at $225,000,000.

Welland Canal Lock Gate Accident—The U.S. s.s. Lake Elon, in passing through the Welland Canal, en route from Conneaut, Ohio, to Montreal, Sept. 30, struck the foot gates of lock 23 and severely damaged them, but did not carry them out. It was necessary to place two spare gates in position, and navigation was resumed early Oct. 1, having been interrupted for 16 hours. The master of the vessel stated that he gave the engineer the signal to reverse, but that the vessel went ahead, instead of backing up. The damage is estimated at $5,000.

Contracts Let for Marine Public Works.

The Dominion Public Works Department has let the following contracts:

Port Elgin, Ont., repairs to town wharf and reconstruction of breakwater; Max Clairmont, Goderich, Ont.; Sept. 2; schedule of prices.

Half Moon Bay, B.C., construction of pile bent and timber decking wharf; Fraser River Pile Driving Co., New Westminster, B.C.; Sept. 2; $5,775.

Fraser River, B.C., from entrance of North Arm to New Westminster; dredging; Pacific Construction Co., Vancouver; Sept. 2; class B., $0.15½ a cu. yd., place meas.

St. Maurice River, Three Rivers, Que.; dredging; Simpson Bros. Co., Montreal; Sept. 3; class B, $0.24 a cu. yd., scow meas.

Sidney, B.C., repairs to wharf; McDonald, Watson & Wither; Victoria; Sept. 3; schedule of prices.

Roberts Bay, B.C., repairs to float and approach; McDonald, Watson & Wither; Sept. 3; schedule of prices.

Saanichton, B.C., repairs to wharf; McDonald, Watson and Wither; Victoria; Sept. 3; schedule of prices.

Toronto harbor, eastern entrance; reconstruction of portion of superstructure of east pier; C. S. Boone Dredging & Construction Co., Toronto; Sept. 9; schedule of prices.

La Prairie, Que.; Improvements to protection dike; A. Lacroix, and H. Gravel, St. Lambert; Sept. 15; schedule of prices.

Grosse Isle, quarantine station, Que.; construction of operating house in connection with radiotelegraph station; Delphi Maranda, Que.; Sept. 13; $2,340.

North Lake, P.E.I.; boat harbor; J. Hughes, J. Quinn and L. B. MacMillan, Charlottetown; Sept. 23; schedule of prices.

Berthier en bas, repairs to wharf; Nazaire Letourneau, Montmagny; Sept. 20; unit prices.

Okanagan Center, B.C.; construction of public wharf; S. Mills, New Westminster; Sept. 26; schedule of prices.

Shippigan Gully, N.B.; repairs to breakwater; A. Landry and S. G. Robichaud, Shippigan; Sept. 27; schedule of prices.

Depot Harbor, Ont.; renewal of wharf; R. Brewder, Ottawa; Oct. 3; schedule of prices.

Ste. Anne de Beaupre, Que.; wharf repairs and reconstruction; Onesime Poliquin, Portneuf, Que.; Oct. 10; schedule of prices.

Demountable Wooden Ships.—A Pacific coast press report says:—The demountable ship is not yet a reality. The scheme suggested by John Arbuthnot of Victoria, B.C., has not yet been tried. It is announced that construction will be started in Seattle by a shipbuilding man formerly resident in Victoria. The builder is said to have gone to New York to arrange for the building of the demountable craft. Canadian banking interests are said to be behind the venture, and their support was not given until thorough investigation had been made by marine experts, and approval given. The two ships that are to be built in Seattle will contain between 5,000,000 and 6,000,000 ft. of lumber, and will be fitted with auxiliary power that will give them a speed of 5 to 6 knots. It is estimated that the market value of each ship will be $250,000 in Puget Sound, while the price it will bring in Great Britain is $500,000.

Control of Canadian Ships by British Ministry of Shipping.

London, Eng., Oct. 1.—Many shipowners and heads of industries in Canada have complained of the attitude of the British Ministry of Shipping in its refusal to release tonnage chartered for use in the Canadian trade and commandeered by the Ministry of Shipping during the war. They have summed up this as a discrimination against Canadian interests Senator Nicholls, made the same statement in the Senate at Ottawa recently. People in Canada are not in a position to judge of the enormous difficulties under which the Ministry of Shipping has worked and the Canadian mission in London secured the following statement from Sir Norman Leslie, who was Director of Requisitioning in the Ministry of Shipping during the war. Sir Norman has also presented the case to the satisfaction of some prominent Canadian shipping men who were recently in England. In his criticism of Senator Nicholls' speech he says it appears to him to be a statement of the hardships inflicted on the Dominion Coal Co., supported by a general accusation of discrimination by the British Government against the Canadians during the war and since the armistice. The statements about the coal company, he says, are of relatively small importance. The attempt to strengthen the prejudice against the mother country by suggesting that people in England were favored at the expense of friends and allies is a serious matter, but needs only fuller information to be dispelled. Sir Norman continues:

"In 1916 shipping was the most vital problem which faced Britain. Britain had to bear not only her own burdens but those of the allies. Italy's ammunition factories were calling for coal. Similarly Britain had to supply France with 2,000,000 tons of coal a month, carry wheat to her shores, and assist in the importation of war materials. After 1916 the immense extension of the British fronts required the requisitioning of vessels in batches from 20 to 150 at a time. Charter parties were ruthlessly broken, contracts waived on one side, cargo left in warehouses, and ships thus obtained to carry stores to the army and allies and coal to the fleet. All day long the transport department was thronged with ship owners, merchant charters, manufacturers, members of parliament, foreign attaches, high commissioners, and even bishops, each with a moving tale to tell of the loss inflicted, factories closed, and the welfare of the whole districts imperilled by the ruthless requisitioning of chartered tonnage required for contract. The coasting trade was reduced to a skeleton. Engagements which seemed inviolable in April were doubtful in July and ruthlessly upset in September, and by the end of autumn 1916, there were practically no more tramp steamers available. The only way to get further tonnage was to curtail the voyages of liners and see that they brought cargoes from the nearest possible spot, instead of along the usual routes. Supplies from places like India, Australia, New Zealand and the far east were cut down to the barest possible figures. The Chinese coasting trade, which had been built up by British shipowners during half a century, was entirely broken up and the ships put into the Persian Gulf for the Mesopotamian expedition and the trade handed over temporarily to the Japanese. The services between North America and Argentine were discontinued and taken up by neutrals. Steamers trading on the Indian coast were transferred to the Atlantic, and meat steamers which were built for Australian and New Zealand trade were concentrated on the Atlantic.

'We bought millions of tons of wheat in Australia, and left it there to be eaten by mice and weevils because we had not ships to bring it home—and people talk of discrimination. Any Canadian who may think that in circumstances of such stress, it was possible to discriminate, has only to look at the quantities exported from Canada in 1916, 1917 and 1918, and at the names of the ships which visited the St. Lawrence, the Corinthic from New Zealand, Dunvegan Castle, from the Cape, Themistocles, for Australia, Khiva from India, Jason from Japan, and the Darro from Plate, to realize that if there was any discrimination it was certainly not against Canada. That the Dominion Coal Co. suffered hardships by the temporary losses of some cheap-time chartered steamers is true, but so did hundreds of firms in Britain. That coal as a consequence was scarcer and dearer in Canada is also true, but it was never so scarce nor so dear as in Italy or France, nor the consequences of the scarcity fraught with such terrible possibility."

London, Eng., Oct. 6.—Shipping conditions on the Atlantic route are now easier than they have been at any time in the past six months. The Ministry of Shipping is taking only 40% of Canadian cargo space for October, leaving 60% for commercial cargo. It is not believed here that the movement of the wheat crop will result in a shipping scarcity again. The British Government will supply ships for the transport of its purchases of grain from Canada, and it is expected there will be a slackening of the Ministry of Food's requirements on account of the congestion at the British docks, which has led to vigorous protests against further large importations of bacon, timber, etc., until conditions improve. The recent announcement of the transfer of Canadian vessels from British to Canadian registry does not mean the automatic transfer of all such ships. In most cases the Ministry of Shipping will continue its control while it remains in office, which it is expected to do for six or seven months longer.

London, Eng., Oct. 13.—The Shipping Controller has informed the Canadian Trade Mission that the British Government, which now requisitions 50% of cargo space to Canada, expects to requisition less gradually every month henceforth, although some months must elapse before a reduction in freights and the tendency of increased exports to stabilize exchange can be expected.

The foregoing cable dispatches were sent by the Montreal Gazette's London correspondent.

London, Eng., cable to Toronto Globe, Oct. 24: The North Atlantic Traffic position is now very much clearer, especially as regards passengers, and the waiting list has been nearly run off altogether. The repatriation programme has been carried out so vigorously that the government now requires only one-fifth of the total passenger space. At the request of Capt. Fisher of the Canadian Pacific Ocean Services, the British Government has allotted the ex-German Prinz Friedrich Wilhelm, 17,600 tons, about the size of the Empress of France, to replace the Melita, which the government borrowed to ease the congested traffic to the far east. Consequently the Montreal service will not suffer.

Regard to future reconditioning is still impeded by the idiosyncrasies of the British workman, who when working for the government feels it a point of honor not to work too hard. It is wonderful to what trouble and inconvenience he will put himself to achieve this end. At a recent inspection workmen were found standing in a pitch dark place smoking. Others were locked up in the cabin asleep. This is the reason why, in the case of the Empress of Britain, the company has decided to accept a lump sum in compensation and do the work itself. The vessel will be completely gutted and reconstructed in the most modern manner. It is hoped, by substituting oil for coal, to gain another knot in speed and work up to 19 knots. This is quite in the fashion, for, while the transatlantic line still prefers a mixture of coal and oil, the P. & O. has just decided to build seven or eight ships for oil alone.

Proposed Dry Docks at Vancouver, B.C.

Applications have been made to the Dominion Government for aid under the Dry Docks Subsidies Act, for the construction of dry docks at Vancouver, as follows:

J. Coughlan and Sons—For concrete graving dock, 700 ft. long, 100 ft. wide at entrance, 32 ft. depth of water over sill at ordinary spring tide, to be built about 1,000 ft. west of the Dominion Government wharf and grain elevator, at an estimated cost of $3,658,000.

Davidson and Cameron—For a concrete graving dock, 1,150 ft. long, 125 ft. wide at the entrance, 38 ft. depth of water over sill at ordinary spring tide, to be built at Deadman's Island, at an estimated cost of $6,600,000.

Wallace Shipyards Ltd.—For a floating dry dock of 15,000 tons capacity, to be built just east of the ferry landing at North Vancouver, at an estimated cost of $3,500,000.

The applications are being examined by the Public Works Department's Engineering Branch. The estimated costs of all dry docks are subject to revision by the department.

The s.s. Cabotia, which was wrecked recently, was offered for sale early in October. She was built at Gibraltar, Mich., of oak, in 1880, and named Hiawatha, and has diagonal strapping on the frames and steel boiler house. She underwent large repairs to hull in 1917-18, and extensive repairs were made to her engine during 1919. Her dimensions are: length, b.p., 234 ft., breadth, moulded, 36 ft., depth, moulded, 30 ft., tonnage, 1,630 gross, 932 net. She is equipped with fore and aft compound engine, having cylinders 21 and 50 in. diar., by 46 in. stroke, 700 i.h.p. at 85 r.p.m., and supplied with steam by a single Scotch boiler 12 x 12½ ft. at 125 lb. The wreck was purchased by the Donnelly Salvage and Wrecking Co., which raised the ship and took her to Kingston, Ont.

The Tonnage of Ships Explained.

With the very large extension of the shipbuilding industry in Canada, during the war, considerable attention has been directed to a number of the technical details of ship construction, by those whose business and interest are connected with shipbuilding, but who are not intimately concerned with the technical side of the industry. Among these, is the matter of tonnage calculation, about which there is undoubtedly a great deal of misconception. Frequent reference is made in the daily press, and very often wrongly made, to gross tonnage, net tonnage, displacement tonnage and deadweight tonnage, with little idea as to how these are arrived at. The following information will doubtless be of interest in this connection:

Before entering upon an explanation of the various formulae used in determining the tonnage of a vessel, a brief recapitulation of the British tonnage laws may be of interest. Until 1694, no act of parliament enforced a rule for tonnage measurements on English ships, with the exception of "keels" and vessels loading coals on the Tyne and Wear. The earliest English tonnage law was passed in 1422, and applied exclusively to "keels" used in carrying coals at Newcastle-on-Tyne. Its object was to measure accurately the "portage" of each keel, and to mark that portage on the vessel so that the King's due of two pence per chaldron might be secured. In 1679 a further act was passed, extending the law to the Wear, and in 1694 deadweight was substituted for chaldron measure. An act of 1775 extended this law to vessels loading coal in any port in the United Kingdom. The act of 1694 was the first act of parliament embodying a rule for estimating tonnage for English sea-going and coasting ships. As the first English tonnage rule, it is worth reproducing, though the act was repealed in 1696. It ran as follows:—

L = length of keel (so much as she treads on the ground).
B = breadth amidships (inboard from plank to plank).
D = depth of hold (from plank below keelson to under part of plank of upper deck, up to which cargo is stowed).

$$\text{Tonnage} = \frac{L \times B \times D}{94}$$

The next English tonnage law, enacted in 1773, applied to all classes of merchant ships. It continued legally in force up to 1835, and is even now used, and known as the B.O.M., or

Builder's Old Measurement Rule.—In carrying out this rule, the length was taken on a straight line along the rabbet of the keel, from the back of the main stern post to a perpendicular line let fall from the fore part of the main stem under the bowsprit. The breadth was the extreme breadth to the outside planking, exclusive of doubling planks or strakes that might be wrought at that part.

If L = length, B = breadth, then tonnage (B.O.M.) =

$$\frac{L - 3/5B \times B \times B/2}{94}$$

Following this brief retrospect, let us now consider present day methods of computing the tonnage of our ships.

Displacement.—To the lay mind, displacement tonnage must convey the most ready and accurate idea as to the relative sizes of ships, as it gives their actual weights, or, in other words, the weights of the volumes of water they displace. It is the system used in denoting the tonnage of all warships. As Sir William White says in his classic work on Naval Architecture, it is usual to express the volume in cubic feet, and for sea water to take 64 lb. as the weight of a cubic foot; so that the weight of the ship in tons, multiplied by 35, gives the number of cubic feet in the volume of displacement when the ship floats in sea water. If our ships were simply parallelopipedons, the displacement in tons would, of course, be quickly arrived at, by simply multiplying the length in feet on the load line by the breadth, also in feet, on the load line by the mean draft in feet, and dividing the product by 35. But, as the under bodies of our ships are anything but simple rectangular forms, two processes are generally made use of in computing a vessel's displacement, as the calculations in each process are required to determine the position of the center of gravity of displacement, or center of buoyancy, and also because the two results are a check on the correctness of the calculations. One process consists in dividing the length of the ship on the load water-line by a number of equidistant vertical sections, computing their several areas by one of Simpson's rules, and then treating them as if they were the ordinates of a new curve, the base of which is the load water line. In the other process the depth of the vessel below the load water-line is divided by a number of equidistant longitudinal planes parallel to the water line. The areas of these are computed by Simpson's rules, and are treated as if they were the ordinates of a new curve, the base of which is the vertical distance between the load water line and the lowest longitudinal plane.

Gross Register Tonnage is reckoned at the rate of 100 cub. ft. of capacity, and is measured according to the Merchant Shipping Act, 1894, by taking the areas of a number of transverse sections, varying in number, from 4 ships not exceeding 50 ft. long to 12 in vessels of over 225 ft. The areas are then treated as the ordinates of a new curve of the same length as the vessel, and the area of the new curve, found by Simpson's first rule, will be the capacity of the vessel in cub. ft. which, being divided by 100, gives the gross register tonnage. Approximately, gross register tonnage may be found on the following formula:—

L = the inside length on upper deck, from plank at stem to plank at stern.
B = the inside main breadth.
D = the inside midship depth from upper deck to ceiling, at limber strake.

$$\text{Register tonnage} = \frac{L \times B \times D}{100} C.$$

C 0.65 for steamers of two decks.
0.68 for steamers of three decks.

The values thus obtained give the entire cubical capacity of the ship. The capacity of the poop, deck houses, and other permanently enclosed spaces is to be measured and included, but deductions are allowed for buildings erected for the shelter of passengers only, for crew space at the rate of 120 cub. ft. per man, and for propelling space. This third item, for screw steamships, is taken at 32%, if the cubic content of the space is 13% and under 20% of the gross tonnage; but, if the space is less than 13% or more than 20% of the gross tonnage, then either the 32%, or 1¾ times the space, may be deducted. Deductions are also allowed for (1) any space used exclusively for the accommodation of the master, (2) any space used exclusively for the working of the helm, the capstan, and the anchor gear, or for keeping charts, signals, instruments of navigation, and boatswain's stores, (3) the space occupied by the donkey engine and boiler, if connected with the main pumps of the ship and (4) any space (other than double bottom) adapted only for water ballast.

Net Register Tonnage is a very elastic term, and is arrived at by deducting the various allowances specified above from the gross register tonnage, to which it bears no ratio or proportion; in fact, it may even become a minus quantity. We have now examples of coasting steamships of 270 tons gross register carrying 220 tons deadweight and trading on a net register of 12 tons.

The foregoing is reproduced from The Shipping Directory, London, Eng.

Another Explanation of Tonnage.

The United States Shipping Board issued the following recently:—To many persons who are not experienced shipbuilders, the various uses of the term "tonnage" in relation to the size of a ship may be confusing. The following article from the Pusey & Jones Shipbuilder explains the terms well and makes a clean distinction between the various ways in which they are used:

There are four kinds of tonnage in use in shipping circles. They are gross tonnage, net registered tonnage, deadweight carrying capacity, and displacement.

Deadweight tonnage is what the vessel can actually carry in tons of heavy cargo, plus stores and bunker coal.

Gross tonnage is based on the cubic contents of the hull, with certain arbitrary spaces deducted, and has little bearing on the cargo carrying capacity of the vessel.

Net registered tonnage is gross tonnage, with certain allowances for crew space and machinery space deducted, and has little bearing on the dead-weight carrying capacity of the vessel.

Displacement is the total weight of the vessel when full of cargo—that is, the weight of her hull plus her deadweight tonnage.

In round numbers a ship of 9,000 tons deadweight would stand about as follows:

Deadweight carrying capacity	9,000 tons
Gross tonnage	5,000 tons
Net registered	3,000 tons
Displacement	12,000 tons

Pilotage Rates in Montreal District

An order in council has been passed fixing the pilotage rates in the Montreal district as follows for each foot draft upward or downward:

Inland steamships, $3.25.
Coasting steamships, $3.50.
Sea going steamships, $4.
This is an increase of 75c a foot draft.

Steamship Tonnage — The following countries are credited with increases of steamship tonnage since the war began. British Dominions, 1,863,000 tons; U.S., with seagoing vessels, totalling 9,773,000 tons, an increase of 7,746,000 tons over 1914; France, with 1,962,000 tons, and Japan, with 2,325,000 tons. A decrease of 2,547,000 tons is noted for the United Kingdom, and 1,888,000 tons for Germany.

Proposed Development of St. Lawrence River Navigation and Power.

Canadian Railway and Marine World asked A. A. Wright, of Toronto, who for many years has taken a very active part in Dominion Marine Association affairs, for his views on the matters referred to in an article under the above heading, which appeared in our last issue, and he has kindly given them as follows:

"The programme being carried out is simply in line with the repeated recommendations made by the Dominion Marine Association, in every discussion which has come up before the International Waterways Commission, where we invariably opposed the granting of rights to private corporations for the development of electrical power on the St. Lawrence River.

"There should be no question at present regarding the advisability of developing every available water power throughout Canada by the Dominion and provincial governments working in harmony, so that factories and railways could be operated by electrical power, and leave the consumption of coal to what is necessary for heating purposes only. With miners asking for 60% increases in wages, after the extraordinary advances of recent years, with a 6-hour day, coupled with the fact that some labor organizers strongly support a 3-hour working day, and still greater increases in wages, it would appear as if coal will soon be beyond the reach of the average man; and, therefore, a careful looking into the question of developing power on the St. Lawrence is worthy of commendation.

"The advantage of constructing works by the joint action of the governments of the two countries, is, that as engineers are not infallible, if it is found that any of the works impede navigation, they can be corrected without everybody hearing about the robbery of the widow and orphan. If it is feasible to develop the power, and preserve free navigation by a limited number of locks for the largest class of ships, this should be done, as no one can foresee the necessities of the future in connection with navigation beyond a very short period.

"It should also be borne in mind, that while the St. Lawrence River is the natural outlet and inlet for coarse bulk and other traffic between Duluth and Chicago and the Atlantic Ocean, as well as from Canadian and United States ports along the great lakes, and connecting rivers, the use of the waterways by large steamships will be restricted for a number of years, for the reason that canal and river navigation is entirely distinct from ocean navigation, and Montreal is likely to remain the head of navigation for the large freight and passenger liners. It is also likely to remain an unknown port to the large lake steamers of 8,000 tons and over, because at present time there is no return cargo available for ships of this class. This, however, is not a reason for holding up the St. Lawrence River improvement whenever the country is able financially to carry it out, because the smaller ships, which have been trading from Port Colborne to Montreal, could make better time when the improvements are made and thus reduce the cost of carrying freight. In addition to this, when any inland port might happen to receive a full cargo of something from the ocean without breaking bulk, the ship would then be in a position to take a cargo of grain or any other commodity which might be available at an inland port for export.

"The history of railway and steamship companies proves conclusively that trade will develop when the facilities are furnished, and, in my judgment, it is merely a question of the ability of the country to finance the electrical development, and doing this in such a way that navigation of the river would be improved at the same time, so that when required the largest ships likely to trade could be accommodated."

Canadian Notices to Mariners.

The following notices have been issued by the Marine Department:

Nova Scotia — Green Island — An explosive fog signal will be established as soon as possible.

Prince Edward Island—North Rustico harbor—Owing to the shifting of the channel at the entrance to North Rustico harbor, the outer range lights have been moved to a new position near the western breakwater.

New Brunswick — Shippigan Gully — Back range light to be re-established—On breakwater, 175 feet 357° 45′ (N 21 30′ E. mag.) from front light. Fixed white light, shown from a lens lantern, hoisted on a pole 30 feet.

Ontario — Toronto harbor — During dredging operations in the east end of the harbor, pile dolphins have been established to mark the western limits of the dredging. Mariners are advised to change to a westerly course immediately inside the east entrance piers to give the dolphins as wide a berth as possible. Each dolphin will be marked at night by four white lights. On completion of the dredging the piles will be removed.

Ontario — Port Arthur — During the summer of 1919, the Public Works Department has dredged the middle ground between the channels leading to the Richardson elevator wharf and the Saskatchewan Co-operative Co. elevator wharf, to a depth of 25 ft. to within a distance of 275 feet from the front face of the wharves. The black spar buoy formerly moored on the outer end of the dredged cut leading to the Saskatchewan Co-operative Co. elevator wharf, will be moved northward to a new position 275 feet 146° 15′ (S. 35° 45′ E. mag.) from the southeast corner of the wharf. The red spar buoy formerly moored on the outer end of the dredged cut leading to the Richardson elevator wharf will be moved northward to a new position 275 feet 135° 45′ (S. 46° 15′ E. mag.) from the southwest corner of the wharf.

British Columbia—Victoria harbor, fog bell established—On Shoal Point beacon, on extreme top of slatwork ball and immediately below the light. The bell, operated by electricity supplied by submarine cable from shore, rings continuously at short intervals, during thick or foggy weather.

Quatsino Sound—A rock, which only breaks at low water with a heavy westerly swell, is reported to exist 2.5 cables from South Danger rock.

Vancouver Island, Goletas Channel—On June 25, the master of the s.s. Redondo reported the existence of a kelp patch between Noble and Blyth islets. A recent examination of the vicinity by the Naval Service Department's Hydrographic Survey, shows that a rocky shoal, 300 ft. in length is situated 1 cable from the western extremity of Blyth Islet, and is marked by kelp. A depth of 12 fathoms was found between the shoal and the islet.

Fitz Hugh Sound, north entrance to Rivers Inlet, rock southward of Swan rock non-existent. A recent examination by the Hydrographic Survey, Naval Service Department, shows that the rock referred to in previous notice to mariners does not exist. The locality was swept and a depth of 65 fathoms was found in the position given for the rock.

New Brunswick—Bay of Fundy, Old Proprietor ledge—Owing to the ball on the top of Old Proprietor ledge spindle having been broken off, the height will be decreased about 12 ft.

Quebec — River St. Lawrence — Les Eboulements—The hand fog horn maintained by Canada Steamship Lines on outer end of pier at Cape St. Joseph is used only to answer signals from their vessels.

Newfoundland—Fortune Bay, Boxey Point—Flashing red acetylene light established on the point showing 20 flashes every minute.

Vessels Added to and Deducted From the Canadian Register During September, 1919.

	Steam			Sailing		
		Tonnage			Tonnage	
	No.	Gross	Registered	No.	Gross	Registered
Added.						
Built in United Kingdom						
Built in Canada	4	8,243	1,895	8	2,880	2,678
Purchased from foreigners				2	18	18
New registers	1	273	118	2	304	304
Remeasurement without re-registry			130			
Totals	5	8,516	2,143	12	3,202	[illegible]
Deducted.						
Wrecked or otherwise lost	3	1,417	833	[illegible]	[illegible]	[illegible]
Broken up or unfit for use	2	61	42			
Sold to foreigners	1	1,141	916	1	[illegible]	[illegible]
Transferred to United Kingdom						
Transferred to British possessions	1	988	672	1	[illegible]	[illegible]
New registers	1	637	303	[illegible]	[illegible]	[illegible]
Remeasurement without re-registry		9				
Totals	8	4,248	2,766	7	[illegible]	[illegible]

Alliance Steamship Co., Ltd., has been incorporated under the Dominion Companies Act, with $1,000,000 capital and office at Montreal, to carry on a general navigation and steamship business.

Halifax Graving Dock Expropriation—The Senate, on Oct. 3, adopted a motion, by Senator Dennis, that an order issue for all papers, letters and telegrams, between any official or department of the government and any person, firm, or corporation between Dec. 1, 1918, and July 1, 1919, and reports thereon, in connection with the expropriation of the Halifax graving dock.

United States Shipping Notes.

The U.S. Shipping Board announces that, according to its estimate, the U.S. merchant marine, under its control, comprises 1,468 vessels, aggregating 8,109,458 d.w. tons.

The U.S. Bureau of Navigation reports 200 sailing, steam, gas and unrigged ships of 374,165 gross tons, as built in the U.S. and officially numbered, during September.

The U.S. State Department announced recently that two Swedish experts had sailed for the U.S. to investigate the conditions of the coal market and the possibility of arranging for tonnage to ship 50,000 tons of coal monthly to Sweden.

The North German Lloyd Line's resident director is reported to have stated in New York that that company will not resume its service between Germany and the U.S. as the few steamships it has left are hardly more than 1,000 tons each.

The U.S. Shipping Board's Operations Division announced, early in October, reductions in ocean freight rates averaging approximately 33%, on general and miscellaneous cargoes from Atlantic and Gulf ports to the South American east coast.

The U.S. Shipping Board's chairman has announced that there is no change in the price at which the board's vessels are being held and that none is contemplated. Wood ships are being held at $90 a d.w. ton, new steel freighters at from $210, for smaller type, to $225 per d.w. ton for larger vessels. No immediate sale of passenger steamships is contemplated.

The U.S. Shipping Board's chairman announced recently that the Emergency Fleet Corporation takes the position that following the policy announced by the President, no increase be authorized over Macey scale of wages, which is continued in effect after Oct. 1, unless a change is authorized after White House conference, and if shipbuilders put any increase into effect it must be understood they do so at their own cost, and that the Emergency Fleet Corporation will not assume or pay any part of such increase.

Government Control of Ocean Steamships.

J. A. Armstrong, M.P., for Lambton, Ont., asked the following questions in the House of Commons Oct. 8: "1. What action, if any, has this government taken with a view to carrying out the recommendations, as set forth in the final report of the royal commission on the natural resources, trade and legislation of certain portions of His Majesty's Dominions, as presented to the British Parliament in Mar., 1917, showing that it is not desirable that the operations of the steamship companies carrying passengers and freight between Canada and the United Kingdom should remain longer without some measure of government supervision?

"2. Does this government intend to take immediate steps to assist the Imperial Government in bringing about government control of the ocean carriers doing business (or, from time to time, doing business), between the United Kingdom and Canada?

"3. Has the Canadian Government called the Imperial Government's attention to the fact that serious discrimination in freight rates is being practised against products carried from Canada by British shipping interests as compared with similar products carried from other countries?"

Sir Geo. E. Foster replied as follows: "1. The report of the royal commission referred to has been presented to the British Government and the recommendation referred to is now under consideration by that government, and with others will probably form the subject matter of consideration at the next imperial conference.

"2. The Canadian Government will cooperate with the Imperial Government and the other overseas dominions in considering the question of the supervision and control of ocean tonnage between the different parts of the British Dominions.

"3. The Dominion Government has called the Imperial Government's attention to certain alleged discriminations and injustice in connection with the supervision by the British Ministry of Shipping in the employment of vessels under charter by Canadian shipping interests."

Sault Ste. Marie Canal Lock Depths

J. W. LeB. Ross, Superintending Engineer, Sault Ste. Marie Canal, Sault Ste. Marie, Ont., writes as follows: "The article in Canadian Railway and Marine World for October, on page 564, describing the fourth lock at Sault Ste. Marie, Mich., gives the dimensions of the various locks, which are correct in every respect, excepting in the depths of water. You state that the depth in the Canadian lock is 22 ft. in the Poe lock 23 ft., and in the third lock 24.5 ft. These depths do not refer to the same river level. At the river level of 580.6, the level to which all soundings are plotted, the third lock has a depth of 24.5 ft., the Poe lock 18 ft., and the Canadian lock 18.3 ft., the Canadian lock being about 4 in. deeper than the Poe lock. The water level 580.6 is, however, extremely low. The depth in the Canadian lock varies from 18 ft. to 20 ft., and during the present season has varied from 19 ft. to 20 ft."

French Merchant Marine—It is reported that France has already added to her tonnage of merchant ships and that several steamship lines have now more ships than in 1914.

Vessels Registered in Canada During September, 1919.

In compiling the following lists of vessels registered, steamboats and motor boats, operated by engines of less than 10 n.h.p., are eliminated, as also are sailing vessels of less than 100 tons register.

STEAM.

No.	Name	Port of Registry	Where and when built		Length	Breadth	Depth	Gross Tons	Reg. Tons	Engines, Etc. N.h.p.	Owners or managing owners
141006	Busy Bee	Quebec	Lauzon, Que.	1919	78.0	20.0	9.6	115	5	42 Sc.	Davie Shipbuilding and Repairing Co., Lauzon, Que.
141474	Canadian Miller (a)	Montreal	Montreal	1919	400.3	52.3	28.5	5439	3336	266 Sc.	Minister of Marine and Fisheries, Ottawa.
[illegible]	E. H. Bronson	Ottawa	Pembroke, Ont.	1895 1918	140.7	43.7	7.7	273	118	70 Sc.	Upper Ottawa Improvement Co., Ottawa.
[illegible]	General Williams	Toronto	Toronto	1919	251.0	43.6	21.2	2490	1519	147 Sc.	Dominion Shipbuilding Co., Toronto.
[illegible]	H J Bronson	Montreal	Kinkston, Ont.	1919	99.5	20.6	10.0	199	35	57 Sc.	Montreal Transportation Co., Montreal.

(a) Equipped with wireless.

SAILING.

No.	Name	Port of Registry	Rig	Where and when built		Length	Breadth	Depth	Gross Tons	Reg. Tons	Owner or Managing Owner.
[illegible]	[illegible]	Yarmouth, N.S.	Schr.	Yarmouth, N.S.	1919	161.1	35.6	13.0	558	514	Scotia Shipbuilding Co., Yarmouth.
[illegible]	Cumberland Queen	Parrsboro, N.S.	"	Diligent River, N.S.	1919	179.0	38.0	13.2	682	634	Joseph N. Pugsley, Parrsboro, N.S.
141446	Dollar VII	Vancouver, B.C.	Scow	Dollarton, B.C.	1919	96.4	36.0	7.3	214	214	Canadian Robert Dollar Co., Vancouver, B.C.
[illegible]	[illegible] E. Moulton	Lunenburg, N.S.	Schr.	Mahone Bay, N.S.	1919	122.5	38.0	10.3	242	208	J. T. Moulton, Burgeo, Nfld.
[illegible]229	G. H. Murray	Weymouth, N.S.	"	Comeauville, N.S.	1919	137.5	32.5	12.4	391	354	J. W. Comeau, et al., Comeauville.
[illegible]	[illegible]	Shelburne, N.S.	"	Shelburne, N.S.	1919	108.6	25.7	10.3	184	167	G. C. Harris, Grand Bank, Nfld.
[illegible]	[illegible]	Weymouth, N.S.	"	Bleliveau's Cove, N.S.	1919	143.5	33.1	12.5	425	398	Hankinson Shipping Co., Belliveau's Cove, N.S.
[illegible]	Mary Emerson	Arichat, N.S.	"	Essex, Mass.	1889	41.4	12.9	5.0	13	13	P. Perrier, West Arichat, N.S.
[illegible]7488	Ossifrage (b)	Halifax, N.S.	Barge	West Bay City, Mich.	1886	153.5	27.8	9.0	235	235	C. Brister, Halifax, N.S.
[illegible]11407	Team Sixteen	Lunenburg, N.S.	Schr.	Conquerall Bank, N.S.	1919	119.2	26.0	11.0	184	154	P. Templeman, St. John's, Nfld.

(b) Formerly a steamship.

Mainly About Marine People.

Lady Allan, wife of Sir Montagu Allan, formerly of the Allan Line Steamship Co., has written a boog of her experience throughout the war, in work in connection with hospitals, canteens, etc. She with her three daughters, was a passenger on the s.s. Lusitania when it was torpedoed by the Germans, and two of her daughters were drowned.

William Baird, General Agent, Canadian Pacific Ocean Services Ltd., Liverpool, Eng., was married there recently to Miss E. I. Williams.

The Hon. C. C. Ballantyne, Minister of Marine, and of the Naval Service, was able to leave the Royal Victoria Hospital, Montreal, Oct. 1, and return to his house in Montreal to convalesce.

A. S. Barber, purser, Canadian Pacific Ocean Services' s.s. Empress of Russia, died at Vancouver, B.C., Sept. 24, after a long illness. He had been in the company's service for almost 30 years and had served on all its trans-Pacific vessels.

Capt. Capper is reported to have been appointed Shore Superintendent, Montreal, for Cunard Steamship Co. He has been in the company's service for 34 years and was in command of the s.s. Ansonia when she was torpedoed by the enemy, May 30, 1918, the survivors being in five open boats for 9 days and 10 nights, and travelling 800 miles, landing at Berehaven, Ireland. Two of the boats, carrying 36 people, were lost.

Thos. A. Duff, legal adviser for the Great Lakes Transportation Co., Canadian Dredging Co., Midland Shipbuilding Co., and a number of other companies in which Jas. Playfair, of Midland, Ont., is interested, has been elected Vice President of the Georgian Bay Association.

W. I. Gear, Vice President, Robert Reford Co., and Director of Steel Shipbuilding, Imperial Munitions Board, and Mrs. Gear, closed their summer house at Longueuil, Que., early in October, and returned to Montreal for the winter.

Walter Lambert, A.M.I.N.A., who has been Naval Architect and Assistant Director of Shipbuilding to the Imperial Munitions Board, in connection with the orders for steamships placed in Canada for the British Government, has, owing to the board's shipbuilding programme being practically completed, resumed business as a naval architect, marine surveyor and vessel broker, at 700 Drummond Building, Montreal.

Jas. C. MacGregor, who died at New Glasgow, N.S., towards the end of September was Managing Director of the Eastern Car Co., and a director of the Nova Scotia Steel and Coal Co. He was also associated with the Carmichael Shipping Co., and was the managing owner of the steamships Micmac and Pontiac. As a shipbuilder he built the steel schooner James Williams, stated to be the first steel vessel built in Nova Scotia.

W. T. Payne, Manager for Japan and China, Canadian Pacific Ocean Services, Ltd., Yokohama, Japan, has been invested with the Order of the Sacred Treasure of Japan.

Colin W. Postlethwaite, Harbor Master, Toronto, is convalescing, after a severe accident and subsequent operation.

Capt. W. C. Richardson, a well known steamship owner and manager, died at Cleveland, Ohio, Oct. 3, aged 79. He was associated with Great Lakes navigation for over 50 years, and was treasurer of the Great Lakes Protective Association and a director and member of the Lake Carriers' Association's executive committee.

J. W. Le B. Ross, Superintending Engineer, Sault Ste. Marie Canal, guided the Prince of Wales, during the latter's visit to the locks, on his recent western tour.

H. G. Thorley, Ontario Passenger Agent International Mercantile Marine Co., entertained Sir Bertram Hayes, D.S.O., R.N.R., captain of the s.s. Olympic, during his visit to Toronto in October.

Lorne C. Webster, President, Webster Steamship Co., has been elected a director of the Bankers Trust Co., Montreal.

R. M. Wolvin, President, Montreal Transportation Co., and Vice President and Managing Director, Halifax Shipyards Ltd., and Mrs. Wolvin, closed their summer house at Dorval, Que., early in October, and returned to Montreal for the winter.

Exchange Rates Discriminating Against Shipments From Canadian Ports.

London, Eng., cable dispatch, Oct. 15, to Montreal Gazette: Canada is apparently being deprived of the advantage of her higher exchange rate as compared with the United States by the action of the Atlantic shipping companies in charging the New York exchange rates on shipments from Canadian ports. The Canadian shipping lines are under the jurisdiction of the North Atlantic Eastbound Freight Conference, which has inserted a new clause in the bills of lading since the war. This clause requires collect freight on Canadian shipments to be paid by the British consignee in sterling computed at New York exchange rates on day of shipment arriving at the discharge depot. Before the war the basis for collect freight was 10% premium of sterling exchange, which gave the pound sterling an equivalent of $4.89, while the lowest rate of scale so based was 8½%, or $4.80 to the pound.

There have been numerous complaints by British importers, who hold they should have to pay the Canadian rate of exchange on Canadian shipments, otherwise part of Canada's exchange advantage over the U.S. disappears. I understand the Canadian Government will take up the matter with the steamship lines interested.

Vancouver Harbor Commission.

F. Carter-Cotton, J. A. Fullerton and S. McClay, who were appointed members of the Vancouver Harbor Commission, Aug. 6, 1913, resigned in June last. On the Minister of Marine's recommendation, their resignations were accepted by order in council passed Sept. 29, and Lieut. Col. G. H. Kirkpatrick was appointed President of the Commission, the two other members being S. McClay, reappointed, and Maj. A. R. McKenzie. The salary of each is $2,500 a year. So as to keep in close touch with public opinion in Vancouver and to lessen the possibility of ideas conducive to the port's best interests being overlooked, the commissioners have invited the City Council's harbor committee, the Board of Trade, North Vancouver City Council's harbor committee, North Vancouver Board of Trade, the Shipping Federation, B.C. Manufacturers' Association, Associated Timber Exporters of B.C., deep sea shipping interests, and the Retail Merchants' Association, to each appoint a committee, of not more than three, to meet the commissioners monthly, so that the views of the committees may be welcomed and sympathetically considered, each committee to have the commissioners' attention separately.

Wireless Installations Required on Steamships Plying to Great Britain.

Ottawa press dispatch, Oct. 22.—All Canadian ships sailing for ports in the United Kingdom will be obliged in future to carry a wireless installation and wireless operators, in order to conform to the requirements of an act passed by the British Parliament. The Naval Service Department has been informed that this act requires every seagoing British ship registered in the United Kingdom, being a passenger steamship or a ship of 1,600 tons gross tonnage or upward, to equip with a wireless installation. The act comes into effect as soon as the defense of the realm regulations expire, owing to the declaration of peace. Three months after that date any ship sailing at a port in the United Kingdom will come under the conditions of this act, whether it be registered in Great Britain or not.

False Creek, Vancouver, Sea Wall Suit—A British Columbia court has given judgment in favor of A. G. Creelman & Co. in their action against the Canadian Northern Pacific Ry., and referred the assessing of damages to the Registrar. The railway company let a contract to plaintiffs to build a sea wall at Main St., on False Creek, Vancouver, as part of its terminal development works. After some progress had been made with the work, Champion and White obtained an injunction against the company and its contractors, which stopped the work. The contractors then claimed $50,996 for loss of estimated profits, owing to rise in cost of material during the stoppage of the work, and for other damages.

The Steam Wood Drifter No. 89, one of a number which were under construction at various yards in Canada at the time of the signing of the armistice, has been sold by Anderson Co., of Canada Ltd., to the Gulf Export and Transportation Co., Beaumont, Texas. It is announced that she has been converted into an oil burner, thus gaining an additional 200 tons of cargo space. She was built by the Davie Shipbuilding and Repairing Co., Lauzon, Que., and was completed during the summer.

Montreal Transportation Co. There have been some changes in officers recently, the present organization being as follows: President, R. M. Wolvin; Vice President, I. I. Henderson. Managing Director, T. R. Enderby; Secretary, F. T. Cuttle.

Canadian Pacific Ocean Services Ltd. general agents from various points in Canada and the United States, met at Montreal at the end of September, under the chairmanship of C. E. Benjamin, Passenger Traffic Manager, to discuss passenger matters generally. Afterwards they went to Quebec to meet the s.s. Empress of France.

Wreck Commissioner's Enquiries and Judgments.

Enquiries have been held and judgments delivered in the following casualties:

War Witch—Gallia Collision.

Held at Sydney, N.S., Aug. 11, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capt. A. J. Morrison and O. Lewis as nautical assessors. The court found that the evidence was contradictory as regards the witnesses of the War Witch, but unanimous by the survivors of the Gallia, and it found that the master of the War Witch, Capt. W. P. Bennett, was in default, first, for retiring to his room and falling asleep when the steady sounding of the fog horn was necessarily attended to, and not issuing instructions to reduce the speed under the circumstances; second, for grave lack of judgment in not bringing his vessel to a full stop instead of continuing on a starboard helm, his reason for not doing so that he feared to come in contact with the Gallia being considered worthless; third, for his failure to lower a boat at once to search for and render aid to victims, which was a flagrant violation of article 29. For these reasons the court cancelled his certificate, but recommended that he be issued a mate's certificate to permit him to earn a living.

The second mate, C. Carroll, was found in default for failing to call the master when the fog became dense, and for violating instructions, which he admitted he had received, thus primarily contributing to the collision, and his certificate as second mate was suspended for one year from Aug. 12.

The court commented on the situation which existed in the engine room, one engineer alone being on duty, without any assistants. When the order "stop" was given, the engineer was away from his post, being on the top platform oiling the machinery and necessarily some time elapsed before he could return to his place and carry out the order from the bridge. The lookout, in the smooth water which existed at the time of the casualty, it being practically calm with no sea or wind, should have been on the forecastle head or in the crowsnest, and not behind a shelter on the bridge. Regarding the Gallia, the evidence of the survivors, being without contradiction, was accepted by the court and she had the right of way, article 20 stating that a steamship is to keep clear of a sailing vessel. The court therefore did not hold the Gallia responsible, for any wrong action, and placed the blame for the casualty on the War Witch.

Sinking of the s.s. Captain Dan.

Held at Ottawa, Aug. 30, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capts. C. Lapierre and C. J. Stuart as nautical assessors, into the collision of the s.s. Captain Dan with a wharf at the Louise Embankment, Quebec, Aug. 25, and her subsequent sinking. The court found that the evidence was very contradictory in many respects. Pilot Langlois, knowing that an eddy existed near the breakwater, and the channel being clear of all obstacles, did not exercise proper judgment in bringing his vessel so close to the breakwater. He appeared to have shown marked indifference in issuing orders for courses, and he attempted to mislead the court by subterfuge· for all of which he was found in default and his license suspended for four months from Aug. 25, to Dec. 24. The court did not hold the master, Capt. J. B. Gamache, responsible for the collision and eventual sinking of the vessel, but it held that he failed to give the first peremptory command to clear the boats and attend to the female members of his crew, after he had been told of the seriousness of the damage, and knowing the condition of his vessel and her construction. When he had ordered the pilot to beach the vessel at the nearest convenient point, he should, in the interval between the collision and the sinking, have issued instructions for the safety of the crew. The officers on the vessel were inexperienced, no lookout was kept and in the confusion, which existed, any order the master may have given, may not have been heard. The court therefore found him in default for lack of judgment, and suspended his certificate for two months from Aug. 25 to Oct. 24. The mate was severely reprimanded, the court being lenient on account of his inexperience. It also held that the loss of life which occured was, under the circumstances, accidental, and for which no one could be held at fault.

Stranding of the s.s. Admiral Hastings.

Held at Sydney, N.S., Sept. 5, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capts. A. J. Morrison and O. C. Lewis as nautical assessors, into the causes of the stranding of the s.s. Admiral Hastings at Bagot's Bluff, Anticosti Island, Aug. 22. The court found that the master, Capt. F. Dudley, erred in judgment by over confidence as to his courses. His compasses were found to be affected at Fame Point and he was already aware of the uncertainty of the currents. His long and successful career, his straightforward statement, and his success in freeing the vessel, caused the court to conclude that though he erred in judgment, it was not in a culpable manner, as it is doubtful if he had cast the lead before he did that it would have indicated his approach to Anticosti, hence the court did not deal with his certificate, but cautioned him to be more careful in future, and avoid over confidence in his calculations. The court advised the chief officer, J. G. Clemens and all officers who have to keep watch, to make themselves acquainted with the conditions in the localities they are navigating, and indicate by that their desire to obtain knowledge, and to be useful to the master when an emergency arises. The evidence of the third officer, C. R. F. Milne, as to the sounding was misleading. While the sounding had not much value at the time it was taken, it would have had a more serious aspect if the vessel had been in a different situation, but as he is a young man he was advised to be more careful in executing orders he may receive in future.

Stranding of the s.s. Glenholme.

Held at St. John, N.B., Sept. 9, into the stranding of the s.s. Glenholme, Aug. 22, at Goose Tongue Rock, Spencers Island, Bay of Fundy, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capts. A. J. Mulcahy and H. C. Barcham, as nautical assessors. The court found that the master, Capt. H. W. Moore, erred gravely in judgment in being over confident of the position of his vessel, and in taking for granted that the bearing of the sound of the fog horn at Cape d'Or was as he anticipated, without assuring himself of his vessel's position. The passengers on board were transferred to the boats promptly, no lives being lost. In view of these facts, the court did not deal with his certificate but reprimanded him very severely for not adopting other precautionary measures to assure himself of his vessel's position. The court condemned the system which permits a man holding a certificate as master of a tug boat to act as master of a vessel carrying passengers. An examination of the customs certificate shows that the vessel was only cleared for freight, though as she was carrying passengers at the time, she is to all intents and purposes a passenger and freight vessel, and is subsidized by the Dominion Government to carry passengers. The court also commented on the fact of the master being alone to attend to navigation and that there was only one engineer to perform all the engineering operations necessary in the coasting trade.

Grounding of s.s. Huronic.

Held at Sarnia, Ont., Sept. 17, into the cause of the grounding of the Northern Navigation Co.'s s.s. Huronic at Angus Island, off Isle Royale, Lake Superior, Aug. 15, during a dense fog, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capts. P. McIntyre and B. Garvie as nautical assessors. The court found that the master, Capt. E. Walkinshaw, erred in judgment in altering his course after having run the distance which he had usually made under better and more satisfactory conditions. In view of the fact that the boilers had been reported as having lost their effciency for the time being, he should, with such knowledge, have run on the course a little longer, which would have brought him nearer to Thunder Cape and in close proximity to the sound of the fog horn. The court considered there were extenuating circumstances, which caused it to exercise leniency and it therefore suspended his certificate for one month, from Sept. 17.

Explosion on s.s. Cape Breton.

Held at Sydney, N.S., Sept. 25, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by C. M. Crockett and G. Symington, as engineer assessors, into cause of explosion of the s.s. Cape Breton's boiler on Apr. 5, when the chief and second engineers, donkeyman and two firemen were killed, while the vessel was off Cape Spear, near St. John's, Nfld. The s.s. Cape Breton, owned by Dominion Coal Co., is a steel vessel of 1,764 tons gross, 1,109 tons net, 258 ft. long, 37 ft. beam, and at the time was drawing 8 ft. forward and 13½ ft. aft on a full speed of 9 knots an hour. She is equipped with single screw triple expansion engines and carried a crew of 26.

The master, Capt. S. McDonald, stated that he had been four years in command of the vessel and had never had any complaint from the engineer as to the boilers. The vessel had been examined and reclassed for one year on Mar. 18, 1918. He sailed from Louisburg, N.S., Mar. 12, for St. John's, Nfld., and was delayed there through holidays and ice, being unable to return before the expiration of the yearly classification. He left St. John's, Apr. 5, and after about three hours out, the second engineer, through the chief engineer, reported a small leak in the boiler. After investigation, and consultation with the chief engineer, the vessel's head was turned towards St. John's, but the chief engineer did not agree with the master's suggestion that he should steam on one boiler alone, as there was but a little distance to cover. Shortly after, the master heard a noise, which shook the vessel and caused an escape of steam. The second officer was sent to the engine room and reported that the boiler had exploded, the first and second engineers being scalded. Orders were then issued to render the assistance needed and to signal for help and a doctor. The first tug arrived without a doctor, and the injured men were placed on board and sent to St. John's.

J. A. Campbell, third engineer, stated that he, with the second engineer, investigated the leak, after which he went to his room, it not being his watch. He had never noticed that anything was wrong and while in harbor, 140 lb. of steam was kept while the fires were banked. The working pressure for a speed of 9 knots was 150 lb.

D. J. McAlpin, Superintending Engineer, Dominion Coal Co., explained that the patch which failed was laid on in 1915, being single riveted. He produced plans of repairs which were to be made, showing that the plate which was to replace the platch which caused the mishap was to be double riveted. The company's vessels were overhauled annually, and the officers were instructed to submit their requisitions, which were always granted. He gave the dimensions and thickness of the patch and of the boiler and stated that very little diminution of thickness was seen on the old parts of the boiler.

C. Cook, assistant to Superintending Engineer, Dominion Coal Co., stated that the patch was placed in 1912, and he had no knowledge of a leak prior to or since 1915.

R. Patterson, chief engineer, Dominion Coal Co.'s s.s. Coban, stated that he had never had any requisition refused during the time he had been with the company.

D. J. Murray, Dominion Government Boiler Inspector, stated that he had inspected the s.s. Cape Breton's boilers twice, the last time in Mar., 1918. He had inspected the boiler under a pressure of 225 lb., lasting 15 minutes. This was an external inspection, and there were no signs of a leak, or weakness, prior to placing the test. He relied, to a certain extent, on the examination made by the other inspectors, and stated that single riveting as seen on the patch was safe.

The court's finding is summarized as follows: Owing to the death of the chief and second engineers, the court is deprived of most important data regarding the working of the defective boiler, prior to leaving St. John's. Explanation as to the inspection of the leak, when examined after the fires were drawn, would have helped to arrive at more tangible results and conclusions. The third engineer's evidence does not throw much light on the matter, beyond demonstrating that he was not a very observant engineer, and awaited orders, which he appears to have fulfilled without seeking the reason for his own information. It is proved that the owners have attended to requisitions by masters and engineers, and the logs show that the boilers, machinery, and hull, underwent many repairs and received much attention. No correspondence exists to show that any defect had been found in the boilers, and the engineer's log was well kept, and no erasure or interlinings are to be detected. The master's suggestion to work the vessel with one boiler was a very wise one, but he could not order it to be done, as the engineer was the one more competent to accept or refuse the suggestion. Had the engineer adopted the suggestion, it is possible, even certain, that the mishap would not have occured. No criminal intent, neglect, or indifference can be launched against the chief engineer, the over confidence, of which he was a victim, being due to the fact that the leak appeared to him to be a small matter. The court, however, is of the opinion that, upon the appearance of that defect, in view of the age of the boilers and the frequent patching, they had undergone, there was but one thing to do and that is what the master suggested. The single riveting was a weak point, and it is recognized as such, because it is planned to double rivet it. The court found the inspection by the Dominion Government inspector as insufficient, it being of the opinion that more time should have been devoted to it, and a more minute interior inspection and a test by successive taps of the hammer in patch work should be given. The court therefore found that the owning company had done all that was demanded by the respective employes, and cannot therefore be blamed for the explosion and its fatal results. It has been ascertained that the chief engineer was a painstaking and competent man and while the court attached no blame to him, he failed to realize the importance of the leak, and thought it was not obligatory of him to accept the master's suggestion, had he done so the casualty would not have occurred. No blame is attached to the masters or officers of the vessel who had done all that was expected of them in the operation of the vessel and in caring for the victims of the explosion. The Dominion Government inspector of boilers is also exonerated from blame or neglect, but the court recommends that the inspection of boilers during tests, be made more thorough, both as to interior and exterior, and that tapping be more general, especially in vicinity of patches, also that borings be made in those localities, and in places where moistened material may accumulate and cause rapid and excessive corrosion. The court expressed the opinion that the casualty was due entirely to unforeseen circumstances, therefore accidental, but preventable if the master's suggestion had been adopted.

Stranding of the s.s. Chelston.

Held at Montreal, Oct. 11, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capts. C. Lapierre and C. J. Stuart, as nautical assessors, into the cause of the stranding of the British s.s. Chelston, at St. Pauls Island, in the Gulf of St. Lawrence, Oct. 9. The court found that the master, Capt. A. M. Fotheringhame, erred gravely in judgment, that he hard astarboarded the helm, and also when, upon coming on deck and finding the vessel had run her distance, had failed to stop and take soundings. The court suspended his certificate for 3 months from Oct. 9, 1919, to Jan. 8, 1920. The first officer was exonerated from all blame. Since the enquiry was concluded, the ship, which was wrecked in an exposed position, and was abandoned after several attempts to salvage her, has broken up and become a total loss.

Welland Ship Canal Construction.

We were officially advised Oct. 17, that instructions had been issued for the discontinuance of work on sections 2 and 3 of the Welland Ship Canal. During October deputations waited on the Minister of Railways and Canals with a view to obtaining a cancellation of these orders, and in reply the Minister is reported to have stated that he would lay the matter before the government for final decision.

Sec. 2 covers the work from bridge 2 to bridge 5, about 4½ miles, including locks 2 and 3. This contract was awarded to Baldry, Yerburgh and Hutchinson Ltd., Dec. 31, 1913 for completion by Apr. 1, 1917.

Sec. 3 is from bridge 5 to about half way between bridges 9 and 10, and includes the heaviest portion of the whole route, the erection of twin guard gates at Thorold, the single lock 7, a short stretch of canal below lock 7, and 3 twin locks, 6, 5 and 4 in flight, one flight for downbound vessels and one for upbound vessels, overcoming a descent of 139½ ft. The contract was awarded to O'Brien and Doheny, Oct. 4, 1913, for completion by Apr. 1, 1917.

Comparatively good progress was made with the work, despite troubles due to labor disputes, etc., and the work was continued for some time after the outbreak of war. In the early part of 1917, it was decided that the entire work should be suspended until the close of the war, and after clearing up some minor details, the work ceased May 2, over the whole route. It was estimated then, that, taking the entire work, it was about 50% completed, sec. 3 not being in so forward a condition as the others. On the cessation of hostilities, the government felt, that on account of demobilization, it would be necessary to go on with the work in order to provide employment for the large number of men released from military duty. Arrangements were therefore made with the old contractors to resume work on a cost plus 8% basis, such work to go on only from month to month, and not to proceed beyond Dec. 31, 1919, so that no misunderstanding could arise. It was estimated that on sec. 2, $600,000 would be expended during that period, and on sec. 3, $700,000, and an amount to cover such expenditures, and others on other sections, was included in the estimates for the current year.

Lake Ports Navigation Co. Ltd., has been incorporated under the Dominion Companies Act, with $50,000 authorized capital and office at Sarnia, Ont., to carry on business as common carriers, to own and operate steam and other vessels, and to build docks, wharves, warehouses and other terminal facilities. The incorporators are F. G. [illegible], E. P. Walsh, W. F. [illegible], M. [illegible], W. J. Barber, A. S. [illegible], C. [illegible] and M. F. [illegible], Sarnia.

Murray Bay-Tadousac Steamship Service.—In answer to a question in the House of Commons recently, as to whether it was the government's intention to establish a new line of steamships, in connection with the Quebec and Cap a l'Aigle, St. [illegible], [illegible] Bay, Saguenay Ry., between Murray Bay, Ste. Catherine, and Tadousac on the north shore of the River St. Lawrence, the Minister of Marine stated that it was the Marine Department's intention, if [illegible] would permit, to reinstate the C. G. S. [illegible] on that route, giving a bi-weekly service from Nov. 1.

Telegraph, Telephone and Cable Matters.

H. Hulatt, Manager, Telegraphs, G.T.R. and G.T.P.R., made an inspection trip to the Pacific coast at Prince Rupert recently.

A. B. Smith, formerly Manager, Telegraphs, G.T.R. and G.T.P.R., who retired in 1915, on account of ill health, spent part of the summer at Old Orchard, Maine.

The United States Navy Department has removed restrictions on amateur radio stations. Restrictions on stations handling commercial traffic will remain in effect until the President proclaims that a state of peace exists.

The Marconi Wireless Telegraph Co.'s station at Sable Island, which was destroyed by fire a short time ago, is to be rebuilt. Material was expected to be on the spot by the end of October. It is stated that the new station will be considerably larger than the old one, and that the telegraph equipment will be of larger power, and with a much greater radius.

A board of conciliation was appointed recently to investigate matters in dispute between the Marconi Wireless Telegraph Co. of Canada and its operators on the Great Lakes; Judge F. S. MacLennan, Montreal, being chairman; B. Rose, Montreal, representing the company, and T. Taylor, the employes. During the enquiry, the company's representatives stated that it is obliged to operate these stations under a contract entered into with the Dominion Government in 1911; that there is a deficit on the service each year, owing to large increases in cost of operation and that it was therefore unable to accede to the demands made, the justice of which, under existing conditions, was admitted.

German Mercantile Marine—It is reported that the German Government, in order to lay the foundation for a new merchant marine fleet, has decided to distribute $62,500,000 indemnity funds, to steamship lines, such as Hamburg American and North German Lloyd, which lost vessels through seizure during the war.

Dry Dock at Sydney, N.S.—We are officially advised that the application for a subsidy for the construction of a dry dock at Sydney, N.S., under the Dry Dock Subsidies Act, as mentioned in our last issue, was made by the Sydney Dry Dock and Engineering Co., which was organized for that purpose by the Sydney Foundry and Machine Works, Ltd.

The s.s. **Frontenac**, which has been bought from U. S. owners by Davie Shipbuilding Co., Lauzon, Que., has had her name changed to Vaudrueil. She was owned formerly by Cleveland Cliffs Iron Co., Cleveland, Ohio, was built at Cleveland in 1889 and fitted with a new steel upper deck in 1903. She is of steel, of the spar deck type, with double watertight bottom for ballast, 2 watertight and 2 non watertight bulkheads, steam pump wells and steel boiler house; [illegible] spaced 24 ft. centers. Her dimensions are: length, b.p., 270 ft.; breadth, moulded, 40 ft.; depth, moulded, 24 ft.; tonnage, 2,003 gross; 1,676 net. She is equipped with triple expansion engines with cylinders 20, 31 and 52 in. diar. by 40 in. stroke, 850 i.h.p., at 75 r.p.m., and supplied with steam under forced draft by 2 Scotch boilers 11½ x 11½ ft. at 180 lbs.

The Telegraph Profession.

By H. Hulatt, Manager of Telegraphs, Grand Trunk Ry. and Grand Trunk Pacific Ry., Montreal.

I trust my preceding article has convinced some, if not all, ambitious readers, and particularly those employed in railway service, of not only the desirability, but the absolute necessity of taking steps to improve, what to many of us is our only capital, their mental equipment.

The whole commercial and industrial field, and in this description is included the telegraph profession is and always has been more or less a field of battle, i.e., competition, and incidentally the fight is getting more strenuous every year. Never in history was the phrase, "the survival of the fittest," more true than it is today. We compete against others for promotion in our own organizations; we compete against other organizations in the same lines as ourselves for business. To eliminate competition, would result in the disappearance of half the joy of living, it is fighting in a straight, square way which brings joy to the red-blooded man, and incidentally assists him to develop and know himself. If we are going to fight a crowd our first thought is to secure some suitable weapon. The great war just ended was won, not only by the pluck of the men engaged, but, by the wonderful organization and system evolved.

The majority of us have only one thing in life of primary importance personally to sell; that is our services, and in order to obtain a good price for them, we have to prove that we have the necessary weapons to use in the battle of competition; in the main, good, sound judgment founded on experience and education, and loyalty which, of necessity, includes honesty. Also we must exercise what is commonly called push, or pep.

Before proceeding further to make suggestions as to how we can improve ourselves educationally, and still carry on earning our bread and butter, I would like to emphasize that I have absolutely no use for a blue stocking or mollycoddle, and am very strongly of the opinion that "all work and no play makes Jack a dull boy"; it is quite possible for a young man to spend an hour or so a day studying, and yet enjoy the outdoor and social recreations essential to the retention of good health and spirits. Without good health you cannot have pep. This matter of education is to my mind not only personal to the individual, but a responsibility on the part of all, particularly those having charge of men.

Officers of railway telegraph departments should set their men an example, by themselves studying, and encouraging their subordinates to do the same. I feel that we who are privileged to be executives, and have more or less the destinies of large numbers of men in our hands, have a very great and heavy responsibility in this connection. The more we study, the more we realize how much there is which we ought to know, which we do not know. An executive should make sure that his immediate assistants are studying, and they in turn should encourage the men farther down the line to do the same. Promotion should be dependent not only upon whether or not a man has seniority or has adequately filled the position he has occupied, but also be based on whether or not the man has, by broad study, qualified for even a higher position than the one vacant.

Executives and subordinate officers must realize that they are not the only ones in their organization blessed with grey matter. Many a pearl has come from an oyster shell of quite ordinary appearance, and it is the pearls that are needed and that count in business life. Having this in mind I would urge in organizations where it has not yet been practised, that a systematic programme of conventions or meetings of officers and employes, by means of which personal contact can be established, matters relating to business efficiency thrashed out, and the benefits of education discussed, should be organized. This plan has been carried out in my own organization, to the benefit of subordinate officials and employes; most decidedly to my own benefit, and has resulted in increased efficiency all round.

A valuable educational agency available to ourselves and our men is undoubtedly the American Telegraph and Telephone Division Railroad Association, particularly in connection with the reports of the various committees. To my mind such reports should be distributed to officers and employes of the telegraph departments for their consideration and study, and discussion at departmental meetings. The representative members of roads attending conventions of the division would then be much better equipped, on the basis that two intellects are better than one, to discuss matters coming before the convention, thereby benefitting all attending such conventions. Subordinate officials and employes who have plainly indicated an interest in developing themselves, should not only be encouraged by promotion, but also by being sent to conventions of the division, and if qualified nominated to serve on committees.

To the young man entering telegraph service I would say: look ahead, enjoy life, but at the same time equip yourself for the days to come, develop initiative, assume responsibility without question, take up elementary electricity, mathematics, etc., ask all the questions you can, have some ambition other than thumping a key all your life, as you rise in your profession, and incidentally increase your education, dive into books of philosophy, science, history, economics, and kindred subjects, all of which will tend to make you a bigger, broader man, in fact, an efficient executive, which should be your great ambition.—Nil desperandum. Telegraph and Telephone Age.

Port Colborne Elevator—We are officially advised that C. D. Howe & Co., elevator engineers, Port Arthur, Ont., have been given charge of the repairs to the Dominion Government grain elevator at Port Colborne, Ont., under the supervision of a board of engineers of which C. N. Monsarrat, Consulting Engineer to the government at Ottawa, is Chairman. The contract for the demolition of the wrecked structural steel and debris has been let to the Dominion Bridge Co., which has already made good progress with the work. It is likely that the general repair work of replacing of reinforced concrete walls, floors, etc., and the installation of new machinery will be handled on force account basis. It is expected that the elevator will be ready to handle grain by the opening of navigation next spring.

Telegraph Companies Responsibility for Failure to Transmit Messages.

Complaint of the Canadian Manufacturers' Association, per J. E. Walsh, Toronto, Ont., against the Board of Railway Commissioners' general order 162, and the matter of relieving telegraph companies from responsibility for failure to transmit messages. File 13622.4.

Commissioner Boyce of the Board of Railway Commissioners, gave the following judgment Oct. 7: Complaint is made by the Canadian Manufacturers' Association that the conditions of contract with telegraph companies impose no obligations or penalties for failure to transmit messages received by the company for transmission, and provision is sought (by amendment to the conditions of traffic sanctioned by order 162, Mar. 30, 1916), for the imposition of penalties for non delivery in such cases as are due to gross negligence of the company, even though the message is not repeated.

The whole wide question of the liabilities attaching to telegraph companies, involving the point complained of, was fully considered by the board upon the application which resulted in order 162. The question was further, incidentally, considered by the board on the application of the Great North Western Telegraph Co., the C.P.R. Co.'s Telegraph, and the Grand Trunk Pacific Telegraph Co., for an order approving conditions varying those approved by order 162, the object of such application being to vary the conditions so sanctioned in a manner which would more fully relieve the companies from liability, to sender or addressee, whether from negligence or otherwise, in respect of receipt, transmission, and delivery of messages.

The application last referred to, was heard at Ottawa April 17, 1917, and, following a considered judgment of the then Chief Commissioner, dated July 14, 1917, order 26,378 was passed July 26, 1917, dismissing the application, but reserving to the applicants leave to apply for a stated case, in writing, for the opinion of the Supreme Court of Canada, upon the questions of law involved in the application.

A stated case has never been presented to the Supreme Court—has not been settled by the board—but a draft case has been submitted to the applicants, who have not yet concurred in it, although by written memorandum they suggested that the case to be submitted for the opinion of the Supreme Court of Canada, should contain the following questions, viz.:

"1. Was the board right in holding that a condition in the contract purporting to limit the company's liability to the addressee of a telegram is, under the law of the Province of Quebec, in effectual for that purpose?

"2. Has the board power by regulation—independently of the contract to limit the liability of the company to the addressee of a telegram?

"3. Would such a regulation be effectual for such purpose under the law of the Province of Quebec?"

In the ex-Chief Commissioner's judgment, upon the application above referred to, the law is fully discussed with regard to the applicability of the Quebec Civil Code of article 1,053, as distinguishing liability affecting the transmission and delivery of telegraph messages from that settled by legal decisions of our courts, and of the English courts, referred to in the ex-Chief Commissioner's judgment. It is open to some doubt, as the ex-Chief Commissioner concludes, as to whether (at any rate with regard to the conditions discussed in the previous application), the Quebec Civil Code referred to may not operate, or intervene, in a special manner to regulate and refine liability upon these telegraph messages as between the company and the sender (possibly and addressee) in a manner different from that laid down by the courts, and, for the purpose of settling this important question and looking towards obtaining a decision which will secure uniformity, leave was reserved to state the case referred to for the opinion of the Supreme Court. Pending the submission of such a case and the answers of the Supreme Court thereupon, there must still remain the doubts expressed by the ex-Chief Commissioner with regard to the law, especially as regards the Province of Quebec. In his judgment, above referred to, the ex-Chief Commissioner said: "In so far as the contracts under which telegrams are dispatched are concerned, it was admitted at the hearing that the contract settled by Mr. Scott throws a greater liability on the telegraph company, and of course, increased the liability over that which previously existed in Canada."

My view is that, the board having settled conditions of transmission which contain, I think, reasonable and adequate provision to guard against errors and to insure correctness in the transmission and delivery of messages, and in view of the questions of law which are raised and which are standing for the opinion of the Supreme Court of Canada, and which, inferentially at least, affect the questions which we are now asked to decide, I think it would be extremely inadvisable for the board to go any further in the sanctioning of additional conditions. I would dismiss the complaint.

The judgment was concurred in by the Chief Commissioner, Assistant Chief Commissioner and Deputy Chief Commissioner.

Enquiry Re Telegraph Rate Increases.

In connection with the application by telegraph companies for increased rates of tolls, which is before the Board of Railway Commissioners, the board issued a statement Oct. 24, as follows: "The Board of Railway Commissioners has decided to hold an extended series of sittings over different portions of Canada for the purpose of obtaining the views of the public on the application of the telegraph companies for an increase of practically 20% of the present telegraph rates. The board will sit at Ottawa on Nov. 11 and 12, at which sittings representatives will be heard from the Quebec and Ontario. They will be in Winnipeg on Nov. 17 and 18; at Vancouver, Nov. 22 and 24, and at Victoria on Nov. 25. On the return trip, sittings will be held at different points in the western provinces, the exact dates of which will be made public within a very short time. It is also their intention to proceed to the Maritime Provinces after returning from the west, where sittings will be held at one or more points, of which notice will be given. As the question is of very great importance to the business interests of the whole country, it is to be hoped that the boards of trade and the people generally, will avail themselves of this opportunity of expressing their views at the time and places above mentioned."

Among the Express Companies.

The Canadian National Ex. Co. has opened offices at Ardill, Sask., and Darwell, Alta.

H. H. Carr, heretofore route agent, Dominion Express Co., Truro, N.S., has been appointed its agent there.

The Canadian National Ex. Co. has closed its offices at Cap Rouge, and Neuville, Que., Pine Orchard, Ont., and Hepburn, Sask.

Lieut.-Col. T. R. McKenzie, formerly of Richmond, Que., has been appointed route agent, Dominion Ex. Co., Truro, N.S., vice H. H. Carr, transferred.

The Central Canada Express Co.'s bylaw, authorizing C. Hope, Assistant Superintendent, to issue tariffs of tolls, has been approved by the Board of Railway Commissioners.

The Canadian Ex. Co. is reported from London, Eng., to have entered into an arrangement with the Handley-Page Air Service for the carriage of millinery between Paris and London, for quick transportation to Canada.

The Canadian Association of Ice Cream Manufacturers' application for a reduction in express classification of ice cream from 1st class to 2nd class, has been dismissed by the Board of Railway Commissioners.

The board of conciliation, appointed recently to deal with the differences between the Canadian National Express Co., and its employes at Winnipeg, consists of Mr. Justice Metcalfe, Chairman; W. T. Sweatman, representing the company, and F. Bancroft, Toronto, on behalf of the employes.

The Canadian National Ex. Co.'s employes have been awarded overtime payments dating from Sept. 1, 1918, to the date when the 8 hour day was put into effect. The board of conciliation award was unanimous except as to the reinstatement of J. H. Watson, chairman of the union at Winnipeg, who was discharged after the recent sympathetic strike there.

A Winnipeg press despatch stated recently that the Manager of the Winnipeg Board of Trade's Transportation Department had been advised by the Board of Railway Commissioners that demurrage charges on car loads of goods left standing on tracks would be reduced shortly from [illegible] a day after the first 24 hours to $15 a day and that where a refrigerator or baggage car is used the charge would be $10. The demurrage rates referred to are evidently those to be charged by express companies from Nov. 17, the companies having adopted the Board of Railway Commissioners' Chief Traffic Officer's recommendation with respect thereto, without the necessity of any order being made. The express companies' tariff in regard to this will read as follows: "Detention charges. On cars held by shipper or consignee for loading, unloading, forwarding directions or for any other purpose, 24 hours (one day) free time shall be allowed. When for any reason for which the express company or the railway company, is not responsible, cars in express service are held beyond the said free time for loading or after loading, or for unloading following notice of arrival (if necessary) or placement, the following tolls shall be charged for each day of 24 hours, or part thereof, Sundays and legal holidays to be excluded in computing time: Stable cars, when used as such, $25; other express cars (including dismantled stable cars), $15; freight cars used for express goods, $10."

The American Railway Express Co. has issued the following notice: New express packing rules, similar to those required for freight movement on railways, will go into effect on Dec. 10, and express shippers are requested to prepare themselves for the new standards. The new packing requirements, which were approved recently by the United States Railroad Administration, were formulated to provide additional safeguards for merchandise sent by express. Heretofore, shippers have been using all sorts of containers for express packages, but the new rules are expected to make the regulations uniform and thus provide business concerns with an even more reliable and speedy service. Preparations are being made at local offices of the American Railway Express Co., which is the government's agent in handling the express business of the entire country, to put the new rules into effect and to require a strict adherence to them thereafter. The express officials expect that in this way shippers will be induced to pay greater attention to their packing methods and to turn their business over to the carrier substantially packed and clearly marked, so that, with reasonable care on the part of expressmen, all traffic can be handled rapidly and with fewer chances of loss or damage in transit. The new rules will not permit the use of paper wrapping for packages over 25 lb., nor ordinary paper boxes, wrapped or unwrapped, when the weight of the package is over that limit. For shipments over 25 lb., wooden containers, or containers of fibreboard, pulpboard or corrugated strawboard material are required. The cartons must be made of materials of specified "test strengths," similar to those required for the freight service, and the containers must bear the stamp of the manufacturers, certifying that the material used is of strength required for the weight of the shipment carried in it, as called for in the rules. The express regulations, though modeled on those for freight movement, permit a wider latitude in the size of the carton used, and carry a certain number of exceptions. Shippers who wish to acquaint themselves with the new express regulations are requested to study Supplement 5 to Express Classification 26, in which these rules are embodied, and copies of which may be secured at any express office.

Trade and Supply Notes.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers distinctly to understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

Canada Iron Foundries Ltd.—Supplementary letters patent have been issued under the Dominion Companies Act, authorizing the company to decrease its capital stock from $4,500,000 to $4,300,000, by the cancellation of 20,000 unissued common shares; and to increase its capital stock to $6,300,000 by the issue of 200,000 preferred shares.

Canadian Westinghouse Co., Hamilton, Ont.—F. A. Merrick, Vice President and General Manager, has resigned the position of General Manager, retaining the office of Vice President, and has received an appointment from the Westinghouse Electric International Co., London, Eng. N. S. Braden, heretofore Manager of Sales, has been elected Third Vice President. H. M. Bostwick, heretofore Assistant Manager of Sales, has been appointed Manager of Sales. H. U. Hart, heretofore Chief Engineer, has been appointed General Manager and Chief Engineer. C. A. Price has been appointed Assistant Chief Engineer.

Davis-Bournonville Co., Jersey City, N.J., has issued a circular describing and illustrating decarbonizing outfit, for turning out carbon deposits in gas engine cylinders.

Edison Storage Battery Co., Orange, N.J., has started publication of a house organ, "The Grid," its stated object being "to disseminate some sense, and a little nonsense, among users of storage batteries."

Locomotive Superheater Co., 30 Church St., New York, N.Y., has issued the following bulletins: no. 5, "A dependable pyrometer for locomotive service;" no. 6, "The most from superheating;" no. 7, "U.S.R.A. standard locomotives;" no. 8, "Superheater maintenance and operation."

Lyman Tube & Supply Co., Montreal, Frank D. Lyman, Managing Director, died somewhat suddenly in Montreal, Oct. 1, aged 42. For some 10 years he managed John Millen & Sons' railway department in Montreal, and then founded the Lyman Tube & Supply Co., which is Canadian agent for the Electric Service Supplies Co., Philadelphia; Canadian distributors, National Tube Co., and also represents a number of other manufacturers specializing in railway supplies.

Railway & Power Engineering Corporation, Toronto, agents for Heywood Bros. and Wakefield Co., Wakefield, Mass., report having received an order for seats for the 20 first class cars which the Canadian National Rys. are having built by Canadian Car & Foundry Co.

Whiting Foundry Equipment Co., Harvey, Ill., has issued the following catalogues: no. 146 "Cupolas and cupola charging machine;" no. 147, "Ladles;" no. 148, "Core oven equipment;" no. 149, "Air hoists and elevators;" no. 150, "Side-blow steel converter."

J. H. Williams & Co., Brooklyn and Buffalo, N.Y., makers of superior drop-forgings and drop forged tools, have issued a catalogue of 160 pages, 4 x 6 in., illustrating and describing their standard stock specialties, including several lines of new goods, viz.: Agrippa turning tool holders, set screw pattern, Agrippa boring tool posts, Vulcan forged cutter tool holders, and several new assortments or sets of drop forged wrenches. The books contains, also, a description of the drop forging process in simple, non technical style.

The National Shipbuilding Co., Limited
Goderich, Ontario

Marine Engines and Boilers and Iron Foundry

Special attention given to all kinds of Hull and Machinery Repairs
on Ships laying up in the Port of Goderich for the winter months

For Sale and Classified Advertising

Under this heading Canadian Railway and Marine World will place advertisements for Positions Wanted, positions Vacant, Equipment for Sale, Tenders Wanted, Dividend, Annual Meetings, Legal Notices, etc.

ADVERTISING RATES.

Rates for advertisements set in uniform style in six point under

Positions Wanted and Positions Vacant, 3c per word.
Equipment for Sale advertisements, 4c per word.

Allow five words where replies are to be sent to a box number. Minimum order—$1.

Rates under other headings and for display advertisements on application.

Canadian Railway and Marine World

December, 1919

The 13th Canadian Light Railway Operating Company's Organization and Work in the Field, With a General Description of the Entire Light Railway System in France.

By Captain R. McKillop, Officer Commanding the Company Throughout Its Services.

In October, 1916, the Militia Department at Ottawa received a request from the British Government, through the Right Hon. A. Bonar Law, to recruit all available railway operating men, and authority was at once granted to organize the first company, known as the 1st Section Skilled Railway Employes. On Feb. 15, 1917, authority was granted by the Adjutant-General for the formation of the second section, and the following article refers to the latter company's work. The authority for its formation was contained in order in Council 261, dated Jan. 27, 1917, and among other things, it provided for "working pay" being allowed all officers and men doing "skilled" railway work. In the case of officers this extra pay amounted to $1 a day and as regards the men, the officer commanding was empowered to establish the rates, which varied from 60c to $1 a day. The establishment was rather an unusual one from a military standpoint, being composed of 3 officers and 266 other ranks, the latter only having 112 privates, the remainder being non-commissioned officers. This establishment was, however, changed in England to 5 officers and 271 other ranks, the latter having 179 privates, instead of 112.

The author was given command of the company on Feb. 17, 1917, and recruiting was carried on throughout Canada, men being drawn from all the railway companies, which had previously been requested by Ottawa to assist in the prompt releasing of men. The Canadian Government Rys. took an especially keen interest in this recruiting, by arranging to choose full train crews, consisting of one locomotive man and fireman, one conductor and two brakemen, from the various districts. The assistance of the various railway companies was so generous that the entire company was recruited in one month at a cost of only $500, which was donated by the Ontario Government. Guy St. Barracks, Montreal, was chosen as the concentration center, where manual drill was carried on until April 13, 1917, on which day the unit entrained for Halifax, and embarked for England on April 16, on the R.M.S. Grampian, arriving at Liverpool on April 29, after an uneventful passage. Longmoor Camp was the base in England for operating troops, but owing to congestion, the unit was first sent to Purfleet, Essex, and then to Aldershot, where overseas leave was granted, military training continued and other arrangements made for dispatch to the front.

The company was originally intended for broad gauge operating work, as only the best main line men were chosen by the recruiting officers, but the light railway organization was developing to such an extent in France, and there was such a demand for personnel to fill it, that the unit was ordered for light railway work and re-named the 13th Canadian Light Railway Operating Co. In order to train the unit for this class of work, 39 men, with ability to operate gasoline power units, had to be [illegible] and sent to Longmoor Camp, where they underwent special training in the operation of petrol electric and simplex petrol power to fit them for their work in France.

Captain Robert McKillop

The main body were inspected by General Turner, V.C., G.O.C. Canadian troops in the British Isles, on June 8, 1917, and proceeded to France the following day, via Southhampton, and Le Havre, the Longmoor detachment following one month later. The unit rested in Le Havre for 3 days and then moved forward via Rouen and Calais to Dunkirk, where it arrived on June 17, 1917, and awaited orders to proceed up the line.

Before dealing with the unit's active work in France, it would seem advisable to explain the fundamental principles of light railways, the method of operation adopted by the British authorities, and other details, so that the reader will be in a better position to understand the whole situation.

General—The primary object of light railways was to relieve traffic on the heavily travelled roads, deliver the army supplies by rapid dispatch to destination, and with less loss from enemy action. The tracks could be advanced rapidly, following a general advance and lead to points inaccessible by roads. Also evacuation could be accomplished much faster by rail.

A very complete system of connecting transportation systems between the British Isles and the firing line was established by the spring of 1917, consisting of: 1. Steamship lines to various ports in France. 2. Standard gauge railways from the ports to forward railheads all along the front. 3 Inland water transport routes, via rivers and canals, to serve the lines of communication and the forward areas. 4. Light railways, from standard gauge railway connections and barge routes to the trench tramways systems. 5. Trench tramways to the rear defensive systems, operated by small tractors, horses or man power. Road vehicles and fatigue parties to the firing line. The light railway system was not the least of these, although as a separate system played a most important part in the feeding of men, animals and guns. When it is considered that for every [illegible] tons handled on the light railways, [illegible] three ton lorries, with full loads, were kept off the roads, the significance in this regard at any rate can easily be appreciated.

Organization.—The light railway system, with its complex activities, spread over some wide areas by a small army of officers and men, required, above all, careful organization to perform its duties with precision, to facilitate [illegible] and to ensure thoroughness and [illegible] in every detail of its work. There had to be an unbroken line of responsibility from the upper to the [illegible] possible had to be [illegible] for the building and maintenance of a track system, arrangements had to be perfected for the ordering and building of equipment in such numbers and variety as the traffic demanded and an intricate system had to be devised for maintaining and operating such vehicles under war conditions, as well as furnishing facilities, whereby such a system could be used to the best advantage of the army in general.

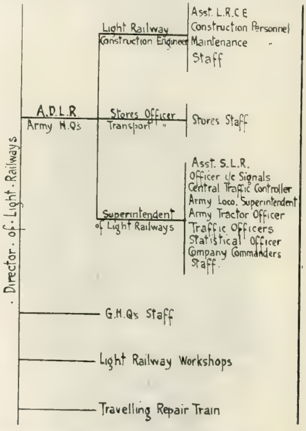
The chart on this page shows such an organization, which during the war worked with the perfect precision desired. It was arranged on the army division principle, viz., each army having at its head an assistant director of light railways (A.D.L.R.) reporting to general headquarters (G.H.Q.) and co-operating with the Assistant Director General of Transportation (A.D.G.T.) at army headquarters.

The A.D.L.R. was in charge of all track construction, maintenance and operation in 1917, and under him there was a light railway construction engineer (L.R.C.E.) on the track side, and a superintendent of light railways (S.L.R.) on the operating side. The latter had a complete staff of officers under him, and the officers commanding operating and work shops companies reported to him for duty. (See chart showing company organization on this page).

Lieutenant R. S. Richardson.
Traffic Officer, 13th Canadian Light Railway Operating Co.

In March, 1918, there were approximately 12 operating companies, 6 army A.D.L.R. staffs, General Headquarters staff, and thousands of men in the line of communication work shops; all skilled railway men, drawn from the British Isles, Canada, the United States, Australia, South Africa, New Zealand, India, South America, and from all corners of the earth. Adding to these attached unskilled labor and personnel employed on construction, both skilled and unskilled, the number of all ranks on the roll of the British light railway system would run well over a six figure total.

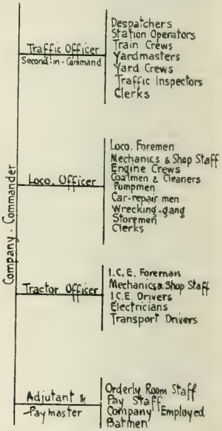
Light Railway Trackage in general commenced from a point where the standard railways ceased, and continued to their connection with the trench tramway systems. Overlapping naturally occurred where the enemy had retreated, allowing standard gauge railheads to be advanced, but this was advantageous, as it provided more than one railhead where tonnage could be transferred from the standard gauge, thus relieving the cars, which were always in great demand, much more quickly. Operating companies generally located their camps and terminals away from railheads, ammunition dumps, and hospitals, in order to avoid bunching of targets liable to attract enemy shelling and bombing. The terminals consisted of inbound and outbound working yards, storage yards, car repair tracks and power terminals. Tracks were run to the railheads, and laid along transhipping sidings, where ammunition, stone, supplies and other tonnage was transhipped direct, and hauled by yard locomotives to the classification yards. The main line generally ran forward to points where it connected by a Y to a forward lateral track running parallel with the line, and about 2 or 3 miles behind it. From the forward lateral, tracks ran at right angles again, forward to the trench tramway systems, at sufficient distances apart to suit the requirements of the army, and wherever possible they were connected together at the foremost or most easterly point, thus providing loops where traffic could be run in any direction, in case one of the forward branches was broken by shell fire. Spur tracks were run from the main line, lateral and forward branch lines, to battery positions, field dressing stations, stone dumps, R.E. yards, camps, ammunition dumps, casualty clearing stations, salvage dumps or wherever tracks were required, and passing tracks were built at all stations and intermediate points east, having branches forward of the forward lateral. The forward lateral of where necessary. A forward storage yard was also necessary, to which point steam locomotives handled cars in daylight for night delivery by tractor power.


Director . of . Light . Railways
A.D.L.R.
Army H.Q's
Light Railway
Construction Engineer
Asst. L.R.C.E.
Construction Personnel
Maintenance
Staff
Stores Officer
Transport "
Stores Staff
Superintendent
of Light Railways
Asst. S.L.R.
Officer i/c Signals
Central Traffic Controller
Army Loco. Superintendent
Army Tractor Officer
Traffic Officers
Statistical Officer
Company Commanders
Staff.
G.H.Qs Staff
Light Railway Workshops
Travelling Repair Train

Light Railway System Headquarters Organization.

Just previous to the launching of the great German offensive in Mar., 1918, on some parts of the front, there was a forward, intermediate and back lateral, connected by main tracks running west and same lateral of other systems to the one army system was connected with the north and south, with the result that there was a continuous track 153 miles long, behind the entire British, Belgian and Portugese fronts, connecting with the French system on the south. The purpose of this international line was to move shock troops rapidly to whatever point of the firing line the great drive was to be directed, and it proved itself of immeasurable value to the allied forces during the offensive, until it was broken through on the Somme. Even then reserves were rushed from the north along its route to near Arras, where it connected with a back lateral running as far south as Bucquoy Village, behind Achiet-le-Grand.

Telephone System. (See chart on page 633). To maintain and install a telephone system with a war on is not an easy task, but it had to be done, otherwise traffic could not be moved promptly and in volume, or communication maintained internally and externally. The light railway telephone system originated at G.H.Q., and ran to a "super control," situated at an intermediate point behind the armies. From "super control," separate lines were run to each "central control," and from there to the "district controls." By this telephone system super control handled the distribution of power and cars between armies, and central control between operating companies. Lines also ran connecting all central controls together and district controls in the same manner. Corps light railway offices were connected by separate wires to central controls and the latter to army headquarters and trunk lines.


Company . Commander
Traffic Officer
Second-in-Command
Despatchers
Station Operators
Train Crews
Yardmasters
Yard Crews
Traffic Inspectors
Clerks
Loco. Officer
Loco. Foremen
Mechanics & Shop Staff
Engine Crews
Coalmen & Cleaners
Pumpmen
Car-repair men
Wrecking-gang
Storemen
Clerks
Tractor Officer
I.C.E. Foreman
Mechanics & Shop Staff
I.C.E. Drivers
Electricians
Transport Drivers
Adjutant &
Paymaster
Orderly Room Staff
Pay Staff
Company Employed
Batmen

Light Railway Company Organization.

From district controls two traffic lines were run wherever there were tracks, one known as the block to block line, connecting with all stations, and the other as the through reporting line, connecting main stations or report centers. Each station was equipped with a telephone box, having a lever which could be moved to either side when conversing with adjoining stations, or left in a through position when a through connection was desired. Stations connected with the through wire had small switch boards, by which connections could be made between the two wires. In the event of district control, wishing to converse with an intermediate station away up the line, the nearest report center was called on the through wire, it, in turn, called the station, and made the through connection by plugs on its switchboard.

Breaks in the line were so numerous, on account of shelling and concussion from our own guns, that each district control had a sufficient number of line men always on hand to be rushed to the break, in a tractor. In this manner communication was maintained in a satisfactory manner.

In addition to traffic lines there were the usual domestic telephones at each of the headquarters, connected by switchboard to the traffic lines.

Connecting all these wires together in one single line would stretch over 2,000 miles. This will give the reader some idea of the extent of the telephone system and what it meant to maintain communication throughout heavy bombardments.

Equipment—The power units and cars used on the light railway system were strong and up to date, the expenditure on which must have run into millions of pounds sterling. Steam locomotives were of four classes, viz.: Baldwin, 16 ton locomotives, of the mogul type, water capacity, 400 gall., working steam pressure 180 lb., coal capacity, half a gross ton. American, 15 ton locomotives, of the prairie type, otherwise similar to the Baldwin. Hunslets, 15 tons, of the mogul type, built in England according to English practice, and small Hudson locomotives.

Tractors were of three types, 20 h.p., open top simplex tractors, 40 h.p. simplex with armor plated sides and tops, and 6 ton petrol electric locomotives also armor plated.

The cars varied in capacity from 1 to 10 tons and were recognized by letters, as follows: A and B class cars, 1 ton capacity, with removable sides; C class, 3 ton capacity, with removable sides; D class, 10 tons capacity, with 4 drop doors on sides; E class, 10 tons capacity, with 2 drop doors on sides, equipped with well bottom; F class, 10 ton capacity flats; G class, 10 ton capacity flats with wells; H class, flat tank cars equipped with steel rectangular tanks with a capacity of 1,500 imp. gall. and large numbers of 1 ton tip cars. The above were all War Department (W.D.) cars, but mixed up among them could be found French decauville cars of 10 ton capacity, and captured German cars of 7½ ton capacity, the latter of very poor construction. The up to date W.D. cars had truck and car frames built of steel and were wonderfully strong and well built for narrow gauge work. The couplings, unfortunately, were of the pin and link type, with the result that frequent accidents occurred, through the couplings failing or in switching operations.

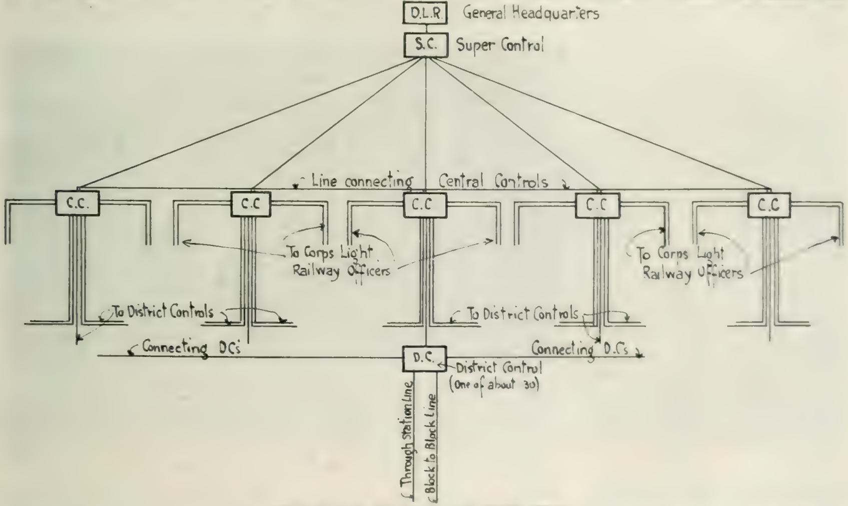
Special flat cars were also operated, equipped with ramps for loading 6 in. and 8 in. Howitzer guns, and covered box cars with sliding doors were used in 1918 for handling wounded stretcher cases, rations, mail, etc. Each company had a 6 ton all steel wrecking crane, which was very useful, although low in capacity, but a heavier crane would have been practically impossible for a 2 ft. gauge railway. Each army had a headquarters repair train, consisting of work, store, tool, power and office cars, electric lighted by dynamos and up to date in every respect, as well as an equipped train for the use of the stores officer.

Traffic—The principle traffic handled was ammunitions, rations, feed and supplies, troops, wounded, R.E. stores, ordnance, water, road stone, lumber, firewood, coal, logs, rails, ties and fastenings, ballast, salvage and guns. Certain traffic was given preference over all other traffic, depending on whether the fighting troops were on the offensive or defensive. Generally it would be the wounded, but occasionally it was ammunition, supplies or fresh troops, in which event the stretcher cases among the wounded were handled in ambulances and only walking wounded carried by railway.

Wherever possible, wounded were moved from the field dressing stations to the casualty clearing stations, and from there to the standard gauge ambulance trains, by light railways, as a journey by ambulance over the bumpy roads was a great hardship to these men who deserved the best that could be given them. Not only our own wounded were handled, but the enemy's also, our own always first.

Ammunition was handled direct from the broad gauge or from the dumps to forward dumps and battery positions. Supplies and rations were handled from the broad gauge pack trains to divisions, brigades and small arms all along the lines, road stone from stone trains to stone sidings. [illegible] by the traffic, R.E. stores and material from dumps to [illegible], water to camps, [illegible] and [illegible] by tank cars and logs or firewood from the Canadian Forestry Corps and [illegible]. Mounted guns were loaded on light railway special cars and moved to battery positions, and [illegible] construction material for the C.R.T. (Canadian Railway Troops) comprised a large portion of the tonnage. The majority of the traffic naturally was forward, but in the opposite direction salvage and troops were moved.

Traffic was not carried indiscriminately, but by direct orders from Army Light Railway Headquarters (see accompanying organization and telephone charts). A corps light railway officer was stationed with each corps headquarters.



Telephone Lines and Controls, Light Railway System.

whose duty it was to book all orders from the various branches of the corps in a traffic order book. At a certain time each night he would phone central control at army L.R.H.Q., and communicate to the officer in charge the traffic orders that had been booked for the following day. Central control would then tabulate all these orders, review the car and power situation, previously ascertained from company commanders, and decide which orders could be taken. Accepted orders, each of which was given a number, would be transmitted to the corps L.R. officers and company commanders in district controls. The former would phone all interested parties, and arrange to have fatigue parties ready at appointed times the following day to load or unload the cars, and the latter would study the orders for the following day, and in due course order cars, power, and crews to fulfil them. A sample of one such order may prove of some interest:

"Order 52.—Place 38 empty D class cars at road crossing near Station X, Mar. 10, 1917, at [illegible] o'clock, to move working party of 20 officers and [illegible] other ranks to end of steel on C13 line. Order power for 20 [illegible] K. Returning movement leave end of steel 8 a.m., Mar. 11, 1917. Repeat."

As each order was completed, central control was informed, and the order would be marked off its books. Orders of every conceivable kind were fulfilled, from supplying an inspection car and tractor for some staff officer, to moving thousands of tons of ammunition forward. The amount of traffic moved during the war by the British light railway system would run into astounding figures, my limited knowledge being that the weekly average for one company was about 10,000 tons and for an army, 40,000 to 50,000 tons.

Operation—Trains were operated on the block to block system, by telephone dispatch. Traffic passing between armies was controlled by the super control, between districts by central controls and locally by district controls, viz.: traffic originating in a district and being delivered within the same district was handled through that particular district control. Traffic originating in one district for delivery in another was handled by central control and so on.

District controls had naturally the most work, and required a competent staff of dispatchers working 8 hour tricks under a chief dispatcher. Dispatchers had the rank of sergeant, so that their orders would be carried out by train crews, etc., from a military as well as a railway standpoint, and the chief dispatcher was in charge of all traffic on the district with the rank of regimental sergeant major.

In addition to controlling the traffic, district controls kept all records, and prepared all the daily, weekly and monthly statistics required by central control. All the various movements were recorded on train boards, by the British operating companies, and on dispatchers' sheets by most of the colonial companies, according to their home practices. The yardmaster would report to district control when trains were ready for the road and their consists would be recorded on locomotive slips. District control would telephone the first station out, get the right of way from the operator and dispatch the train on its way. Stations would phone ahead to each other in the same manner, and the train would be [illegible] to its destination, [illegible] meets, or to take [illegible] control being advised by [illegible] the passing time of trains so that the sheet could be kept up to date.

Locomotive slips were kept filled up for each movement of a locomotive from the time it left the running shed until it returned to the shed to be tied up. These slips showed all the information necessary to allow the statistical clerk to keep his records, the running sheet only being used to control the traffic.

Stations were installed wherever required along the line, and consisted of dugouts, shacks dug into the ground, or any old building suitable for the purpose. They were manned by two men, one for day shift and the other for night, equipped with watches, lamps, flags and train register books. At each village or main station, there would be a larger staff, some of these having as many as 20 men, including yard staffs, telephone men, switch locomotive crews, etc. All stations were connected on the block to block telephone wire and main stations, in addition, on the through wire. Stations were called by a system of rings, viz.: intermediate stations between D.C., and the first main station, were called direct from D.C. on the block to block wire, by using 2, 3, 4 or 5 rings as required; main stations were called in a similar manner on the through wire, and intermediate stations beyond the first main station were called on the block to block line by main stations, the normal position of lever in station telephone boxes being "through"; district control in this manner could speak to any station on the district and keep in touch with the traffic.

As the traffic was intense on the single tracks, every care had to be taken to avoid congestion, tieups or accidents. No lights of any kind were allowed at night in the forward areas, and it was no easy task to keep the wheels moving in the pitch dark, sometimes through a gassed, shelled or bombed area. Locomotives were generally doubleheaded, to reduce the number of trains to the minimum and run in convoy with pusher locomotives on the grades. Destination stations were advised of the probable arrival time of trains, so that unloading parties would be on hand to unload the trains immediately on arrival, thus releasing power and cars, which had to make as many as two or three trips daily on short lines or during rush periods.

To keep the traffic moving, wrecking gangs were always on hand, housed in boarding cars, and their task was a heavy one, as derailments were frequent in some localities where the track was bad, or where it had been destroyed by shell fire. Travelling inspectors, with the rank of sergeant major, were also employed to pilot trains to their correct destinations. These men were required to know every inch of the track, and the location of every battery. They had to walk the track at night and know that it was passable, and emergency track gangs had to be called out to repair damage created by shells and bombs, as no cars could be left in the forward area during the hours of observation. Their tour of duty was over only when every train destined for their section of the track had been delivered and the empties returned before daylight, and their work was of such a nerve racking character that they were allowed one day off in every three.

Some of the Officers and Non-Commissioned Officers no. 2 Section, Skilled Railway Employes.

This illustration, from a photograph taken at Guy St. Barracks, Montreal, April 2, 1917, while the company was training there, shows the following, from left to right: Acting Lieut. J. Swaile, who went overseas as Company Sergeant Major; Lieut. W. W. Webster, formerly Foreman, Steel Car Shop, C.P.R., Winnipeg, now Night Foreman, Erecting Shop, there; Capt. Robt. McKillopp, Officer Commanding, formerly Superintendent, Laurentian Division, Quebec District, C.P.R., Montreal; Lieut. J. S. Hall, Adjutant; Sergt. Major Oxley, who left the unit for evacuation to England about May, 1918; Sergt. Major W. R. Spencer, formerly Agent, National Transcontinental Ry., Cochrane, Ont., and son of George Spencer, Chief Operating Officer, Board of Railway Commissioners, Ottawa.

Water for the locomotives was secured by pumping into overhead or underground tanks, pumps manufactured by the Merryweather Co. of England, being generally used. The source of supply was wells, streams, rivers, canals and shell holes, and each locomotive was equipped with a suction hose. Where water was scarce, tank cars were filled by pumps at any available supply and set out along the line where required. Steam engines were used in daytime up to the point of enemy observation and to any point on the line at night, tractors being used at all other times and places.

The 13th Light Railway Operating Company's Work.

To resume the record of work performed by the 13th C.L.R.O. Co. Orders were ultimately received to proceed by road from Dunkirk to Coxyde on the Belgian coast, and the unit arrived there on June 21, 1917, locating camp in the sand dunes and immediately commenced unloading equipment from the Belgian railways. At that time the French were operating the light railway and they continued to do so until June 26, 1917, on which date the 13th Company took over the system under the British Fourth Army.

A great offensive was being planned on the Nieuport front, the object of which was to cut off the German northern army, and a great number of guns and men were moved up to participate in it. This meant plenty of work for the light railway, which had to be extended to take in the full area of operations, and it was one of the most important fronts on the battle line at that time, the best of equipment was supplied to the unit. Ammunition was hauled day and night to the batteries, the average being 1,500 tons daily for two months, with the other usual traffic in addition. Enemy shelling was constant and heavy, which greatly impeded the working of this traffic. The tracks had been laid alongside the roads, and not only suffered from shelling, but were continually being blocked by road transport.

On July 10 and 11, 1917, the enemy shelling was very intense all over the districts and the light railway tracks and personnel suffered accordingly. The enemy made an attack, captured a large number of prisoners and used the deadly mustard gas for the first time, the result of which is now well known. So much damage was done to the units headquarters camp and yards that they were moved back about a mile, but this did not interfere with the handling of traffic.

Towards the end of Aug., 1917, the proposed drive was called off and the unit was ordered to draw all the ammunition and supplies back to the railheads. Shelling still continued heavy, and camp was moved twice before orders were received to go south and report to the A.D.L.R. First Army. From Sept. 11 to Nov. 6, 1917, the main body of the unit was located at Lestram, on the Portugese front, the remainder being scattered among various British companies, assisting in work of a particular nature. On the latter date, orders were received to proceed to Achiet-le-Grand in the Somme area, and report to the A.D.L.R. Third Army North. The district around Croiselles, Mory and Death Valley was taken over on Nov. 10, 1917, and a rather quiet period was spent during the winter, the usual traffic being handled with very little shelling back of the forward lines, which were within range of the enemy's field guns.

It was the calm before the storm, however, as the memorable 21st of March, 1918, proved. On that day the great and final German supreme offensive was launched, commencing about 5 a.m., and it sounded as if all the pent up rage of the ages had been let loose. The air simply rained shells, and when our own guns opened up the whole ground trembled. As the enemy advanced, stations were abandoned one by one, all papers being destroyed, and telephones removed by the men before leaving, until all the personnel were back at Achiet-le-Grand. On Mar. 22, Achiet was evacuated, as most of the batteries which the unit had been serving with ammunition had evacuated or been put out of action, and in addition Achiet was being heavily shelled and bombed. It was necessary to get all the power and equipment out before the track was too badly broken, and this was only accomplished finally by running all the trains in convoy, with a track gang ahead of the first train. A new camp was established at Rettemoy Farm, and the operation of the line continued from there, the principle work being to move ammunition from Puisieux dump to Bucquoy village where it was taken forward by motor lorry. On Mar. 26, Bucquoy was occupied by the enemy, which put a stop to the transfer work, and the unit slipped quietly away north and arrived safely at Maroeuil, behind Arras, before dawn of the same day. The roll was called, and an inventory taken of the stock, which showed that only one man had been wounded, and all the power, equipment and tools had been saved, except one tractor and two hospital cars destroyed by shell fire and one locomotive which overturned during evacuation. The equipment saved included 16 steam locomotives, 15 gasoline locomotives, and 200 cars of all classes. All other light railway companies south of us lost their equipment, which was valued at about $10,000,000.

The unit was to rest at Maroeuil for a few days, but in the early morning of Mar. 28, 1918, a shell landed in the middle of the camp, killing 24 and wounding 26 men. It was the hardest of luck to lose so many men, after coming through the offensive with only one casualty, but it was the fortune of war. It was a sad lot of men who arrived at Barlin next morning, drenched to the skin after travelling all night, as each one had lost a comrade or friend. Between Mar. 28 and April 13, the unit rested at the First Army Mine School at Houdain and then was ordered to Choques, to dig trenches, as the enemy had broken through the Portugese army.

Before the work was begun, however, orders came to proceed by rail to Vignacourt, near the River Somme. Owing to the fact that the roads suffered most through the capture of more than half of the light railway system, the roads branch of the army claimed the idle light railway personnel, with the result that the 13th Company worked on roads around the village from April 17 to May 30, 1918. On that date, a new railway system was commenced to run from Vignacourt to Poulainville, and the unit worked with a will, having been promised that it would operate the line on completion. Construction work continued until the 6th Battalion, C.R.T., arrived to take over the work, and the unit commenced to operate the construction trains.

On Aug. 8, 1918, the great allied drive was launched on the Amiens front, wounded began to arrive, and in three days 10,000 were handled through the casualty clearing station at Vignacourt by the unit. The advance was so rapid that the system then being operated, became a wash out, a move was therefore made forward to Guillaucourt, where the operation of the recaptured tracks was commenced. In the period from Aug. 13 to Sept. 8, the unit moved a number of times, always forward, and finally came to a temporary stop at Peronne. The traffic out of Peronne was very heavy, as there was only one light railway company operating in the salient created by

Track Gang on Light Railway Construction.

the [illegible], and day and night, without ceasing, the trains plied to and fro between Peronne and Nurlu. This line was only 7 miles long and 65 trains were handled over it daily, hauling a total daily tonnage of between 2,000 and 3,000 tons. The enemy fell back to the Hindenburg line and the unit moved its headquarters to Tincourt, near Roisel, on Oct. 12, 1918. From then until the armistice, traffic was very heavy and the line grew longer every day. It ran in the triangle formed by the standard gauge railways running between Roisel, Cambrai and St. Quentin, through a country devoid of any other means of transportation. An old metre gauge track was converted to a 2 ft. gauge in quick time, and traffic was daily delivered to the end of steel behind the advancing army. The unit was reinforced by three other operating companies, but had full charge of the system. All equipment was salved and repaired by gangs of repair men. Most of it was in fairly good shape as it had only been in the enemy's hands from Mar. 21.

Oct., 1918, proved to be a record month, nearly 50,000 tons being handled by the unit. All ranks put in long hours, especially the train crews, who were on 18 hour shifts, although there were 50 steam locomotives and 500 cars being operated each day. Relief came when the broad gauge operated into Bohain, the end of light railway steel, through Cambrai and St. Quentin. After the armistice, traffic still remained heavy as all ammunition and other salvage had to be brought back, but time was of no account, which allowed the crews to have a well deserved rest.

Canadian railway men undoubtedly were paid a splendid compliment in this important and final drive, as the 1st Section S.R.E. (58th Canadian Broad Gauge Operating Co.), was chosen with the 2nd Section S.R.E. (13th Canadian Light Railway Operating Co.), to handle all the railway trains from the beginning to the end of the drive. The former had, I understand, about 1,000 reinforcements from British operating companies and the latter had 800 British reinforcements.

Orders came through on Feb. 12, 1919, to proceed to Etaples, Feb. 15, for return to Canada, but owing to congestion, a hold order was waiting at the base, and the unit was held there until Feb. 28, when it moved to Le Havre and thence to Liverpool. From there leave was granted, and on the men's return they were sent to Rhyl, Wales, in drafts, for the various demobilization centers—all but the casuals arriving back in Canada by the end of May, 1919.

The original officers of the unit were:

Capt. R. McKillop, Officer Commanding, who, before enlistment, was Superintendent, Laurentian Division, C.P.R., Place Viger station, Montreal who since his return from the front, has been on extended leave of absence, spending most of the time at East Boston, Mass., in connection with the Smoke Jack Co., of which he has been General Manager, and is also a director. He returned to the C.P.R. service Nov. 1 and went to Chapleau, Ont., to relieve Superintendent W. C. Guthrie, during the latter's three weeks holidays, after which he was to report to headquarters in Montreal for further instructions.

Lieut. R. S. Richardson, Traffic Officer, who before enlistment, was Superintendent, Canadian Government Rys., Fort William, Ont., and has since returned there as Superintendent, Canadian National Rys.

Lieut. J. S. Hall, Adjutant, who before enlistment was employed by the C.P.R., occupying responsible positions in the operating and mechanical departments, as a student. He transferred to the British Tank Corps in England and was promoted to command a tank section. He is now living in Toronto.

Lieut. W. W. Webster, Locomotive Officer, who before enlistment was General Foreman, Steel Car Shops, C.P.R., Winnipeg, and is now Erecting Shop Night Foreman there.

The following officers were among the reinforcements:

T. J. Fouhy, Adjutant, who succeeded J. S. Hall. Before enlisting he was Accountant, Purchasing Agent and Secretary, Macdonnell and O'Brien, contractors, Montreal. After demobilization he was with O'Brien and Doheny, contractors, Montreal, on some work in the United States, for a short time, until, on account of ill health, he decided to take a holiday and went to the Western States for a trip.

Lieut. J. J. McDonald, who before enlistment was a conductor on the Grand Trunk Pacific Ry. at Prince Albert, Sask.

Lieut. J. W. Weeks, who before enlistment in the infantry was a fireman on the C.P.R., at Calgary, Alta., and has returned to that position.

The total casualties in the unit were 27 killed and 60 wounded, gassed, or disabled, by accidents, about 30% of the whole.

13th Light Railway Operating Co. Establishment.

Officers:		
Captain	1	
Subalterns	4	5
Warrant officers:		
Regimental sergeant majors	2	
Company sergeant majors	6	8
Sergeants		16
Rank and file:		
Corporals	20	
Second corporals	40	
Lance corporals	8	
Sappers	172	240
Attached:		
Batmen	5	
Drivers A.S.C.M.T.	2	7
		276

Total, 5 officers and 271 other ranks.

A Light Railway and a Broad Gauge Railway alongside one another.

13th Light Railway Operating Co., Trades Schedule.

	Officers.	O.R.'s	Attached
Captain	1		
Subalterns	4		
Blacksmiths		3	
Blacksmiths helpers		3	
Boilermakers		2	
Boilermakers helpers		4	
Boilerwashers		3	
Carpenters		3	
Cleaners, locomotive		15	
Clerks, stenographers		4	
Clerks, general		6	
Cooks		4	
Coppersmith		1	
Dispatchers		5	
Drivers, I.C.E.		25	
Drivers, locomotives		20	
Firemen		21	
Fitters		8	
Fitters helpers		8	
Foremen, mechanical		2	
Guards and brakesmen		20	
Machine men		3	
Painter		1	
Plumber		1	
Shunters (conductors)		20	
Storekeepers		2	
Tinsmith		1	
Wagon inspectors		8	
Wagon repairers		6	
Yardmasters		10	
Electrical fitters		2	
Pioneers (camp details)		19	
Shoemaker		1	
Tailor		1	
Barber		1	
Draftsman		1	
Telephone operators		30	
Batmen			5
Drivers A.S.C.M.T.			2
Total	5	264	7

Letters of Appreciation From the Higher Command.

From Lieut.-Col. F. B. Wilson, A.D.L.R., First Army, Nov. 24, 1917.

Dear Captain McKillop:—I was glad to receive your letter of the 20th inst., and to know that your company is comfortably settled in your new quarters, and also that you have a section to operate to yourselves. I am quite sure that you will make good. I cannot speak too highly of the work done by your company while in this army area, which was always most satisfactory. Your train crews and mechanics were of the greatest assistance to us, and we feel the loss of them very much indeed. I can only hope we will see you all back with us in the near future. You and your company have the very best wishes from myself and my officers. Yours sincerely, F. B. Wilson, Lieut.-Col., A.D.L.R., First Army.

From Lieut.-Col. A. T. LeFevre, D.S.O., A.D.L.R., Third Army North, April 1, 1918.

Dear Captain McKillop:—I very much regret to hear about your losses at Marveuil. After bearing the heavy work entailed in extricating your company, and bringing the rolling stock and power units to safety, it is the worst kind of hard luck to lose men at Maroeuil through a chance shell. I should be glad if you would convey to your officers and men my appreciation of the excellent work they did in evacuation of valuable rolling stock, and my sincere regrets that the company has suffered to such a great extent and such severe losses. I am very glad to learn that Lieut. Macdonald performed such good services and shall take pleasure in drawing the attention of the D.L.R. to his excellent services. I am sending a copy of this letter to the D.L.R., and I am sure you will hear from him in reference to the all round good work of the company, and particularly in regard to the excellent work performed by all ranks during the evacuation of power and stock from the area, which I regret to say is now in the hands of the Germans. I hope later on, when we get going again, as I am sure we will, that the 13th Canadian Light Railway Operating Co., will be returned for duty to the 3rd Army North. At the present time we have got a sufficiency of operating troops, in fact at the moment some of them are doing grading and track work. Yours very sincerely, A. T. LeFevre, Lieut.-Col., A.D.L.R., 3rd Army North.

From Brig.-Gen. G. H. Harrison, C.M.G., D.S.O., Director of Light Railways, April 4, 1918.

Dear McKillop:—I want to very heartily endorse LeFevre's remarks to you, adding my sincere congratulations on the very splendid work done by you and your company. I am most awfully sorry about the extraordinary bad luck you had at Maroeuil, after completing such valuable work. Please convey my congratulations to all ranks of your company. Yours sincerely, G. H. Harrison, Brig.-General.

From Major M. P. Sells, Superintendent of Light Railways, Fourth Army, Nov. 18, 1918.

To Capt. R. McKillop, O.C., no. 13 Canadian Light Railway Operating Co.:—Now that hostilities have ceased, and we have ceased to be the important branch of the transportation service that we were, I wish to thank you, and the officers, n.c.o.'s and men under your command, for the magnificient way in which you responded to the very heavy demands made upon you during the recent operations which have brought us to the victorious end we all longed for. In spite of long hours on duty, difficult weather conditions, and shortage of power and fuel, the traffic was moved; traffic which could not have reached the forward area in any other way, on account of few and bad roads, and mined broad gauge railways, and the result was achieved only by the grit, perseverence and loyalty of all your company, who worked as one man and with one aim in view. I am grateful for your personal support on several critical and difficult occasions, and I heartily wish you and those who have so loyally worked under you all the good things that the blessing of peace will bring to the Empire. M. P. Sells, Major, R.E., Superintendent of Light Rys., 4th Army.

Editor's Note.—Robert McKillop was born at Perth, Scotland, Dec. 26, 1884. He entered C.P.R. service June 22, 1905, as draftsman in the Chief Engineer's office, and on Apr. 1, 1912, was promoted Assistant Engineer in charge of Building Department; Feb. 8 to Dec. 13, 1915, Division Engineer, Eastern Division, Montreal; Dec. 13, 1915 to June 12, 1916, Superintendent, District 2, Atlantic Division, Woodstock, N.B.; June 12, 1916 to Feb. 28, 1917, Superintendent, District 4, Eastern Division, Montreal, now Laurentian Division, Quebec District. On Feb. 28, 1917, he was granted leave of absence to take command of the 2nd Section Skilled Railway Employes, and went overseas Apr. 16, 1917, returning May 22, 1919. He was demobilized May 22, 1919, and transferred to the general list of officers, and the C.P.R. granted him an additional six months leave.

Terminal Power Plants.

By W. J. Harding, Chief Engineer, Ottawa Power Plant, G.T.R.

The very rapid development of the power generation and distribution business in the last 30 years has shown the difference between the actual life of power generating machinery and its useful life; or its life up to the time that it is superseded by larger and more economical apparatus or machines better suited to changed conditions of power generation. So much depends upon the design and the conditions of operation that no fixed values can be assigned to any equipment. Practice shows that most power plant appliances become obsolete long before the limit of their useful life is reached.

At present there is renewed agitation for the use of higher pressure steam, and a number of manufacturers are ready to supply steam at 600 lb. pressure and 200 degrees superheat. The turbine manufacturers are prepared to offer turbines to utilize this high pressure steam. Whether these changed conditions will result in a new type of station cannot be stated, but it is certain that additional operating economies may be secured, although the total economy when fixed charges are considered, may not be much better.

Probably the best illustration of compact power installation to meet the heating, ventilating, lighting, power and sanitary demands, is found in the plants of modern hotels, railway terminals and large office buildings. Data from a large number of plants show the costs of electric current, etc., to be made up of: labor, coal, handling ashes, water, oil, lamps, supplies and repairs, interest and depreciation, also, central station service, when used for periods of minimum consumption to allow shutting down of plant. Roughly the figures average 1-3 labor, 1-3 coal, 1-10 interest and depreciation, and the sum giving the cost of power as made up of the minor items. The mean load throughout the day is usually 50% of the full load. The maximum is only required an hour or two late in the afternoons during the winter months. It is customary to allow about 40% reserve over the estimated peak loads in designing the boiler plant.

Boiler Room Equipment—The type of steam generator will depend entirely upon conditions of service and space. Modern plants using high pressures invariably install water tube boilers; they are safe, more economical and will meet the varying demands better. For reasonably low pressures in small plants and for heating installations, the ordinary fire tube boiler meets the requirements, if overload capacity is not an essential factor. These boilers are cheaper and cost less for repairs than water tube boilers.

Mechanical Stokers — The difference between good and bad firing may easily amount to from 5 to 20% of the amount of fuel fired. Therefore, there is no investment around a steam plant that will pay better than the amount put out to produce good boiler appliances. Automatic stokers have been developed to a remarkable degree of perfection, and, when suited to the fuel, have an advantage over hand firing, in that under all conditions they are reliable, that they can be adjusted to either extreme and can be depended upon to operate continuously with the least amount of skilled labor. The economic saving will depend on the basis of comparison and operation. Whether a stoker will save labor in a fire hole depends upon the size of the plant; as a rule mechanical stokers are not labor saving devices in plants under 1,500 to 4,500 h.p. It should also be remembered that unless the type of stoker is suited to the kind of fuel obtainable, the maintenance of the stoker is likely to be extremely high, running in some cases to twice as high as fire room labor under hand fired conditions.

Boiler Feed Pump—It is the tendency of railway power plants to install reciprocating pumps, these are wasteful and inefficient. It is not an uncommon thing to find the steam consumption of an ordinary 6 x 4 x 6 in. duplex pump to run up to 200 lb. per h.p. The modern turbine driven centrifugal feed pump requires almost no attention, and a large saving can be made due to the absence of pump valve renewals, etc. The steam consumption of the turbine even, when running non condensing, is reasonably low, due to the high rate of rotation. Even when the pump is run as low as 1,800 r.p.m., the steam consumption of the turbine when run non condensing would not exceed 50 lb. per h.p., and the consumption will not increase with the age of the pump as is the case with reciprocating pumps.

Open Feed Water Heaters—The most profitable use to be made of exhaust steam is in heating the boiler feed water, since not only is heat conserved and fuel saved, but the boilers are protected from temperature strains, the water is purified by the driving off of the gases and the consequent precipitation of carbonates, the capacity of the boiler is increased in the ratio borne by the heat imparted to feed water from exhaust steam to the total amount of heat required to convert the cold water into steam, or from 10 to 16%. It is claimed that for every 11 degrees that the feed is heated there is a saving of 1% in fuel burned.

Refrigeration in Hotel Service—The capacity of a refrigerating plant is expressed in two ways, "ice melting effect" and "ice making." For example—A 20 ton machine will produce the same cooling effect in 24 hours as the melting of 20 tons of ice, or in other words, will extract the same amount of heat from the brine as would be required to melt 20 tons of ice into water at 32 degrees. Theoretically the extraction of this amount of heat from 20 tons of water at an initial temperature of 32 degrees should change it into ice, but in practice these are various losses not present in the simple process of cooling, so that it is customary to allow for twice the boiler power per ton for ice making as for the process of cooling or ice melting effect; the indicated h.p. required per ton refrigeration depends upon suction and condensor pressure which in turn are governed by the temperature and amount of condensing water used.

Power Plant Records—One of the most essential things in power plants is the systematic record of operations by daily logs and recording apparatus, and when the results are published on engine room bulletin boards, it creates a rivalry between the different shifts and promotes a desire among the men for higher efficiency. The importance cannot be overestimated. In this way affairs in the plant are lifted from the realms of guess work to certainty. While the systems adopted for ordinary plants may be simple, the records should be arranged for convenient reference so that comparison of results with past performance may be made. Thus it is possible to note the effects of changes in equipment or improvements in economy.

Heating With Exhaust Steam From Power Plant—Exhaust steam heating by vacuum systems has developed rapidly during the last few years. With its decided advantages over the old style methods of heating, it practically predominates the heating field. The advantages of the vacuum system over the gravity system may be summarized as follows:—1. Positive circulation by prompt removal of air and condensation through the vacuum returns. 2. Smaller return pipes. Asbestos covering on returns can be eliminated so that the condensation can be handled by the pumps without the injection of cold water. 3. Increased economy, as back pressure on engines can be reduced to practically atmospheric. 4. Air binding and water hammer trouble removed.

The Dunham vacuum system is in use at one large plant I am acquainted with. It was installed in the place of the old gravity system, in which we used high pressure steam, which was unsatisfactory, wasteful and difficult to control under quick changes of temperature. The vacuum is maintained by a Tod-Attwood 6 x 8 x 10 in. pump and controlled by a ¾ in. Fisher vacuum pump governor, which is operated by a diaphragm and actuated by the vacuum produced in the return header. The condensation is removed by the operation of a thermostatic trap connected to each radiator. This trap is comprised of a shell, consisting of a body and cover. Attached to the cover is a hollow disc or diaphragm, containing a combination of volatile fluids which vaporize at about 200°. Attached to this diaphragm is the valve of the trap, which raises and lowers on its seat as the disc or diaphragm expands or collapses. The condensation from these traps is pumped into a sump, from which an electric centrifugal pump actuated by a float delivers it to the boiler feed pump through a Cochrane heater. During the winter the hot water heater supplying the offices is heated with this condensation which passes directly through the chamber and is connected to the vacuum pump. The total square feet of radiation in station is 6,200. Low pressure condensation equals 0.25 lb. per sq. ft. per hour. High pressure condensation equals 0.4 lb. per sq. ft. per hour, showing an approximate saving of 35%.

The foregoing was read before the Canadian Railway Club, Montreal, recently.

Birthdays of Transportation Men in December.

Many happy returns of the day to:—

E. T. Agate, ex-Assistant Superintendent, Lake Superior Division, Canadian Northern Ry., Capreol, Ont., now of Toronto, born at Pittsford, N.Y., Dec. 7, 1874.

A. G. Albertsen, General Agent, Passenger Department, C.P.R., Minneapolis, Minn., born at Copenhagen, Denmark, Dec. 31, 1887.

J. H. Barber, Engineering Department, C.P.R., Montreal, born at Cobourg, Ont., Dec. 20, 1856.

H. E. Bissell, Land and Tax Agent, Grand Trunk Pacific Ry., Winnipeg, born near Noyan, Que., Dec. 31, 1867.

N. E. Brooks, ex-Engineer, Maintenance of Way, Western Lines, C.P.R., now at Sherbrooke, Que., born there, Dec. 25, 1866.

W. W. Butler, President, Canadian Car and Foundry Co., Montreal, born at Danville, Ohio, Dec. 9, 1862.

J. M. Cameron, General Superintendent, Alberta District, C.P.R., Calgary, born at Lochabar, N.S., Dec. 18, 1867.

W. C. Casey, General Agent, Passenger Department, Canadian Pacific Ocean Services Ltd., Winnipeg, born at Moncton, N.B., Dec. 12, 1882.

G. W. Caye, General Purchasing Agent, G.T.R., Montreal, born at Malone, N.Y., Dec. 1, 1865.

A. H. Foster, Manager, Brantford Municipal Ry., Brantford, Ont., born at Guelph, Ont., Dec. 24, 1888.

G. C. Gahan, Assistant General Auditor, C.P.R., Montreal, born there, Dec. 28, 1874.

W. H. Gardiner, City Freight Agent, C.P.R., and District Freight Agent, Esquimalt and Nanaimo Ry., Victoria, B.C., born there, Dec. 6, 1859.

A. S. Goodeve, member Board of Railway Commissioners for Canada, born at Guelph, Ont., Dec. 15, 1860.

A. J. Gorrie, ex-Superintendent District 1, Transcontinental Division, Canadian Government Rys., Quebec, now of Toronto, born at Raith, Kirkcaldy, Scotland, Dec. 10, 1868.

W. H. Grant, General Tie Agent, Canadian National Rys., Toronto, born at Acton, Ont., Dec. 8, 1858.

F. P. Gutelius, Federal Manager, Delaware & Hudson Rd., U.S. Railroad Administration, Albany, N.Y., born at Mifflinburg, Pa., Dec. 21, 1864.

Jas. H. Hall, President, Westerian Transportation Co., Ltd., Ottawa, Ont., born at Hawkesbury, Ont., Dec. 20, 1863.

J. T. Hallisey, Superintendent, Halifax Division, Maritime District, Canadian National Rys., Truro, N.S., born at Beaver Bank, N.S., Dec. 29, 1862.

D. B. Hanna, President, Canadian National Rys., Toronto, born at Thornliebank, Scotland, Dec. 20, 1858.

R. W. D. Harris, ex-Trainmaster, Moose Jaw Division, Saskatchewan District, C.P.R., Moose Jaw, now of Tappen, B.C., born at Victoria, B.C., Dec. 12, 1879.

J. J. Hennigar, District Freight Agent, Great Lakes Transportation Co., Windsor, Ont., born at Topeka, Kan., Dec. 21, 1884.

L. S. Landers, Acting Division Engineer, Canadian National Rys., Edmundston, N.B., born at Farnham, Que., Dec. 15, 1888.

A. McCowan, Master Car Builder, Western Lines, Canadian National Rys., Winnipeg, born at Perth, Scotland, Dec. 5, 1868.

J. T. McGrath, ex-Superintendent of Motive Power and Equipment, Chicago and Alton Rd., Bloomington, Ill., born at Toronto, Dec. 6, 1869.

A. T. McKean, Division Freight Agent, C.P.R., Winnipeg, born at St. John, N.B., Dec. 18, 1886.

Capt. R. McKillop, formerly Superintendent, Laurentian Division, Quebec District, C.P.R., Montreal, then Officer Commanding 13th Canadian Light Railway Operating Co., now acting as relieving Superintendent, Eastern Lines, C.P.R., born at Perth, Scotland, Dec. 26, 1884.

J. M. MacArthur, Superintendent, Medicine Hat Division, Alberta District, Medicine Hat, Alta., born at Toronto, Dec. 8, 1885.

H. M. MacCallum, General Freight Agent, Canadian Pacific Ocean Services, Ltd., Toronto, born at Huntingdon, Que., Dec. 3, 1882.

A. D. MacTier, Vice President, Eastern Lines, C.P.R., Montreal, born at Blairgowrie, Scotland, Dec. 27, 1867.

J. C. O'Donnell, Superintendent, Divisions 2 and 3, Central District, Canadian National Rys., Winnipeg, born at Cobden, Ont., Dec. 17, 1879.

Alfred Price, General Manager, Eastern Lines, C.P.R., Montreal, born at Toronto, Dec. 6, 1861.

W. J. Radford, Assistant Superintendent, Toronto Suburban Ry., Toronto, born at Boldre, Hants, Eng., Dec. 23, 1870.

G. D. Robinson, ex-European Freight Agent, Canadian Pacific Ocean Services Ltd., Montreal, born at St. John, N.B., Dec. 7, 1877.

G. E. Smart, General Master Car Builder, Canadian National Rys., Toronto, born at Edinburgh, Dec. 23, 1873.

W. Tansley, Car Service Agent, New Brunswick District, C.P.R., St. John, N.B., born at Shelburne, Ont., Dec. 27, 1872.

W. H. Thompson, Chief Dispatcher, C.P.R., Edmonton, Alta., born at Bobcaygeon, Ont., Dec. 26, 1886.

M. F. Tompkins, General Freight Agent, Eastern Lines, Canadian National Rys., Moncton, N.B., born at Margaree, N.S., Dec. 6, 1878.

H. H. Vaughan, ex-Assistant to Vice President, C.P.R., Montreal, now Vice President and General Manager, Dominion Copper Products Co., and director, Armstrong Whitworth of Canada, Ltd., born at Forest Hill, Essex, Eng., Dec. 26, 1868.

R. C. Vaughan, Assistant to President, Canadian National Rys., Toronto, born there, Dec. 1, 1883.

A. P. Walker, Assistant Engineer, Ontario District, C.P.R., Toronto, born at West Hartlepool, Eng., Dec. 9, 1860.

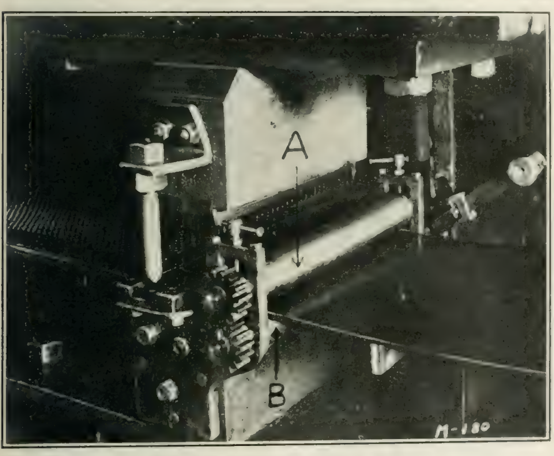
J. B. Way, Freight and Ticket Agent, C.P.R., Sault Ste. Marie, Ont., born at Operating Co., now acting temporarily as relieving Superintendent, Eastern Lines, C.P.R., born at Perth, Scotland, Dec. 26, 1884.

Railway Mechanical Methods and Devices.

Perforating Plates in Railway Shop.

The device shown in the accompanying illustration is in use for perforating plates used in connection with grease cellars in driving boxes. The largest plates perforated are 15½ in. wide, and can be made any convenient length, the standard length used being 8 ft.

For punching, the sheets are placed on a guideway and entered between the feed rolls A and B, which control the movement of the sheet into the punch at each opening stroke. After starting the operation, the sheet is automatically fed the proper amount by each successive stroke of the punch.



Punching device for making perforated plates.

There are 4 rows of ¼ in. punches, each row containing 25, so that a total of 100 holes are punched at each stroke of the machine. The punches are staggered as to length, so as to break up the force of the blow. The die is a solid steel plate, in which holes have been drilled, reamed and counterbored, for relief on the bottom side, to suit the position of the punches. With this device, one man handles the work without aid, and gets out the plates at the rate of about 10 an hour, making a cost of approximately 6c a plate. One of the plates upon which the punching has been finished is shown at the base of the punch press. From paper read at American Railway Tool Foremen's Association's meeting, by J. J. Sheehan, Roanoke shops, Norfolk & Western Rd.

The Dominion Atlantic Ry. has had prepared a series of films on agricultural operations along its lines. The films, together with projecting machines, operators and lecturers are being offered to farmers' clubs and other organized meetings throughout the country.

Standardization of Tools.

In this day and age, the individual idea should be subordinated to such an extent that we should adopt practices that would give better efficiency, reduce the cost of output and on the other hand simplify the tool situation whenever possible. It has been plainly shown that the adoption of standard practices by the Railway Master Mechanics' Association was a good move. When a standard practice was adopted by that body, it was carried out to the letter on all railroads and considered standard.

In the past eight years the members of the American Railway Tool Foremen's Association have attended meetings and returned to their respective homes and made reports to their local officers on these subjects but unfortunately they did not get the co-operation that they should have received. As all the tool foremen who attend these conventions receive instructions from their superiors to attend, they should be invested with such confidence that when they make a report to their superiors that a certain tool has met with the approval of the association and been adopted as standard, the higher officers should put forth an effort to put this into practice. If we could standardize the tool equipment on all American railways and use the same methods and practices there is no question that it would eliminate a great deal of the making of unnecessary tools. While I appreciate the fact that the tool room foremen and the superintendents of motive power have a certain amount of self-pride in the making of all tools for their respective railways, nevertheless, the progressive man of today must be able to give and take whenever necessary in order that he may develop a method that will get proper production.

In the automobile industry, where all parts must be interchangeable, the first practice is to get the tools made to the standard, before starting production, and these tools are maintained to an extremely high standard of accuracy. If this is found to be good practice from a manufacturing standpoint, why is it not a good practice in the railway shops? There is only one solution and that is co-operation and the insistence on the adoption of practical methods and standards.

On the Atchison, Topeka & Santa Fe, in order that we may get the proper results, it has been found very essential that the tools be standardized, and, whenever possible, drawings are made of the tools and then submitted to the tool room foreman, so that they will be made up in a standard way. It is further found advisable that only tools which cannot be secured from the manufacturer for a reasonable price should be made in our tool room. It is not good practice for a railway shop tool room to manufacture tools that can be secured from the manufacturers for the same price or less than it would cost to make them locally. In some shops such tools are made, but I consider it false economy, due to the fact that there is a certain amount of loss incurred by the tool room, and when standard tools are secured from the factory all the possibility of loss is overcome, due to the fact that all tools are furnished in first class condition and free from flaws and defects.

There is a vast difference of opinion between railways in regard to a standard locomotive frame reamer. The greatest difference seems to be in the length over all and in the taper. If a standard length and taper of locomotive frame reamer could be universally agreed on, it would be possible to eliminate the excess cost due to ordering reamers of special type from the manufacturer as well as eliminating the carrying of many different lengths of reamers locally in the tool rooms.

For illustration, on the Santa Fe lines a standard reamer has been adopted, with a left hand spiral flute, and of a standard length that will take care of the maximum and minimum requirements. Heretofore, there were a great number of different lengths which have been eliminated by standardization. By the adoption of the left hand spiral fluted reamer, the breakage has been reduced to about 20%. While using the straight fluted reamer, trouble was encountered due to the chipping out of portions of the flute and also chattering, while now this has all been eliminated, for the left hand spiral retards the reamer to such an extent that it does not gouge or seize, especially while reaming steel frames on locomotives. All our reamers are tapered 1-16 in. in 12 in. and I feel confident that with the proper co-operation of the mechanical heads of the various railways throughout the continent, this point could be agreed upon. This standardization not only pertains to reamers, but also to all other tools and equipment.

The foregoing paper was read before the American Railway Tool Foremen's Association recently, by E. J. McKernan, Supervisor of Tools, A.T. and S.F. Rd., Topeka, Kan. In the discussion which followed, several questions were raised regarding standard forms of reamers. There was some difference of opinion regarding the relative advantage of flutes in the form of spirals having short and long pitches. The majority favored long spirals, or reamers used with air drills, but the statement was made that the shorter spirals reduced the time, but required heavier thrust to feed them.

Welding Boiler Tubes With Gas Torch.

It may prove of interest to describe a method we have developed for welding 4 in. boiler tubes with the acetylene torch.

We cut the ends off square in a power hacksaw, clean the rust and scale off the long pieces with a file, and take short pieces to a grinding wheel and brighten the surface ¼ in. back from end.

We have a clamp made from a piece of 4 in. standard pipe, about 24 in. long, split longitudinally, with hinges on one side and slots with bolts and handled nuts on the other. The clamp has three 1½ in. holes near the center, and it is placed on the tube to be welded, the 1½ in. holes over the joint. The torch is applied to the 1½ in. holes, and the tube "tacked" in three places. The clamp is then removed and the welding performed easily; an assistant turning the tube.

We use 3-16 in. welding rods and can weld 50 tubes with 100 ft. of oxygen; time, about 10 minutes for each tube. The welder prefers the square end to the beveled end and thinks it takes less steel and less gas.

We can flatten these tubes under a power hammer where the weld is, without showing a fracture.—A. H. Halladay.

Promoting Safety in the Shop.

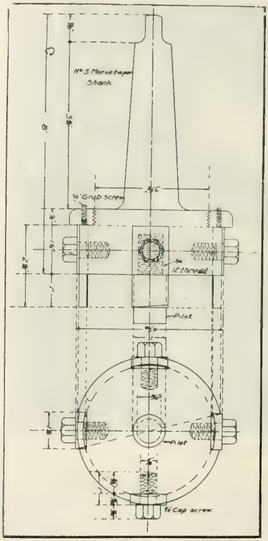
We must not forget, while manufacturing new devices and tools, that in each case we should keep in mind safety first. The prevention of injuries should be considered even more than the efficiency of the tool or device. Do you ever inspect the tools that are in daily use in your shop to see that they are in safe condition? The tool foreman should make this his business, as he is the most capable of determining the safety of tools. Our shop safety committee demands a report from the tool foreman, on tools in all departments, and this has brought about wonderful results in a decrease of injuries. The blacksmith shop, boiler shop, and even the different tool rooms are good places to find defective tools. There are numerous things in the shops and locomotive houses that are unsafe at their best, and we must see that they are at their best.—J. C. Beville.

Cutter for Tube Sheets, Canadian National Railways.

The body of the cutter, a plan of which is given herewith, is made of mild steel, and has four cutters bolted at right angles. The shank is drawn down to a Morse standard taper and is used in four spindle multiple drilling machine or radial drill. Four slots are milled in the sides for cutters, which are of high speed steel and are bolted down, then the hole is put in a lathe and the cutters turned down on the lathe to form, and ground slightly for clearance. The cutters can be slightly adjusted by slipping a filler between the cutter and the face of the tool. The cutters are ground to follow one another, and each engages at the same time, cutting more metal than the ordinary double cutter tool. With this cutter three sheets or 33 holes can be cut without regrinding the tool. We are indebted for the foregoing information and for the drawing from which the illustration was made, to W. H. Hollingshead, who, when they were furnished, was Foreman, Tool Room, Canadian Northern Ry. Shops, Winnipeg.

The Tool Room's Functions.

A tool room, to my idea, takes care of the tools which are used in the shop. The shop may be a machine shop, or it may be a locomotive erecting shop, or it may be a car repair track. The tool room cares for the tools that are used by the productive workers. I recall to mind one tool room that is under the charge of one man. It is about 10 x 10 ft. and his sole duty is to repair dies for bolt cutting machinery. I recall to mind another tool room that has more machinery than I have in my shop. Both rooms are efficient and serve their purpose.



Cutter for Tube Sheets, Canadian National Railways.

The province of the tool room is to make such tools as may be needed, to maintain them in such a condition that when they are wanted, they are ready for service, and to have them on hand, so that there will be no delay to the men who are to use them. I call to mind a hurry-up job that was not done on time; on investigating the matter, the excuse was made "We could not find our tools." On looking into the matter in detail, it was found that the excuse was correct. The practice had been for a man to pick up the particular tool that he wanted, and use it, and leave it where he got through with it. If somebody else wanted it, and remembered where it was last used, he might find it, and if he did not find it, then he kept hunting until he finally located it. The result was an enormous amount of wasted time chasing up tools. There was no tool room for this particular department, and there never had been. The men were consulted with and were asked, "If you are given a tool room, a place to put your tools, will you put them there?" A tool room was built in the end of a shed for storing tools—it was not a manufacturing department and there were no machine tools in it whatever. It was simply a place to keep the special articles that were needed at various times in a car repair yard. The majority of the men did as requested. When they took a tool out of the tool room, and used it, they put it back. A few, however, did not have time to take tools back. The majority of the men who were living up to the rule made it so unpleasant for those who were careless that they fell into line, and in a short time every tool belonging in the tool room was put in its proper place when the men were through using it.

The tool room can play a great part in the way of safety. The men who use tools, hammers, chisels, and one thing and another, have their own kit. These tools get out of order. They become dulled, their heads become burred up, and are unsafe. Every one can recall to mind some man who has had an eye injury, or who has cut himself badly from the cracking off of a part of a cold chisel. If the tool room will carry in stock a lot of cold chisels, sharpened and ready for service for the man who turns in a defective chisel, that man has saved a lot of time. The cold chisels he has received are ready to go to work. He does not have to go out to the grindstone, or to the blacksmith shop, and spend a lot of time getting his chisels dressed. He turns in his defective equipment, and gets new equipment in its place, and goes back to work without wasting time. This is the one thing that I have in mind; the importance of the tool room having things ready when wanted, and in good condition. The tool room motto should be, "A place for everything, and everything in its place." That refers to everything, from the commonest cold chisel up to the most complicated tool that you can possibly make. If the tools are in good condition, and ready for use, the tool room has absolutely performed its function.—J. A. Carney.

G.T.R. Superannuation Fund—A circular is reported to have been sent to members of the G.T.R. Superannuation and Provident Fund Association, announcing an increase of rates of from 1½ to 2½% to date from Jan. 1, 1920, and a change in the method of computing the retiring allowance. Following this an announcement is reported to have been made from the offices in Montreal, Nov. 6, that owing entirely to the large increases in the rates of pay that have been made recently involving corresponding increases in the returning allowances for which employes would be eligible, it was deemed advisable to have an investigation by an actuary. As a result a revision was made in the method of computing the retiring allowance, and the men's contribution to the fund had been restored to what it was prior to Jan. 1, 1914. The fund, it was stated, had been economically managed, and is in a strong financial position.

The Board of Railway Commissioners has dismissed the complaint of Wilberforce, Ont., residents in regard to train service on the Irondale, Bancroft and Ottawa Ry. (C.N.R.)

The Use of Bronze for Valve Snap Rings and Piston Surfaces, and Bull Rings in Large Cylinders, to Prevent Rapid Wear and Cutting of Cylinder and Valve Bushings.

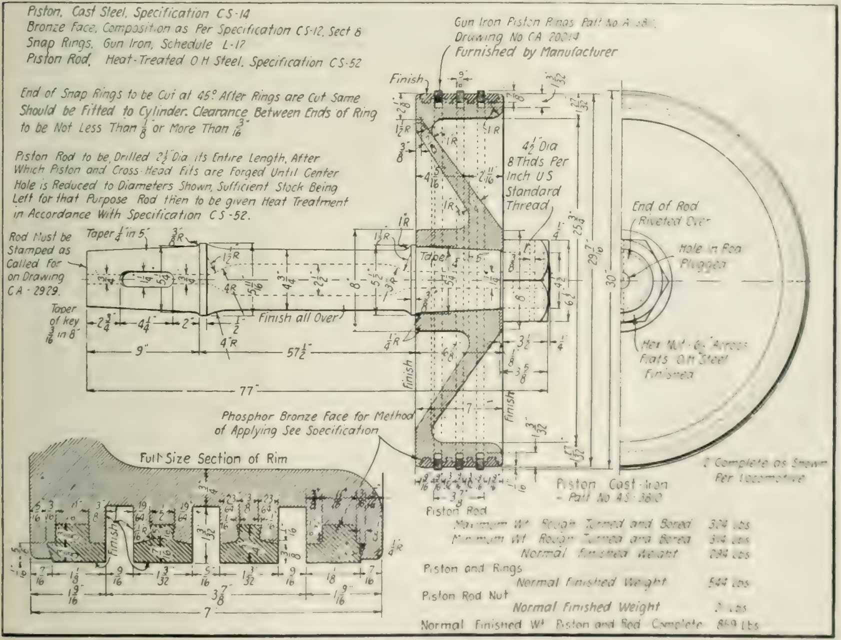
By C. E. Fuller, Superintendent Motive Power, Union Pacific Rd.

Undoubtedly one of the most difficult and perplexing problems relating to locomotive operation is the proper and economical maintenance of pistons and cylinder walls, valves and bushings—those parts which, by their proper relation of sizes, and constantly varying relative positions, assume the responsibility for the correct and economical use of the steam which the boiler has generated. In this region may all too frequently be located the greatest spendthrifts on the entire locomotive.

Since the introduction of modern outside valve gears has eliminated much of the old-time faulty and lame valve setting, our friends within the cylinder have easily taken first place. At no other point on the locomotive can the losses become so great, or so quickly aggravated, due to rapid cutting and wear; nor has the introduction of superheated steam, with increasing size cylinders, tended to ameliorate conditions.

Cylinder working temperatures, which have so direct a bearing on rate of wear, have increased tremendously in the last 10 years. The extensive adoption of cylinder bushings on modern power indicates the enormous increase in cylinder barrel wear and a desire to save cylinders, which otherwise would soon wear thin. Extended piston rods to carry the weight of pistons in large cylinders are a compromise, and there appears a trend toward their abandonment. Decrease in unit pressure between piston and cylinder walls can only be attained at the expense of increased reciprocating weight and dynamic augment. Cylinder and valve lubrication under increased superheat temperatures is surrounded by many difficulties.

With these facts in mind, the Union Pacific Rd. Mechanical Department, began experiments in 1913 with bronze valve snap rings, and in 1915 with **bronze surfaces for pistons.** No originality is claimed in this connection, as perhaps many of those present have experimented more or less along similar lines, but the results obtained are worthy of some consideration.


Piston, Cast Steel, Specification CS-14
Bronze Face, Composition as Per Specification CS-12, Sect 6
Snap Rings, Gun Iron, Schedule L-17
Piston Rod, Heat-Treated O H Steel, Specification CS-52
End of Snap Rings to be Cut at 45°. After Rings are Cut Same Should be Fitted to Cylinder. Clearance Between Ends of Ring to be Not Less Than 1/8 or More Than 3/16
Piston Rod to be Drilled 2½ Dia its Entire Length, After Which Piston and Cross-Head Fits are Forged Until Center Hole is Reduced to Diameters Shown, Sufficient Stock Being Left for that Purpose. Rod then to be given Heat Treatment in Accordance With Specification CS-52.
Gun Iron Piston Rings Patt No A-38
Drawing No CA 20014
Furnished by Manufacturer
Finish
4½ Dia 8 Thds Per Inch US Standard Thread
End of Rod Riveted Over
Hole in Rod Plugged
Hex Nut 6½ Across Flats Of Steel Finished
Rod Must be Stamped as Called For on Drawing CA-2929.
Taper of key 3/16 in 8
Taper ¼ in 5
Finish all Over
Taper
77
57½
9
29 7/16
30
Phosphor Bronze Face for Method of Applying See Specification
Full Size Section of Rim
7
2 Complete as Shown Per Locomotive
Piston Cast-Iron Patt No 45-360
Piston Rod
Maximum Wt Rough Turned and Bored 324 lbs
Minimum Wt Rough Turned and Bored 314 lbs
Normal Finished Weight 294 lbs
Piston and Rings
Normal Finished Weight 544 lbs
Piston Rod Nut
Normal Finished Weight
Normal Finished Wt Piston and Rod Complete 869 lbs

Common Standard Bronze-faced 29½ in. Piston and Rod, Union Pacific Rd.

Bronze Valve Snap Rings.

Two formulas have been used:

COMPOSITION "A"

Copper	82.96%
Tin	14.66
Phosphor	0.118
Lead	none
Impurities	2.26
Total	100%

COMPOSITION "B"

Copper	80.80%
Tin	5.83
Phosphor	0.10
Zinc	4.54
Lead	6.58
Impurities	2.15
Total	100%

Either composition gave good wearing qualities, but composition A has decided advantages in elasticity. We believe, however, that there is room for further improvement in the composition of the most suitable alloy for this purpose.

Valve rings are of the usual L-section for 15 in. piston valves of cast iron, working in gun iron bushings. Information collected in 1915, or previous to the recent rise in wage rates and material, relative to comparative mileage and cost of cast iron and bronze valve rings may be of interest, showing that against 117 cast iron rings, making 216,495 locomotive miles, there were 45 bronze rings, making 381,337 locomotive miles—an increased mileage in favor of the bronze ring of 358%.

The average cost per 1,000 locomotive miles was: Bronze ring, 8.73c; and cast iron ring, 20.0c, or an increase of 129% for the cast iron ring. This test covered 13½ months, during which no valve cages were removed where bronze rings were used.

A Pacific type locomotive was equipped with bronze rings—composition A, Apr. 13, 1916: Rings removed, worn out —Mar. 22, 1918, with a mileage of 145,285.

Piston Surfaces—In Aug., 1915, a consolidation type locomotive with 22 in. cylinders was equipped with 2 cast iron pistons having bronzed ring poured on while pistons were at about 1,500° F., afterwards machined to size including ring grooves which were fitted with gun metal rings. This test was in contemplation of the use of bronze for surfacing 29½ in. diam. cast steel Z-type pistons, designed for use on a proposed 2-10-2 type locomotive which was then under consideration for the 60 ft. grades between Ogden and Evanston. If possible, it was desired to escape the necessity for using an extended rod on a large diameter cylinder. It was known that at least a year would intervene before a decision was necessary.

Frequent reports from this locomotive indicated that these pistons were performing quite satisfactorily, the rate of wear on pistons and cylinder walls being much below the average with cast iron pistons. The bronze adhered to the piston head without fracture. In June, 1916, this locomotive was shopped—both pistons being reapplied to locomotive without any work being done on them—mileage 40,000. In Mar., 1918, this locomotive had a cracked cylinder, necessitating shopping. The pistons still in fair shape were reapplied to another locomotive, after having made 120,000 miles, and up to Dec. 31, last, had made an additional 19,000 miles, and, to the best of my knowledge, are still in service. The success of this experiment led us to adopt the bronze face without hesitation for the new design 29½ in. pistons for the 2-10-2 type locomotive, and drawings were accordingly prepared, and upon being forwarded to the builders we received an immediate complaint that the design was impracticable from a manufacturing standpoint, as it was considered impossible to pour a bronze ring on a cast steel head, on account of the different shrinkage coefficients. To this we replied by getting four steel castings from the same pattern, successfully pouring and machining them—sending photographs of the finished pistons to the builder as evidence, then putting the pistons in stock for the anticipated locomotives.

The builders had no difficulty in following the design, and 10 locomotives arrived, equipped with the bronze faced cast steel pistons, in the autumn of 1917, and were placed in hard mountain service, where drifting is necessary for 60 miles, with little let-up. After being in service 6 months the bronze had worn down to the cast steel lip at the edges of the piston, between 1-32 and 1-16 in. Pistons were then reversed, and gave 4 or 5 months' additional service. Since then, from time to time, this cast steel lip has been turned back slightly, exposing additional bronze surface, and at the end of 19 months, several of these pistons are still in service, not having reached the limit of wear with their original bronze surface. The piston centers, however, are all intact and apparently capable of indefinite service. These pistons have made over 60,000 miles in most difficult service, and no cylinders have been rebored; in fact, showing remarkably little wear. Incidentally, the use of bronze permitted the adoption of a very light design of piston, which though 29½ in. diam. weighs only 544 lb. complete, without rod.

The accompanying plan indicates the detail application of bronze in dovetail grooves for the purpose of preventing individual sections from leaving their place in case they become detached from the main mass of bronze. The composition of bronze on these pistons is as follows:

Copper	86 to 89%
Phosphor—Tin	4 to 6%
Tin	4 to 6%

Oxwelding Bronze Surfaces on Cast Iron Piston Heads—This practice is of more recent origin, having been in vogue about 6 months. It is purely a reclamation process, but indications to date are very favorable. Cast iron piston heads, which heretofore have been scrapped on account of wear—which usually takes place mainly on the bottom half of the head—are now treated as follows: Pistons are preheated in a brick furnace, over a charcoal fire, to a temperature of 900 to 1,000° F., without removing the rod. A small hole is then made through the sheet asbestos on top of the furnace over the piston, to permit the welding operator to work—the piston being turned from time to time by means of the rod as the work progresses. He first welds a thin layer of bronze over the worn surfaces, between and adjacent to the ring grooves, for approximately one-half of the circumference of the head; he then proceeds to build up to the desired height, including finish, after which the furnace is closed and the fire is allowed to die out and cool over night. The piston is then machined, grooves squared up—and ready for service. being applied with the bronze shoe to the bottom of the cylinder. Tobin bronze welding rods are used—about 8 lb. average, per 26 in. piston.

However, it is contemplated from our previous experience with the fully bronzed circumference, and particularly in view of the fact that most of the wear is at the bottom of the cylinder, that these reclaimed pistons will not only show a considerable increased mileage, but will also show a material saving in cylinder barrel wear, thus increasing the mileage between reborings.

A 26 in. worn cast iron piston can be treated in accordance with the above process for approximately $9.35, while replacements with a new piston of the same design would cost $27.86. This results in a saving of $18.51, besides resulting in really a better piston than the original, on account of decreasing tendency toward wearing the barrel of the cylinder. Up to date about 50 pistons have been thus reclaimed and put into service and there has not been a single failure reported.

By the use of bronze for valve snap rings and for piston surfaces, we have been able to materially reduce the rate of wear and increase the life of the cyinder and valve bushings, as well as the pistons, and keep locomotives longer in service with a maximum of power due to tight and properly fitting parts.

The foregoing was read as an individual paper at the recent railway mechanical convention at Atlantic City, N.J.

Grand Trunk Railway's Contract With Pullman Co.

The Minister of Railways, in replying, in the House of Commons, recently, to a request for information as to Pullman car operation on the G.T.R., read the following memorandum supplied by the G.T.R. management:—"Contract dated July 1, 1916, for 20 years between the Pullman Co. and the G.T.R. Co. of Canada, including subsidiary companies, except the G.T. Pacific Ry. Co. Under the terms of the agreement, the Pullman Co. is obligated to pay over to the G.T.R., 50% of its gross earnings in excess of $7,500 a year. G.T.R. proportion of such excess for the year ended June 30, 1919, was $31,000. The G.T.R. is obligated to pay the Pullman Co. three-tenths of a cent a car mile for intallation and operation of electric lighting of Pullman cars equal to about $1,000 a month. The agreement provides that should the earnings per car per annum fall below $6,000 for two years, or more, the Pullman Co. may cancel contract on 6 months notice, and the G.T.R., in such event, has the option to purchase the equipment at a price to be agreed upon. The Pullman Co. pays all cost of repairs and renewals except those caused by railway accidents; it also pays all inside cleaning of cars, all wages of conductors, porters, and generally all operating expenses except outside cleaning, furnishing water and lubricating oil. Pullman Co. must also supply all cars necessary to meet the requirements of traffic. The contract is deemed by the G.T.R. to be an advantageous one."

The Minister added that the employes on the cars are appointed by the Pullman Co., which has its head office in Chicago.

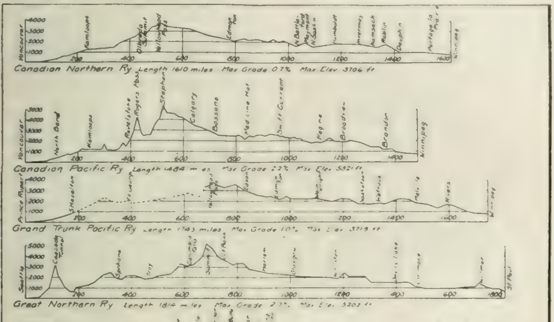
Proposed Joint Control of British Railways.

J. H. Thomas, General Secretary of the National Union of Railwaymen, is reported to have said in a speech at Bristol, Eng., Nov. 15, that the British Government proposed that the railways of Great Britain and Ireland be managed by a joint committee of executives on which the workers would have three members with powers equal to those of the general managers. The government plan, he also said, would create a joint board, composed of 5 general managers of railways and 5 delegates of the locomotive men and the National Union of Railwaymen to negotiate all matters concerning service. Any dispute arising would be referred to another board of 12, comprising 4 representatives appointed by the railways, 4 appointed by the men and 2 appointed to look after the general public's interests. A London cable of Nov. 19, stated that the National Union of Railwaymen had decided to accept the government's proposal.

The Mountain Gradients on the Canadian Northern Railway System.

By Thos. H. White, Chief Engineer, Canadian Northern Pacific Railway, Vancouver.

To anyone who is interested in any way in the capacity of the railways crossing the North American continent, the Canadian Northern Ry. gradients from the plains east of the Rocky Mountains to the Pacific Ocean, cannot be too insistently presented as an evidence of what the future of that railway must be, in competition with all other transcontinental railways, either existing now, or which are possible in the future.



Comparative Profiles of Railways crossing the Western Mountain Ranges.

Comparative profiles showing graphically a comparison of the existing lines have been prepared and distributed in a very limited way to those only in close touch with the C.N.R., and it seems desirable that this feature should be made more public so that it would be a matter of common knowledge and comment. Such an eminent authority as A. H. Smith, then President of the New York Central Rd., who examined the C.N.R. with the purpose of reporting on it, which he did very thoroughly, expressed himself as being astonished that such a railway was a possibility through such mountain ranges as exist in British Columbia. When that was his attitude of mind towards the subject, anyone, less versed in railway conditions on this continent, may well be considered in need of information.

An explanation of the physical features which made possible the low gradients from the crossing of the Rocky Mountains, via the Yellowhead Pass to the sea, may be shortly stated as follows: Behind or west of the Rocky Mountains and paralleling them throughout the whole length of British Columbia, and beyond into the United States to the south and north into Alaska, is a deep depression, which has been named the Rocky Mountain trench, west of which rise the high ridges of the mountains in central British Columbia between this trench and the Pacific coast. Everywhere this trench has to be crossed by any railway from east to west. It is drained by the Kootenay, the Columbia and the Canoe Rivers tributary to the Columbia to the south, and to the north by the Fraser River, and tributaries of the Pine River, the Parsnip and the Findlay Rivers. This drainage to the south and north heads at Cranberry Lake, about 45 miles west of the Yellowhead Pass, which is consequently the highest point behind the Rocky Mountain range on which the great trench can be crossed, and it was the taking advantage of this, in conjunction with the low elevation of the Yellowhead Pass that makes the grades of the Canadian Northern Ry. only incomparably better than any other railway across the mountains, except the Grand Trunk Pacific, and it is the indisputable fact that at no other place can a line be built that will at all compare with the C.N.R. in rates of gradient or total rise and fall. The fall from the west end of Moose Lake, to the crossing of the great trench at the Cranberry Lake flat, is 816 ft., in a distance of 25 miles, which makes possible a gradient of seven-tenths of one per cent, with the necessary compensation for curvature, and easements for passing tracks, and this is the ruling grade on one division, from the Yellowhead Pass to Blue River, a distance of 111 miles, and the only division on the 500 miles from the summit of the rockies to the sea where a gradient of more than four-tenths of one per cent is necessary.

To climb out of the great trench to the west, to the highest point between it and the sea, at Albreda summit, a grade of four-tenths only is necessary, for 12 miles, which is the only rise against west bound traffic, and the only gradient of any consequence which prevents a continuous fall from the summit of the rockies to Vancouver. As this summit is 1,615 ft. lower than that of the C.P.R., which is far lower than any other transcontinental railway except the G.T.P.R., and because the C.P.R. has long grades against west bound traffic of over 2 ft. per cent. and many grades of 1% throughout the mountains, it is obvious that the C.N.R. has an advantage over any other railway in existence for west bound haulage, which can hardly be overstated, and that advantage can never be challenged in the future, for the reason, above explained, that there is no other route possible where like conditions obtain. What these conditions make possible in the carrying of grain from the prairies to the Pacific by the C.N.R.—when freight movements from the east of the mountains to the Pacific and the reverse become adjusted, as inevitably they will be, must strike with astonishment anyone who is first acquainted with them; as was expressed by the New York Central Rd.'s President when the facts were first presented to him.

It cannot be too often insisted on in the interest of the C.N.R., that it has a grade from the sea to a summit of the Rocky Mountains over 1,600 ft. lower than that of the C.P.R. and that it attains that lower summit with a grade that is nowhere worse than four-tenths of one per cent, or 21 ft., with the exception of one grade on a distance of twenty-five miles, and that these grades are compensated for curvature, and adjusted to passing tracks, within these limits, and that the curvature never exceeds 8 degrees, and seldom amounts to as much as that, and is spiralled ac-

[illegible] to the best and most modern practice.

The more technical part of this statement will appeal to railway men, but all of it must impress everyone who learns of it as an extraordinary fact that such a railway through such a country as British Columbia should be possible. Considering that this is an outlet from that immense area east of the Rocky Mountains tributary to the C.N.R., which lies north of the C.P.R. and as far east as Manitoba, and which is beyond doubt the best adapted to the raising of grain and general farming of all the immense north western territory of Canada, and that it is also an inlet from the Pacific to the same under such favorable haulage conditions, can it be questioned that it will develop an immense business, both easterly and westerly, which it will be able to create as soon as conditions become normal for water borne freight on the Pacific. Between the great plains and the Pacific Ocean the mountains are no longer a barrier, since the C.N.R. has come into existence, for they are crossed by this railway with a line which is comparable in the matter of gradients to a like distance in the least mountainous districts on the continent and is capable of hauling as great tonnage as rapidly and cheaply as any.

The National Steel Car Co's Sale and Reorganization.

The President, Sir John M. Gibson, issued the following circular to shareholders, Oct. 27: "Enclosed is notice calling a special general geeting of shareholders for Nov. 12 to consider the question of ratifying and approving a contract which the company has entered into for the sale of its property and business. A copy of the contract is also enclosed.

"The shareholders are doubtless all familiar in general with the situation in which the company has been placed, through a contract which it entered into in 1915, for the manufacture of a large order of cars for the Paris, Lyons and Mediterranean Ry. Co. Unexpected conditions arising out of the war, which were encountered by the company in the performance of this contract, resulted in losses which amounted to more than its total capital stock. Your directors and the officers of the company have been subsequently successfully engaged in reducing the amount of these losses, and have made a material recovery upon this contract, and meanwhile have successfully carried on the company's business and realized a profit therefrom, which has been applied in further reduction of such losses. They have also had in mind the desirability of some arrangement by which the company's debts could be liquidated and as much as possible realized for the shareholders.

"During the past year several negotiations have been entered into looking to the accomplishment of these things, but none of them has been brought to the point of the making of any definite proposal which could be submitted to you. The following is a summary of the company's financial situation as of Sept. 30, 1919: Accounts payable, $3,487,740; accounts receivable and inventory, $1,884,556; deficiency, $1,603,184. To set off against this the company has payments coming in, as a result of negotiations with the P.L.& M. Ry. in France, which, at final adjustment, should amount to $450,000, as well as its real estate, plant and machinery, which have been appraised at approximately $2,600,000. The situation is complicated by the present condition of the car manufacturing business in Canada and the United States. Few orders for cars are being placed, and the completion of the work in hand, and the absence of new orders in the market, has resulted in the necessity of shutting down a considerable part of the company's plant, so that at present time such operation as is being carried on is necessarily resulting in a loss. In view of this, the company's creditors, who have carried it along during the period of financial embarrassment, are insistent that means should be taken at the earliest opportunity to liquidate the company's debts, though during the past two years the company has done a satisfactory and profitable business. As security for its indebtedness, the company made in 1916 a mortgage covering all its property, for the security of an issue of $3,000,000 of its bonds, which have been pledged for the security of its creditors. The principal of these bonds is now overdue.

"Under these circumstances the board has no hesitation in recommending to the favorable consideration of the shareholders the contract of which a copy is enclosed. This contract is to be carried out only in the event that the shareholders determine to ratify it. In substance it makes provision for the discharge of the company's entire indebtedness and for the receipt by the company of 19,000 shares of the capital stock, out of 100,000 shares to be issued, of a new company into whose treasury will be paid in cash $1,250,000. In addition to the shares of stock thus to be received, one half of the net profits realized upon liquidation of the company's claims arising out of the French contract, after deductions as outlined in contract are to be retained by it. Your directors are hopeful that the avails of this contract when finally liquidated, will amount to a substantial sum.

"The company's plant is, in general, in excellent condition. Your board believes that it possesses an efficient operating organization. Its customers have been satisfied with the class and character of its manufactured products, and with the provision of adequate working capital, it is the board's judgment that the new company may look forward to a prosperous and successful career. Unless the proposed contract is ratified the board sees before the company, in view of the insistence of its creditors, no other alternative except liquidation and winding up, and the application of the company's assets to the payment of its debts, in which event it is improbable that any balance would remain applicable to the company's capital stock."

The contract referred to in the circular was made between Donald Symington, of Baltimore, Md., and Robt. J. Magor, of New York, N.Y., as purchasers, and the National Steel Car Co., Ltd., which is referred to in Sir John Gibson's circular, the purchasers agreed to organize a new company under the Dominion Companies Act. The National agreed to ransfer to the new company, all its property, assets, and business, as a going concern, except that it would reserve out of its assets to be ransferred its claims against the French Republic, or the Paris-Lyons-Mediterranean Ry. Co., which it agreed to endeavor to collect. If, upon appraisal of the National inventory, there should exist any deficiency, the National agreed to pay the new company all monies received in connection with its French claims until such deficiency was made good to the new company. After the deficiency, if any, was made good, all receipts on account of the claims to be divided equally between the National and the new company. The National to be reimbursed for its expenses in connection with the collection of claims. On the transfer of the National's property the new company to give the National a release from the Canadian Bank of Commerce of all the National's indebtedness to the bank. The contract provided that it be closed and the transfer of property made on Nov. 14.

The company was organized in 1912 and began operation in November of that year, with a capacity of from 6,000 to 7,000 cars a year. The first year's business showed a profit of $157,153.96, but 1914 was unprofitable, and the surplus was reduced to $80,785.08. In 1915, the company's best year, there was a net surplus of $527,504.56. No report has been issued since then. The Canadian Bank of Commerce is the company's largest creditor, and is said to have advanced about $2,000,000.

Donald Symington, of Baltimore, Md., was, until early in October, Vice President and General Manager, the T. H. Symington Co., railway supply manufacturers, whose works are at Rochester, N.Y. Robt. J. Magor, is President of the Magor Car Corporation, which has its head office in New York, N.Y., and its works at Athenia, N.J. He was a director of the National Steel Car Co., but resigned in October. He is a brother of Basil Magor, who was the National Steel Car Co.'s promoter, who was its first Vice President and General Manager, and who is now Consulting Vice President, Magor Car Corporation.

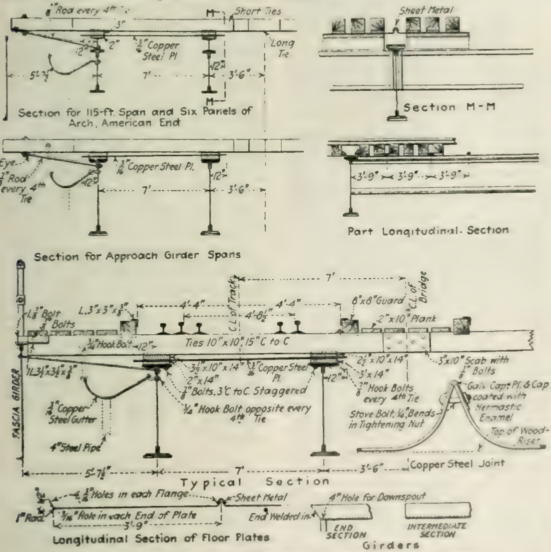
The National Steel Car Co.'s shareholders, at their meeting on Nov. 12, confirmed the contract entered into between the directors and D. Symington and R. J. Magor. We were officially advised, Nov. 18, that no directors other than R. J. Magor had resigned and that no changes had taken place in the officials. It is reported that the President, Sir John Gibson, will resign, and that other changes will be made in the directorate.

National Steel Car Corporation Ltd. has been incorporated under the Dominion Companies Act, to acquire the undertakings, franchises, business, property and other assets of National Steel Car Co. Ltd., and to carry on a similar business. The company's capital is to be divided into 100,000 shares, without nominal or par value, provided that the company should carry on the business with a capital of $500,000. The company may issue and allot the shares of its capital for $5 each, subject to the increase of such capital stock under the provisions of the Companies Act. The company's head office is to be at Toronto.

C.P.R. Steel Rail Orders—The C.P.R. has ordered 140,000 tons of its standard 85 lb. section steel rails from the Algoma Steel Corporation, Sault Ste. Marie, for spread shipment during 1920.

Steel-Plate Drip Floor for Niagara Railway Arch Bridge.

Floor protection of novel character is being applied to the lower Niagara arch bridge, by which the Grand Trunk and five other railways cross the Niagara gorge. Corrosion of the floor system by salt water drippings from refrigerator cars has become serious here, as it has on many other bridges, especially near terminals, where the blowoff, from switching locomotives, of water carrying various boiler compounds seems to add to the trouble. The effect of this action was one of the elements that led to a general overhauling and detail examination of the structure a year ago, as a result of which extensive repairs and reinforcement are being carried out to bring it into condition for the heaviest modern loading. In connection with renewal of the corroded portions of the floor system it was desired to provide protection against further corrosion. To this end C. E. Fowler, consulting engineer for the work, designed a special drip-protective floor which is being installed by the Terry & Tench Co., New York, contractors for the repair and reinforcement work, under direction of Mr. Fowler and H. B. Dickinson, Superintendent of the bridge for the owners.


⅞" Rod every 4th Tie
Short Ties
3"
2"
12"
3/16" Copper Steel Pl
Long Tie
12"
5'-7½"
7'
3'-6"
M
M
Section for 115-ft. Span and Six Panels of Arch, American End
Sheet Metal
Section M-M
Eye
⅞" Rod every 4th Tie
3/16" Copper Steel Pl.
12"
12"
7'
3'-6"
3'-9"
3'-9"
3'-9"
Part Longitudinal Section
Section for Approach Girder Spans
7'
C.L. of Track
C.L. of Bridge
1⅞" Bolt
⅞" Bolts
L.3"x3"x⅜"
4'-4"
4'-4"
4'-8½"
8"x8" Guard
2"x10" Plank
¾" Hook Bolt
12"
Ties 10"x10", 15" C to C
L3½"x3½"x⅜"
3½"x10"x14"
2"x14"
3/16" Copper Steel Pl.
2½"x10"x14"
3"x14"
12"
3"x10" Scab with ⅞" Bolts
⅞" Bolts, 3" C to C. Staggered
¾" Hook Bolt opposite every 4th Tie
⅞" Hook Bolts every 4th Tie
Galv. Cap. Pl. & Cap coated with Hermastic Enamel
Stove Bolt, ¼" Bends in Tightening Nut
Top of Wood-Riser
3/16" Copper Steel Gutter
FASCIA GIRDER
4" Steel Pipe
5'-7½"
7'
3'-6"
Copper Steel Joint
Typical Section
4 5/16" Holes in each Flange
Sheet Metal
1" Rod
5/16" Hole in each End of Plate
3'-9"
4" Hole for Downspout
End Welded in
END SECTION
INTERMEDIATE SECTION
Longitudinal Section of Floor Plates
Girders

New Floor of Niagara Railway Arch Bridge With Drip Plate and Gutter.

At the examination of the bridge the main structure was found to be in splendid condition, but the top flanges of floor beams and stringers and the stringer laterals showed losses of 25% to over 50% in thickness from corrosion. Reinforcement of the weakened members was imperative, and as it was desired also to bring all parts of the bridge up to E 60 capacity the two pieces of work were taken in hand at the same time. The bridge was originally designed for about E37, although the principal members of the 550 ft. arch span are of much higher capacity and require no reinforcement.

The bridge is a double deck structure, 1,080 ft. long. The upper deck, at the level of the top chord of the arch, is the double track railway floor. Below this is a highway floor, framed between the trusses. The railway deck has always had a tie floor, with wooden troughs, so that the highway traffic was more or less exposed to rain and drip. Brine drip and locomotive blowoff, especially in case of standing trains, were the most troublesome features of the situation so far as the condition of highway traffic was concerned. The new drainage floor for the railway deck was designed with protection for the highway deck as one of its objects.

In carrying out the floor system repairs and reinforcement, the cover plates and in some cases the flange angles of the stringers were cut off, traffic being restricted to one track while work was going on in the width of the other track. About 65,000 rivets had to be cut out. Where injury to the metal from heating was not to be feared, rivet heads were cut off by oxyacetylene torches fitted with special tips; such a torch cut off 500 to 700 heads of ⅞ in. rivets a day, or four times as many as one hand crew could do. New and heavier flange material was then riveted in place with countersunk rivets, so as to leave a flat surface as a seat for the drainage floor. All old metal was cleaned with sandblast and then painted with tockolith, with a view to counteracting the influence of any remaining rust.

As this strengthening work was completed the drainage floor was set in place. This, as fully shown by the accompanying drawing, consists of plates of copper-steel 3-16 in. thick, resting on maple raising strips bolted to the top flanges every 3 ft. by countersunk bolts. By making the strips on the inner stringer thicker than those on the outer stringer a drainage slope outward was given to the plate; a longitudinal gutter of copper steel under its outer edge takes the drainage to downspouts. The plate floor under each track is 9 ft. wide.

The track ties, 10 x 10 in., are dapped to 9½ in. depth for a length of 14 in., to receive 10 x 14 in. raiser blocks of hardwood, in order to raise the ties clear of the drip plate. The thicknesses of the blocks over the inner and outer stringers differ by 1 in., as shown, so as to make up for the difference in thickness of the raising strips under the drip plate and thus bring the ties level. The blocks are spiked to the ties. All the timber is treated with hot carbolineum. The copper steel floor plates are flanged sections 3¾ ft. wide, their length of 9 ft. extending crosswise of the track. The ends of the sheets are left plain. The side flanges, which form the joint between abutting sections, are 2 in. high, flaring, with fillet of 1-in. radius at the junction of flange and plate. Each flanged edge is punched with four 5-16 in. holes; the two joining flanges are covered for protection by a channel of no. 16 galvanized sheet steel fastened by stove bolts, which also hold the adjoining sections together.

As the track structure rests on these plates without any bedding or through-bolting, attention had to be given to anchoring the track firmly. The ties are held down by hook bolts at the inner edge of the inner stringer only, the holes for these bolts through the drainage plate having no special significance because they are near the upper end of the slope of the plate. These bolts are spaced at every fourth tie, which is equivalent to one bolt per plate section. At the low side of the plate it was not considered advisable to have holes through the plate, on account of the opportunity this would give for the start of corrosion. However, every fourth tie was extended out to provide anchorage as well as to carry a footwalk; it is anchored back to the web of the outer stringer by a steel rod, either through the fascia girder or (on the approach spans) directly by a bolt attaching the rod to the tie. The inner ends of the long ties are fastened together at the middle of the deck by 3 x 10 in. scabs, 3 bolts in each tie.

Ties are spaced 4¾ in. in the clear, to allow room for coating the drainage plate with enamel. Borden tie spacers are used throughout. The rail joints are of the bridge type, and, although the grade of the track is only 0.1%, the track is equipped with anti-creepers, partly because it is desired to maintain tight joints at the expansion points at each end of the structure, where 5 in. of expansion must be taken care of. Expansion joints of Quebec bridge type are provided at these points.

In addition to the inner guard rails, and outer guard timbers faced with steel angles, with which the deck was equipped, an outer guard rail has been added, as extra safeguard in derailment. This was done on account of the great height of the deck above the Whirlpool Rapids, 200 ft.

While some reliance was placed on the resistance to corrosion of copper steel as compared with ordinary steel, the whole upper surface of the drainage floor is painted with a special priming paint followed by a 3-16 in. coat of hermastic enamel, applied hot. The same coating is applied to the copper steel gutter trough at the outer side of each drainage floor. The leaders from this trough are 4-in. steel pipes carried down clear of the bottom rib of the arch. With a view to facilitating recoating, the trough is attached by hooks so that it can be let down against the side of the stringer for cleaning and recoating. Similarly, the floor plates can be freed by slightly jacking up the track and (after removing the bolts which connect it to the adjoining plate) sliding a plate out like a drawer. When the plate is cleaned and recoated, it can be replaced in the same way. It is expected that the cost of recoating the portions of the floor subject to abrasion will be slight. The whole floor can be washed off with a hose, making it simple to clean it frequently. Reinforcing the floor system of the bridge has been completed at a cost of about $30,000. The drainage floor or "salt water floor" will cost about $25,000.—Engineer News-Record.

Transportation Appointments Throughout Canada.

The information under this head, which is gathered almost entirely from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Canadian Government Merchant Marine Ld.—J. W. CORBETT, heretofore chief clerk, Purchasing Department, Canadian National Rys., Winnipeg, has been appointed Purchasing Agent, C.G.M.M. Ltd. Office, Montreal.

J. P. DOHERTY, heretofore in C.P.R. service, has been appointed Port Agent, St. John, N.B.

ALEX. HECTOR, heretofore Travelling Freight Agent, Canadian National Rys., Halifax, N.S., has been appointed Port Agent, C.G.M.M. Ltd., Halifax, N.S.

Canadian National Rys.—W. M. JACKLIN, heretofore Roadmaster, Toronto Terminals, Rosedale, Toronto, has been appointed Roadmaster, Muskoka and Orillia Subdivisions and that part of the Toronto Terminal Subdivision between Todmorden and Duncan, vice T. W. Brown, transferred to other service.

R. M. MITCHELL, heretofore Right of Way and Property Agent, Western Lines, Winnipeg, has been appointed Right of Way and Property Commissioner, with jurisdiction over all matters pertaining to right of way and railway property on the whole system. Office, Toronto.

Canadian Pacific Ocean Services Ltd.—A. W. ESSEX, heretofore ticket clerk at Montreal, is reported to have been appointed ticket agent, Canadian Pacific Ocean Services Ltd., at Quebec, Que., in summer and St. John, N.B., in winter.

Canadian Pacific Ry.—F. H. CLENDENNING, heretofore Assistant Foreign Freight Agent, has been appointed Foreign Freight Agent, with supervision over export and import Oriental and Australian traffic, and all export and import traffic through Atlantic ports from and to British Columbia. Office, Vancouver, B.C.

C. S. GOWANS, heretofore Import Freight and Agent, has been appointed Foreign Freight Agent, with supervision over export and import traffic through Atlantic ports. Office, Board of Trade Building, Montreal.

H. W. GILLIS, heretofore chief clerk to Vice President (Traffic), has been appointed Assistant Foreign Freight Agent, in charge of export and import freight, solicitation and rates through Atlantic ports. Office, Board of Trade Building, Montreal.

J. P. KELLY has been appointed Division Master Mechanic, Saskatoon Division, Saskatchewan District, vice R. A. Jones, transferred. Office, Saskatoon.

FRANK LEE, heretofore Engineer Maintenance of Way, Eastern Lines, Montreal, has been appointed Engineer Maintenance of Way, Western Lines, vice A. C. MacKenzie, transferred to Montreal. Office, Winnipeg.

A. C. MacKENZIE, heretofore Engineer Maintenance of Way, Western Lines, Winnipeg, has been appointed Engineer Maintenance of Way, Eastern Lines, vice Frank Lee, transferred to Winnipeg. Office, Montreal.

CAPT. ROBT. McKILLOP, formerly Superintendent, Laurentian Division, Quebec District, Montreal, who was granted leave of absence Feb. 29, 1917, to take command of he 2nd Section, Skilled Railway Employes, and went overseas Apr. 16, 1917, continuing as commanding officer of the section, which was renamed the 13th Canadian Light Railway Operating Co., and who returned to Canada May 22, 1919, when the company was demobilized, and his leave of absence extended for a further six months, returned to C.P.R. service Nov. 1, and left Nov. 3, for Chapleau, Ont., to relieve W. C. Guthrie, Superintendent, during the latter's three weeks holidays, after which he will report back to headquarters in Montreal for further instructions.

COL. C. W. P. RAMSEY, C.M.G., has been appointed acting Superintendent, Sudbury Division, Algoma District, during absence on leave of W. R. Boucher. Office, Sudbury, Ont.

Grand Trunk Ry.—JAS. SMITH has been appointed General Foreman, Toronto, vice W. B. Heath, resigned.

C. H. TILLETT, heretofore acting Signal Engineer, has been appointed Signal Engineer, vice R. F. Morkill, resigned. Office, Montreal.

The European Traffic offices staff has been reorganized as follows: General Agent and Assistant to European Traffic Manager, P. A. CLEWS; Passenger and Advertising Agent, H. V. CALDWELL; acting Ticket Agent, S. C. SHIPMAN, with offices at London, Eng.; General Agent, E. J. WEARING; Freight Agent, J. M. CHARLES, with offices at Liverpool, Eng.; General Agent, J. M. WALKER with offices at Glasgow, Scotland.

Grand Trunk Pacific Ry. — C. H. BROWN, heretofore Chief Dispatcher, Edmonton, Alta., has been appointed Assistant Superintendent, Biggar to Edmonton, and Calgary Branch, vice C. B. Thompson. Office, Edmonton, Alta.

Reid Newfoundland Co.—G. COBB, heretofore Assistant General Superintendent, has been appointed Superintendent, Western Division. Office, Bishops Falls, Nfld.

W. C. HARVEY, heretofore Marine Superintendent, has been Superintendent of Drydock and Marine Shops. Office, St. John's, Nfld.

E. J. HOSKINS, has been appointed Traffic Manager and Assistant General Superintendent. Office, St. John's, Nfld.

H. J. RUSSELL, heretofore, Superintendent, has been appointed Superintendent, Eastern Division. Office, St. John's, Nfld.

Marine Navigation Co. of Canada—P. J. MELVIN, heretofore Export Freight Agent, C.P.R., has been appointed Contracting Freight Agent, Marine Navigation Co. of Canada, which operates from Montreal during the summer, and West St. John, N.B., during the winter, to St. Nazaire, France.

Freight, Express and Passenger Rates on Intercolonial Railway.

The Minister of Justice stated in the House of Commons, Nov. 10, in answer to a question by J. F. Reid, M.P. for Mackenzie, Sask., that express rates on the Intercolonial Ry. are under the Board of Railway Commissioners' control. Freight and passenger rates in dispute have been referred to the Board of Railway Commissioners. When all government railways are consolidated with other systems, the rates will be on the same basis. Express rates have been under the Board of Railway Commissioners' control from the time the board was constituted, viz.: 1904, the I.R.C. local and through freight rates are not the same as are charged by the C.P.R. on its prairie sections.

Mr. Reid also asked: "Are the following figures as given by Hon. T. A. Crerar in the house on Oct. 20 correct, viz.: That the rate charged on the C.P.R. for freight was 18% higher than on the Intercolonial Ry., and the average passenger rate was 24% higher on the C.P.R. than it was on the Intercolonial Ry.?"

To this the Minister of Justice replied: "For year ended June 30, 1918, the average earnings per ton per mile, and per passenger per mile were, approximately 18 and 24%, respectively, higher on the C.P.R. than on the Intercolonial Ry.

Aerial Transportation Notes.

The Air Board at Ottawa has appointed two additional heads of branches, Lieut.-Col. J. Stanley Scott, M.C., of Quebec, has been appointed Superintendent of the Certificate Branch, and Major A. M. Shook, D.S.O., D.F.C., A.F.C., and Croix de Guerre with gold star, has been appointed Secretary. Lieut.-Col. Scott enlisted early in the war in the Canadian artillery. He later transferred to the Royal Flying Corps, and, after considerable service in France, returned to Canada, where he was in command at different times of several of the Royal Air Force camps, including the camp at Borden in 1918. Major Shook was, before he joined the Royal Naval Air Service in 1915, the principal of a school in Alberta, and his service in the Royal Air Force was most distinguished, as appears from his numerous decorations. Captain Frank Roy Smith of Barrie, Ont., has been appointed Medical Officer under the Air Board. He was attached to the Royal Air Force as a medical officer for over wo years, having, among other units, commanded a Royal Air Force special hospital for six months.

Traffic Orders by Board of Railway Commissioners.

Slack Coal Rates in Saskatchewan and Alberta.

The Board of Railway Commissioner's Secretary, issued the following letter to the parties concerned on Oct. 11:

"Referring to applications made to the board by various western municipalities that railway companies operating in Saskatchewan and Alberta be required to establish a lower basis of rates on slack coal than now published uniformly on all grades of coal, I enclose a copy of the report of the board's Chief Traffic Officer, dated Oct. 2, and am directed to say that on the facts as submitted the board does not feel justified in giving the direction as requested. The board, if the facts warranted it in directing a reduction in rate, could not direct that the rate should be limited to power companies alone. In the early days of the board, as far back as Oct., 1904, there was before it an application of the G.T.R. for a ruling as to whether it would be allowed to continue a lower freight rate basis on bituminous coal at certain points on its railway, to manufacturers, as compared with the rates charged to dealers or consumers; and the board there held that such differential treatment was not justified, and that a lower rate basis for manufacturers could be put in only if the same rate was made to all its patrons, dealers, consumers, and manufacturers alike."

Following is the report of the Chief Traffic Officer, Jas. Hardwell:

"These several applications ask the board to require railway companies operating in the provinces of Saskatchewan and Alberta to establish a lower basis of rates on slack coal than now published uniformly on all grades of coal. The railway companies oppose the applications.

"The present schedules originated under the board's judgment in the Western Rates Case, delivered April 6, 1914. The Fifteen Per Cent Case, effective Mar. 15, 1918, added 15c a ton, and the order in council, P.C. 1863, further increased the rates as follows:

Rate 49c a ton and under, increased	15c a ton
Rate 50 to 99c, increased	20c a ton
Rate 100 to 199c, increased	30c a ton
Rate 200 to 299c, increased	40c a ton
Rate 300c or higher, increased	50c a ton

"A similar application was heard by the board at Edmonton, June 11, 1918, and was refused by order 27,460, July 20, 1918, under judgment written by the ex-Assistant Chief Commissioner. The present applications appear to me to be in effect applications for some measure of relief from the provisions of the order in council, and to relate to questions of policy rather than rate fixing per se, this being referred to in Mr. Scott's judgment.

"The railways rely on the rate uniformity laid down in the Western Rates Case and on the board's more recent judgment, and also contend that a preferential rate would result in heavy freight undercharges; in other words, opportunity would be afforded for disguising run-of-mine coal in the cars with a top covering of slack. This may or may not be mere conjecture; but it occurs to me, although I may be wrong, that depreciation might result owing to intermixture of the slack with the good coal during transit, and if so, that this would operate as a set-off against the advantage gained by the difference in rates.

"Slack coal has no preferred rates in Canada. In April, 1918, when the previous case was under consideration, I wired the Chief of Tariff Division of the Interstate Commerce Commission as follows: 'Can you tell me in general way whether American carriers charge lower rates on bituminous coal screenings or slack than on lump or run-of-mine coal.' The following reply was received: 'Rates bituminous coal from eastern and central western collieries apply generally on all kinds, no distinction being made between slack, lump or run-of-mine, except in few isolated cases involving short hauls.'

"The list of preferred slack rates furnished by the Director of Public Service and Accounting, United States Railroad Administration, attached to the Saskatoon application and read into the evidence there, are probably examples of the 'few isolated cases' referred to by the Chief of Tariff Division. Disregarding the anthracite examples, the lack of underlying basis will be noted. From Johnstown, Pa., to Chicago and St. Louis, the rates apply to all sizes. From Palasade, Col., to Denver, the slack rate is the same as for lump, egg and run-of-mine; and to Montrose, Col., the nut and slack rates are the same. Where differences exist they are anything but uniform, running from 25 to 50 and even 90c in favor of slack. I have no doubt that local conditions dictated these exceptional rates.

"The opinion of the Interstate Commerce Commission is stated in 34 I.C.C. 414, Alpha Portland Cement Co. v. B. & O. and Penn. Rds. Complaint was made against a slack-coal rate as unreasonable, and request was made for differential rates between slack and other grades of bituminous coal. The case was dismissed, the commission saying: 'The remaining question is that of a differential between slack and other sizes of bituminous coal, complainant's contention being based on difference in value and the impracticability of storing slack coal. It has not been the custom of carriers in this section to maintain such a differential, and in view of the fact that the loading of slack is substantially lighter than that of other varieties of bituminous coal, and that it is coming more and more into demand due to the increasing use of mechanical stokers, there appears to be neither commercial nor transportation necessity for requiring its establishment. Difference in value, which it appears has decreased somewhat in the past few years, would not, in our opinion, justify it.'"

British Columbia Electric Railway Tolls.

28,946, Oct. 28. Re application of British Columbia Electric Ry. Co. Ltd., for approval of its standard tariffs of maximum tolls to be charged between points on its lines of railway other than the Vancouver & Lulu Island and the Vancouver Fraser Valley & Southern Rys., for which excepted lines standard tariffs have already been approved by the board; upon its appearing that the rates shown in the said standard maximum tariffs are these now being charged by the company, it is ordered that standard maximum freight mileage tariff C.R.C. 146, standard passenger tariff or maximum mileage tolls on interurban lines, C.R.C. 9, standard tariff of maximum tolls on street car lines (not including interurban lines), C.R.C. 8, and express tariff C.R.C. no. Ex. 1, and Supplement 1, thereto, of the applicant company and the Vancouver Power Co., be approved until further order.

Sand and Gravel Rates From Stamford.

28,954, Oct. 29. Re complaint of Robt. Patterson, of Stamford, Ont., against charge of 50c a ton on sand and gravel from his pit in Stamford to Niagara Falls, Ont., imposed by G.T.R.; upon hearing the complaint at Toronto, June 5, 1919, the complainant, the G.T.R. and the Michigan Central Rd. being represented, it is ordered that the complaint be dismissed.

Dominion Atlantic Railway Sleeping Car Fares.

28,967, Nov. 3. Approving under sec. 354 of the Railway Act the Dominion Atlantic Ry.'s standard passenger tariff of sleeping car tolls, C.R.C., 5-4.

Car Demurrage as Affected by Strikes.

29,009. Nov. 14. Re consideration by the board of Canadian Car Demurrage Rules as affected by strikes; upon hearing the matter at Toronto, Oct. 31, the Canadian Car Demurrage Bureau, Grand Trunk, Canadian National, and Canadian Pacific Railways, Michigan Central Rd., and Toronto and Montreal Boards of Trade being represented and what was alleged, it is ordered that the matter be dismissed.

Canadian Northern Railway Finances.

The Minister of Railways, replying to questions in the House of Commons recently said that the gross earnings of the Canadian Northern Ry. System from Oct. 1, 1917, to Aug. 31, 1919, were $93,502,669.27; the proceeds of notes sold to the public were $52,871,608; the advances from the Dominion Government for repayment of loans and notes, construction, betterment and new equipment, also interest on securities, were $71,606,463.58. The total disbursements during the same period were: Operating expenses, $93,188,470.58; expenditure on construction and betterments, also purchase of equipment, $56,346,558.85; repayment of coupon notes, and loans, also interest charge, $71,356,256.50. The net earnings from operation to Dec. 31, 1918, were $4,846,103.24, but after paying bond interest and all other charges, the deficit was, Oct. 1, 1917, to Dec. 31, 1917, $2,368,122.40; Jan. 1, 1918, to Dec. 31, 1918, $14,643,753.30; total, $17,011,875.70. The estimated operating deficit for tihs year is $5,587,028.

Where Ignorance Is Bliss.

"What makes you think our friend knows very little about running a railway?"

"The fact," replied Mr. Dustin Stax, "that he is so willing to try it."—Washington Star.

The British Columbia Lands granted to the British Columbia Southern Ry., which passed into the hands of the late F. August Heinze, totalling 701,543 acres, and which were put up for sale for taxes in 1918, have now reverted to the B.C. Government, according to an announcement reported to have been been made Nov. 10 by the B.C. Minister of Finance.

President Beatty of the C.P.R., Addresses the Toronto Empire Club.

E. W. Beatty, K.C., President, C.P.R., who was the Toronto Empire Club's principal guest, at a luncheon, on May 20, which was attended by nearly 800 persons, spoke as follows:

"I find it very difficult to express my deep appreciation of the kindness and courtesy of the invitation of your President that I should attend and speak at this luncheon. It is peculiarly gratifying in that this is the first occasion that I have been in Toronto, except on the company's business since I assumed the duties of my present office, and that the invitation comes from the executive of a club of such outstanding importance, formed in the city in which I formerly lived, and during 14 years enjoyed what most of us regard as the most pleasant time of our lives. It is over 18 years since I left Toronto to live in Montreal, and during those years, particularly during the lifetime of my late father and mother, I do not think that any one month passed without a visit to your city for a day or two days. Many of my friends are here, the old associations have not entirely disappeared, and my affection for my former home city remains unimpaired. These circumstances alone would afford ample justification for a feeling of pride in the invitation of your executive, but there is another reason why I have embraced, with such pleasure, the opportunity which has been afforded me, and that is the large and common interest which the company I have the honor to represent has with the City of Toronto and with the Province of Ontario.

"The C.P.R. operates within your province, 3,400 miles of railway, being, I think, at present the largest mileage under any single system within the province. The possession of this extensive mileage gives in itself a reason why the company's interests and those of the development of the province are closely correlated and inter-dependent. That interest is shared by the other systems which are to be consolidated in one unified operating organization, the mileage of the Grand Trunk in Ontario being 3,036, and of the Canadian National Rys., 1,852. Ontario offers perhaps the greatest variety of railway traffic possibilities of any of the Canadian provinces. You will appreciate that this is so when you recall the extent of the productions of the province which contribute to the support of the railway system operating within it. In manufactures' products, it, of course, leads the whole of Canada; in agricultural products it is prolific, and the products of the forests and mines are extraordinarily extensive. In manufactures' products alone, the province produced over thirteen hundred million tons in 1917, or over 51% of the aggregate production of Canada. Of the products of the mine, Ontario produced ores to the value of $80,000,000, or 46% of the total production of Canada, while the value of the agricultural production was $1,144,000, or about 22% of the whole production of Canada. In pulpwood Ontario produced 33% of the total production of Canada, and in paper 43%, while in dairy products it produced in value and in tonnage in excess of 62% of the whole Canadian production. In livestock production the figures are equally impressive, being 26% of horses, 34% of milch cows and 25% of sheep.

"That is the past, and the future holds still more in the way of traffic and railway possibilities. The total railway mileage in Ontario is slightly in excess of 11,000, or a little less than that of the State of Pennsylvania, while its area is five times as great. Ontario is likewise over five times as large as Ohio, and its railway mileage only 1,900 miles greater. With the increasing population and commercial expansion, more mileage must be constructed and existing facilities increased. The C.P.R. has not reached the limit of its development within Ontario, nor has any other railway company, if the future possibilities are as we have every ground for believing them to be.

"The Canadian National Rys. system will, in due course, develop into one of the largest single organizations in the world. It will possess, when the consolidations now in contemplation are completed, a system aggregating over 19,000 miles in Canada and 2,000 odd miles in the United States, while lines embraced in the C.P.R. system in Canada and the United States amount to more than 19,400 miles. Whatever divergence there may be in the views as to the advisability of the policies which have led to the acquisition of this extensive mileage and its operation under the aegis of government, there can be but one view as to the desirability of its success. I can, I think, say with perfect candor and honesty that no one desires its success more than I, and this is a hope which I think can fairly be re-echoed by anyone who desires the burdens of this country to be as light as possible, and the freight and passenger rates as low as possible.

"In addition to the federally incorporated companies, you have in Ontario local projects which are designed to accelerate development, and, while they are not yet in being, you may be fairly well assured that if carried out to a successful conclusion, none of the existing transcontinental railway systems can help but be benefitted by them. It is true that in local competition existing business may be more or less divided, but there will be new business attracted and developed because of them, and the advantage to the transcontinental systems secured from the haulage of additional tonnage over long distances will much more than offset any diminution of local earnings through the introduction of a new competitor. I make no comment on the advisability or inadvisability of proceeding with those projects now. I may conceivably have views on the economic expediency of them with do not conform with the views of others, but my great desire would be that, if carried out, they should be successful, because nothing, all suggestions to the contrary notwithstanding, is more discouraging than financially embarrassed competitors. The fact that competition is carried on with prosperity to all those engaged in it is the surest sign that general business conditions are healthy, whereas the failure of any large enterprise, especially one operated by the government, must of necessity mean heavier taxation on corporations and individuals to meet annual deficits. The burdens of the country are heavy as it is, and no one, no matter in what system of operation of public utilities he believes, can possibly welcome the advent of unsuccessful enterprises.

"I mention this because it has seemed to me that the impression is sometimes current in parts of the province that the C.P.R.'s activities are more widespread than is the case, and that opposition has been shown when not the faintest semblance of any has been indicated through any act of the company itself. I can imagine no issue of a transportation character being raised in Canada in which the C.P.R.'s attitude and position cannot be candidly and frankly stated. The company's first and principal interest must always be its ability to perform efficient transportation service, and its own resultant transportation prosperity. While Canada's political future is a matter which concerns all companies and individuals, the C.P.R.'s activities are so unimportant a factor that I am almost ashamed to mention them when so much which is flatteringly untrue has been said about them. In fact when you appreciate that in the C.P.R. alone, quite apart from its subsidiary enterprises, a sum in excess of $827,000,000 in cash has already been invested, of which more than $758,000,000 has been contributed directly or indirectly by the share and security holders, you will realize the magnitude of the company in the prosperity of Canada and every province in Canada. I can imagine no corporation of its size, with its numerous ramifications more aloof from political activities than the C.P.R. Its business and its interests, it is the duty of its directors and officers, to jealously guard and actively further, and in every commercial and economic issue the company is to some extent affected. Political machinations and intrigue, I am glad to say, it is free from, because its directors and officers appreciate that the measure of support which is given to it will be that which it gains through the character of the service it renders and the honesty and the integrity of the officers to whom its interests are confided.

"There is, as you know, a railway situation existing in Canada, and to a greater degree in the United States, which is without parallel in the history of either country. It would take too long for me to trace for you some of the history which has led up to the present condition, but it is sufficient for me to say that in the evolution of the U.S. railways, the railways themselves were not free from blame and in fact were initially responsible for the public attitude towards them, which led to their failing to receive support when public and judicial support was sadly needed. This attitude had resulted in the U.S. in a system of restrictive and too inelastic regulation, absolutely cramping in its effect upon the development of the companies and subversive of the public interests. The failure of the U.S. railways in 1917, and what we now know to have been their physical and financial breakdown, was a breakdown under the too rigid system of regulation to which during prior years they had been subject. In the conduct of these railway operations we are, as others, confronted with an extraordinary high cost ratio, due to high wages and costs of material of every description.

"To what extent the question of increased remuneration to railway employes in Canada is important is indicated most vividly by the enormous total of the wage increases granted during 1918 and 1919. The amount of those increases, which aggregated the enormous sum of $77,000,000 exceeds the interest on the whole war debt of Canada, exclusive, of course, of the loan just completed. In other words, even though the war expenses, due to the emergency of the situation, were extraordinarily heavy and extended over a long period, the interest on this debt to be paid by the Canadian people does not equal the increases granted in a single year to the employes in one branch of commercial activity, and additional requests are being made. It is axiomatic that these increases in operating expenses must be paid, and they can only be met in one way, viz.: by increasing the rates to the shipping public, unless the natural increase in traffic is such as to equal the increased operating costs. Unfortunately for the railways of Canada the rate increases granted last year fell short of equalling the increases in wages granted under what is known as the McAdoo award, and amendments. The increases in revenue due to increases in rates amounted approximately to $43,000,000, which means that $34,000,000 was spent in increased operating costs, due to increases in wages alone, which the railways have not been able to get back. If additional wage increases are granted in the U.S., then by reason of the parity of conditions which exists there as compared with Canada, similar increases will follow here, and, if to meet those increases, rates are again increased in the U.S., rates must again be increased in Canada. It must be obvious to you that this vicious circle, with the pyramiding of expenses and increasing costs to the ultimate consumer (the latter in many cases out of proportion to those directly resulting from the increases in wages and rates), must stop. Otherwise the burden will become too great for any community to bear, and prosper. The basis for all applications for wage increases has been the increased cost of living, and, while these increases have been great, the actual increases in the wages is, generally speaking, greater than the increases in the essential and staple commodities. The reason why the wage increases, even to the extent granted, do not place the recipients in a more favorable position is that the increased cost of necessities has been accompanied by a higher standard of living, and these extra and new expenses, which are the voluntary act of the individual and his family, have increased his general living expenses to such an extent that the increased wages have not offered sufficient compensation.

"This is not to be wondered at, because perhaps one of the last things any individual learns is how to spend money properly, once he reaches the point where there is a margin which can be spent as and when and in what way he wills. It is easy enough to be economical and sane in expenditures when one has no considerable monies to disburse beyond what he requires for necessary expenses of living. But while this may be all true and can only be corrected by education, there is an inflated cost to all staple commodities in Canada and the U.S. today which is not warranted. The history of the last few weeks in Great Britain and the U.S. is indicative of what can be done when it becomes apparent that the sentiment of the people as a whole demands action and expects remedies. I am of the conviction that once the results to the community of these increasingly high costs are brought home to those who produce and distribute, backed by the weight of accurate publicity, much will be accomplished in reducing or at least checking the increasing cost of living, which is rapidly getting beyond the point of endurance, to the man of fixed income or moderate means. It has been suggested by able financiers and others that tinkering with these questions is futile and that the solution depends upon and should be left to the operation of inexorable laws of supply and demand. No doubt under normal conditions we could afford to rely upon the corrective influence of these almost immutable economic laws, but the world is sadly out of balance, and the demand now for necessities, particularly foodstuffs, is beyond the supply, and the prices have been forced higher than the purchaser can afford to pay. As this is a purely artificial condition, due to five years of war, it requires artificial means to correct it. In other words, with the demand so much greater than the supply unreasonable costs cannot be exacted if the world is to pay for what it buys.

"The necessity for the moment, of course, is more production, which means more work and greater thrift. It means that the individual must produce in order that the supply will be increased, and he must save in order to bear safely his individual burdens. Never, too, perhaps was the need of individual efficiency more apparent than it is today. Efficiency in itself is one means of increasing production and lowering costs. Inefficiency is responsible for much waste, and how great it is and how lamentable its results can be indicated in the case of any large corporation. I am familiar with the figures of my own company, and therefore, I may be pardoned for using them as an example. The C.P.R. pay roll aggregates $7,500,000 a month, or roughly, $90,000,000 a year, and inefficiency of as little as 10% means a loss in labor production of $9,000,000 a year. One hundred per cent efficiency is a high mark to aim at, and 10% under par would be considered a high average, but yet in the case of one company alone, what I think would be considered much better than an average showing would mean in the result a wastage of effort valued at $9,000,000. When you consider these facts, it is not to be wondered at that the paramount consideration in all organizations today is the obtaining of this efficiency, the lack of which is so costly. It cannot be obtained through theories, or fancy experiments in different methods of organization. To my mind it is only capable of accomplishment in one way, viz.: through the everlasting struggle for results, because with them comes reward. With this knowledge and a high sense of duty, coupled with the maximum of effort and eternal vigilance, efficiency is secured.

"In concluding these remarks, which are intended to be only suggestive, I cannot refrain from mentioning the duty which your transportation companies, whether government owned and operated, or privately owned and operated, owe to the people of this country. I say 'owe,' because I know of no individual agency which can contribute to or mar prosperity to a greater extent than these huge transcontinental or semitranscontinental systems. The time was when your railway superintendent was a man of rough exterior, crude methods and indifferent, not only to the whims but the rights of the public. Public sentiment and the necessities of the situation have changed all that, and now one essential ingredient in traffic operation, or executive railway activities, is the appreciation of the exacting nature of the service which the public demands, and the everlasting ambition to inspire confidence in the service given, for the business rewards that follow from its successful accomplishment. Intelligent and serious discussion of all phases of transportation activity in connection with Canada's development are essential. Support of the railways is necessary if they are to be able to do their full part in Canada's trade expansion, because no other single agency to the same extent contributes to and reflects the general commercial prosperity of the country. In the course of these remarks I have mentioned at times matters which are peculiarly within my knowledge concerning the C.P.R. I did so intentionally, knowing that you would not disassociate me from the company I represent. If you think the references have been somewhat more frequent than is necessary, I would ask you to remember that there were many things I might have said which I did not say."

Canadian National Railways Earnings.

	1919	1918
January	$ 6,744,018	$ 4,696,[illegible]
February	6,000,342	4,421,704
March	6,827,491	5,710,660
April	6,909,632	7,16[illegible],890
May	7,518,244	6,580,745
June	6,0[illegible],585	6,8[illegible]64
July	7,627,402	5,73[illegible]99
August	8,274,882	8,2[illegible]942
September	8,627,268	7,058,381
October	9,389,795	8,480,468
	$74,037,654	$64,[illegible]

Approximate earnings for 3 weeks ended Nov. 21, $6,017,758, against $5,320,501 for same period, 1918.

Canadian Pacific Railway Earnings, Expenses, Etc.

Gross earnings, working expenses, net earnings, and increases or decreases, from Jan. 1, 1919, compared with those of 1918.

	Gross	Expenses	Net	Increases or decreases
Jan.	$13,028,328	$11,474,816	$1,553,512	$ 385,519
Feb.	11,064,167	10,083,051	981,116	399,218
Mar.	12,374,182	10,835,138	1,539,044	*1,4[illegible]3,737
Apr.	13,108,905	11,020,281	2,088,624	*1,366,765
May	13,369,411	10,335,650	3,033,761	*6[illegible]4,015
June	13,577,274	10,586,852	2,990,421	178,274
July	14,720,362	11,723,659	2,996,703	826,892
Aug.	15,283,654	11,505,486	3,778,168	269,334
Sept.	17,513,691	13,421,771	4,091,920	476,479
	$124,239,971	101,186,705	$23,053,26[illegible]	*$153,799
Incr	$ 13,158,999	$13,312,798		
Decr			$ 153,799	

Approximate earnings for October $18,113,000 and for 3 weeks ended Nov. 21, $12,01[illegible],000 against $15,514,000, and $10,266,000 for same periods respectively, in 1918.

Grand Trunk Railway Earnings, Expenses, Etc.

Gross earnings, working expenses, net earnings, and increases or decreases, from Jan. 1, 1919, compared with those of 1918.

	Gross	Expenses	Net	Increases or decreases
Jan.	$ 4,102,229	$ [illegible]	$† 716,60[illegible]	$* [illegible]
Feb.	[illegible]	[illegible]	[illegible]	[illegible]
Mar.	[illegible]	[illegible]	[illegible]	[illegible]
Apr.	[illegible]	[illegible]	[illegible]	[illegible]
May	[illegible]	[illegible] 411	[illegible]	*[illegible]
June	[illegible]	[illegible]	[illegible]	*[illegible]
July	6,021,716	[illegible]	1,1[illegible]	*[illegible]
Aug.	[illegible]	[illegible]	[illegible]	*[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]

†Deficit. *Decrease.

Approximate earnings for September $[illegible]; October $[illegible], and for 2 weeks ended Nov. 14, $2,910,[illegible], against $[illegible], $[illegible] and $[illegible] for same respective periods in 1918.

Citadel Brick and Paving Block Co. has ordered 125 dryer cars from Canadian Car and Foundry Co.

Legislation Authorizing the Dominion Government to Acquire the Grand Trunk Railway System.

When Canadian Railway and Marine World for November went to press, the bill introduced in the House of Commons, by the Minister of Railways, providing for the acquisition of the G.T.R. system by the Dominion Government, and which was published in full on pgs. 593 and 594 of that issue, was still in the committee stage.

On Oct. 30, when the house was considering, in committee, sec. 5 of the bill, providing that the present guaranteed stock and the new guaranteed stock, or any part thereof, might be called in or redeemed by the government, at par, at any time after 30 years from the date of the appointment of the committee of management provided for in sec. 5, subsec. (a), on 6 months notice by advertisement to the holders thereof, the Minister of the Interior announced that the government had decided to reduce the period from 30 years to 5 years, and moved an amendment accordingly. Hon. W. L. M. King's previous amendment to a similar effect was then withdrawn, and Mr. Meighen's amendment was agreed to.

On the consideration of sec. 8, providing that the government might lend to the committee of management, upon G.T.R. notes or other obligations, such sums as the government might from time to time deem necessary, for carrying on the operation or improvement of the G.T.R. sysem, the Minister of the Interior said that, after listening to the Hon. W. S. Fielding's comments, and going more fully into the matter, the clause seemed so wide and sweeping a character that he did not think it necessary, and he moved its withdrawal, which was carried.

On the consideration of the bill's preamble, after considerable discussion, the Minister of the Interior moved to amend it by adding after the words "And whereas it is expedient that His Majesty should acquire the whole of the capital stock of the G.T.R. Co. of Canada, except the 4% guaranteed stock above referred to" the following words: "And should have power to acquire the said 4% guaranteed stock." This was adopted and the committee then reported the bill as amended.

On Oct. 31 the Minister of Railways moved the third reading of the bill, and Hon. W. S. Fielding moved in amendment:

"That the bill be not now read a third time, but that the house do come to the following resolution: That the G.T.R. system, which the government proposes to acquire, comprises over 8,000 miles of railway line, owned, controlled, or leased and operated by the G.T.R. Co. and its subsidiaries; that the parent G.T.R. Co. has numerous subsidiary companies, and the system includes, besides the railway mileage herein mentioned, the ownership and management of hotels, steamship lines and other property; that these railways and other property are partly in Canada, partly in the United States and partly in Great Britain; that the obligations of these companies in various forms run into vast sums, and the financial affairs of the several companies are interwoven by guarantees of securities; that the parent G.T.R. Co. and its chief subsidiary the G.T. Pacific Ry. Co., are admittedly unable to fulfil their obligations to the Dominion; that the information in possession of the house is insufficient to enable the house and the people to fully understand the complicated affairs of the G.T.R. system; that there has been no inquiry into the affairs of the G.T. system since that which was conducted by the Drayton-Acworth commission in the spring of 1917, which related to the Canadian railway situation generally, and incidentally discussed the affairs of the G.T. system; that this said Drayton-Acworth commission in its report say concerning the Grand Trunk Railway Company:

> " 'Even if the government were to relieve them entirely, as suggested by their President, of their unfortunate G.T. Pacific venture—and, as we have already said, we cannot think that the request can be reasonably justified— it is evident that the G.T.R. Co. is not and will not be for some time to come in a position enabling it to pay out any money at all in dividends. We regard the entire share capital as being intrinsically of but small value at the present time. On the basis of present value of maintainable income the fair compensation would be very small.'

"That of the stock thus described by the Drayton-Acworth report as of small value the bill proposes to place a perpetual government guarantee of interest at 4% on about $60,000,000, and to submit the valuation of about $180,000,000 to arbitration; that the house is of opinion that before taking further action towards the acquisition of the railways referred to the government should appoint a commission composed of persons of recognized ability and experience in railway management, railway finance, and railway accounting, to make a full inquiry into all the affairs of the G.T.R. Co. and its subsidiary companies, their assets and liabilities, the condition of the railway lines and their equipment, the physical value of the properties, the sums required to put them into efficient condition, their estimated earning powers, and generally into all matters in any way relating to the affairs of the companies herein referred to, and to make a full report thereon for the information of parliament." On Nov. 4, Mr. Fielding's amendment was defeated by 91 to 50.

Hon. W. L. M. King then moved an amendment: "That this bill be not read a third time, but that it be recommitted to the committee of the whole house, with instructions to amend it by adding to sec. 2, the following words: 'The agreement herein shall be submitted to and be subject to ratification by parliament.' " This amendment was defeated by 90 to 55.

J. A. Campbell, M.P. for Nelson, Man., then moved in amendment: "That all the words after the word 'That,' in the main motion, be struck out and replaced by the following: 'The said bill be not now read a third time but be recommitted to committee of the whole house with instructions to amend the same by adding another clause as follows:—'12. Notwithstanding anything contained in this act the value of the 4% guaranteed stock of the Grand Trunk, amounting to £12,500,000, shall be submitted to arbitration.' " On Nov. 5, this amendment was defeated by 83 to 57.

J. J. Denis, M.P. for Joliette, Que., then moved in amendment: "That all the words after the word 'That' in the main motion be struck out and the following substituted therefor: 'Bill no. 33 be not read a third time, but be referred back to committee of the whole house with instructions that they have power to amend same by adding at the end of sec. 6 the following words: 'No award of the arbitrators shall be final and valid until it has been approved of and ratified by the Parliament of Canada. This amendment was defeated by 85 to 53.

On the question being again proposed on the main motion, G. Parent, M.P. for Quebec West, moved in amendment: "That the said bill be not now read a third time, but that the house do come to the following resolution: 'That the G.T.R. system, which the government proposes to acquire, comprises many miles of railway lines on American soil; that the G.T.R. Co. has diverted most of its traffic from Canadian ports to its United States terminals; that a continuance of such policy by the Canadian Government would be injurious to Canadian trade and detrimental to our national welfare; that the ownership by the Canadian Government of the American section of the G.T.R. would involve this country into international troubles respecting labor administrations and public policy; that for the above mentioned reasons, the acquisition of these lines means a serious danger of the annexation of Canada by the United States; that the house is of opinion that before taking action towards the acquisition of the railway referred to, the government should give an immediate assurance to this house that it does not intend to divert Canadian trade from Canadian trade from Canadian ports' by taking over that portion of the G.T.R. situated and operated in the United States.' " This amendment was defeated by 87 to 43.

The question being again proposed on the main motion, J. A. Robb, M.P. for Chateauguay-Huntingdon, Que., moved in amendment: "That the bill be not now read a third time, but that it be read a third time this day six months." This amendment was defeated by 84 to 53.

The main motion for the third reading of the bill was then carried on the same division reversed, viz.: 84 to 53, and it was read a third time and passed.

In the Senate the bill was read a first time, Nov. 5, and on the motion for second reading, Senator Ross, Middleton, N.S., moved that its further consideration be deferred until the next session of parliament. This amendment was defeated Nov. 6, by 39 to 45, and the bill was read a second time. On Nov. 7 the Senate went into committee on the bill. Several amendments proposed were defeated, but the following were adopted:

Clause 6, line 19, after the word "Canada," add the following: "The value, if any, so determined shall not be greater than an amount on which the annual dividend at 4% per annum on the aggregate face value of the present guaranteed stock and the new guaranteed stock taken together would exceed $5,000,000. The fixing of this limit shall not be taken by the arbitrators as any admission or indication that the value to be determined is the amount so fixed, or any other amount." This refers to the 1st and 3rd preference stocks, and the common or ordinary stock.

The following clause was added as no. 12: "For the purpose of the valuation provided in this act, the obligations of the Grand Trunk as guarantors of any indebtedness of the Grand Trunk Pacific

Railway Co. or of the Grand Trunk Pacific Branch Lines Co., or otherwise, and the claims of the Government of the Dominion of Canada against eiher of the above mentioned companies or against any company forming part of the Grand Trunk Railway System shall not be treated as extinguished or affectedly by anything contained in this act."

The bill, as amended, was then read in the Senate a third time. The House of Commons, on Nov. 8, accepted the Senate's amendments by 57 to 28.

The further supplementary estimates for the year ending Mar. 31, 1920, passed at the Dominion Parliament's recent session include $50,000 to pay expenses in connection with acquisition of the Grand Trunk and associated railway systems.

The committee of management of five persons, two to be appointed by the G.T.R., two by the Dominion Government, and the fifth by the four so appointed, to ensure the operation of the G.T.R. system in harmony with the Canadian National Rys., so as to treat the two systems in the public interest as nearly as possible as one system, until the G.T.R. preference and common stocks are transferred to, or vested in, the Dominion Government, is not likely, according to an Ottawa press dispatch, to be appointed for some time. It is said that the appointment will not be made until the consummation of the agreement between the government and the G.T.R. shareholders.

Railway Rolling Stock Orders and Deliveries.

Canadian National Rys. have received 10 six wheel switching locomotives from Canadian Locomotive Co.

Canadian National Rys. have received 8 tourist cars and 500 stock cars from Canadian Car and Foundry Co.

Grand Trunk Pacific Ry. has received 799 repaired box cars from Canadian Car and Foundry Co., Fort William, Ont.

The C.P.R., between Oct. 14 and Nov. 11, ordered 200 automobile cars from its Angus shops, and 2 vans, 29 ft. long, from its Winnipeg shops.

The G.T.R. has received 277 repaired box cars, and 136 repaired hopper cars from Canadian Car and Foundry Co., making a total of 820 out of an order for the repair of 2,500.

The C.P.R., between Oct. 14 and Nov. 11, received the following rolling stock from its Angus shops: 2 steel baggage and express cars, 70 ft. long; 8 steel tourist cars, 1 freight refrigerator car, 189 steel flat cars, 41 ft. long; 1 Pacific type locomotive, and 1 Santa Fe type locomotive.

The Jamaica Government Railways have ordered 3 type 4-8-0 locomotives from Canadian Locomotive Co. Following are the chief details:—

Weight on drivers	109,769 lbs.
Weight, total	138,880 lbs.
Wheel base, rigid	12 ft. 9 ins.
Wheel gase, total	23 ft.
Wheel base, engine and tender	50 ft. 2 ins.
Heating surface, firebox	131 sq. ft.
Heating surface, tubes and arch tubes	1,819 sq. ft.
Heating surface, total	1,950 sq. ft.
Driving wheels diar	46 ins.
Driving wheel centers	Cast steel
Driving journals	8½ x 10 ins.
Cylinders, diar. and stroke	19 x 26 ins.
Boiler	Straight top, radial stayed
Boiler pressure	190 lbs.
Tubes, no. and diar	246-2 in.
Injectors	Sellers M 9½
Safety valves	2 consolidated 3 in. encased
Brakes	Westinghouse E. T. 6
Packing	Metallic
Fire brick	Security arch
Valve motion	Walschaert
Cab	Steel lined with wood
Pilot	All steel
Headlight	Schroeder electric
Sanders	Leach triple
Weight of tender, loaded	94,000 lbs.
Tank capacity	3,500 imp. gals.
Coal capacity	1,400 lbs.
Truck, type	4 wheel
Truck wheels, diar	33 ins.
Wheels	Steel tires, cast iron centers
Journals	M.C.B. 4½ x 8 ins.
Brake beams	M.C.B. steel

Canadian National Rys. orders for rolling stock during this year are summarized as follows:

50 colonist cars, ordered Dec. 18, 1918; delivery completed May 29; builders, Pullman Co., Chicago.

25 cabooses, ordered January; delivery completed May 22; builders, Preston Car and Coach Co., Preston, Ont.

550 general service cars, 50 tons capacity; ordered Jan. 24; delivery completed May 30; Eastern Car Co., New Glasgow, N.S.

500 flat cars, 40 tons capacity; ordered Jan. 25; delivery completed July 15; builders, Eastern Car Co., New Glasgow, N.S.

80 colonist cars; ordered Jan. 25; delivery completed July 2; 250 Hart-Otis ballist cars; ordered Jan. 25; delivery completed July 11; 150 refrigerator cars, 40 tons capacity; ordered Jan. 25; delivery completed Aug. 13; 500 stock cars, 30 tons capacity; ordered Jan. 25; delivery completed Oct. 29; 20 tourist cars; ordered Jan. 25; 15 delivered Nov. 15; builders, Canadian Car and Foundry Co., Montreal.

750 steel frame box cars, 40 tons capacity; ordered Jan. 25; delivery completed Aug. 6; builders, National Steel Car Co., Hamilton, Ont.

300 stock cars, 30 tons capacity; ordered Feb. 6; delivery completed Oct. 3; builders, National Steel Car Co., Hamilton, Ont.

18 sleeping cars and 9 dining cars; ordered June 26; builders, Canadian Car and Foundry Co., Montreal.

6 flangers; ordered July 29; builders, Preston Car and Coach Co., Preston, Ont.

13 observation buffet compartment sleeping cars and 20 mail cars; ordered Aug. 6; builders, Canadian Car and Foundry Co., Montreal.

6 steel snow ploughs; ordered Sept. 8; builders, Canadian Car and Foundry Co., Montreal.

25 six wheeled switching locomotives ordered Jan. 28; 19 delivered; builders, Canadian Locomotive Co., Kingston, Ont.

25 Pacific type locomotives; ordered Feb. 14; delivery completed Oct. 31; builders, Montreal Locomotive Works Ltd., Montreal.

Freight and Passenger Traffic Notes.

The Canadian National Rys. has put on 2 extra sleeping cars and a buffet car on the through train, operating over the C.P.R., the St. John and Quebec Ry., and the National Transcontinental Ry., between St. John, N.B., and Quebec City.

Following is a comparative statement of the number of loaded cars hauled over the Quebec bridge for the week ended Oct. 22:

	1919	1918
From Bridge Station to Chaudiere Jct	153	298
From Chaudiere Jct. to Bridge Station	255	189

The Board of Railway Commissioners has authorized the Canadian National Rys. to reduce its train service on its branch between Kinmount Jct., and Bancroft, Ont. (Irondale, Bancroft and Ottawa Ry.), from a daily service to a tri-weekly one.

J. D. McArthur, President, Edmonton, Dunvegan and British Columbia Ry., is reported to have said in Edmonton, Alta., Nov. 13, that it was not now a question of traffic to be created to and from the Peace River country, but of getting motive power and cars to handle it.

The Quebec, Montreal and Southern Ry., has been ordered by the Board of Railway Commissioners to restore the train service in effect prior to Jan., 1918, between Montreal and Sorel, Que. The board has approved the company's train service between St. Lambert and Fortierville, Que.

In connection with a press report, stating that the Canadian National Rys. was about to put in operation a night train service between Quebec and Chicoutimi, Que., over the Quebec and Lake St. John Ry., J. E. Morazain, General Superintendent, Quebec, is reported to have said, Nov. 19, that it was not contemplated to put on such a service until next spring.

The Canadian Pacific Ry. has put into effect a 6 days a week double train service between Montreal and St. John, N.B. The trains leave Montreal at 12.30 p.m., and 7 p.m., reaching St. John at 6.45 a.m., and 1.20 p.m., while the corresponding trains leave St. John at 4.20 p.m. and 7.45 p.m., reaching Montreal at 8.30 a.m. and 12.20 p.m.

The Dominion Parliament at its recent session, passed an act amending the Immigration Act, requiring that transportation companies shall provide immigration officers with whatever transportation they need in carrying out their duties. The new provision places immigration officers in the same class, in this respect, as customs officials.

The Dominion Atlantic Ry. has had a sleeping car tariff of 6 mills a mile with minimum charges of $1.50 for lower berths, and $1.25 for upper berths; $6 for drawing room, and $5 for compartments, approved by the Board of Railway Commissioners, in connection with he operation of its new train service between Halifax and Yarmouth, N.S., referred to in Canadian Railway and Marine World for November, on pg. 589.

The Edmonton, Dunvegan and British Columbia Ry. is reported to have taken into Edmonton, Alta., during the week ended Oct. 25, 770,000 bush. of grain from the Peace River country, in addition to 28 cars of cattle and horses, 15 cars of merchandise, 8 cars of hay, 19 cars of wood products and 7 cars of coal. The company carried out from Edmonton during the same week, 66 cars of merchandise, 9 cars of settlers' effects, 22 cars of cattle and 5 cars of horses.

The C.P.R. inaugurated on Nov. 20 a round trip service between Montreal and Halifax, N.S. A train leaves Montreal daily at 12.20 p.m., reaching St. John, N.B., on the following morning in time to connect with the Dominion Atlantic Ry. steamship Empress, leaving at 7.15 a.m., for Digby, N.S., reaching Halifax about 7 p.m. The through connection from Halifax to Montreal, via Digby, has been provided for some time, and now that provision has been made for this from Montreal to Halifax, thus making the round trip possible without a delay at St. John, N.B.

The Railway Association of Canada Succeeds the Canadian Railway War Board.

The Canadian Railway War Board, which succeeded the Canadian Railway Association for National Defence, which was organized in Oct., 1917, ceases to exist on Dec. 1, when its place will be taken by the Railway Association of Canada. One of the Canadian Railway War Board's officials is credited with the following statement:—"The Canadian Railway War Board was formed to perfect co-operation among the big railways in the interest of national efficiency in war time. There had not been any tie-up of Canadian railways up to that time and the board was created to serve as a clearing house for information, opinions and ideas and the exchange of mutual assistance. Any shortage of cars or equipment on one road was met through the board by loans from other members' lines having a surplus on hand.

"The co-ordination of railways in the United States and Great Britain had to be brought about by the expropriation of roads by the government. Canada, on the other hand, achieved much more nearly perfect co-ordination by a purely volunteer association of railways.

"The new organization, the Railway Association of Canada, is not a railway protective association, but is to be carried on with a view to maintaining the high degree of efficiency of Canadian railways and to promote still greater efficiency, in the interest of the shipper, the Canadian working man and the public in general.

"The Canadian Railway Board of Adjustment No. 1, formed to take care of labor matters, and which is composed of six members appointed by the railway workers through their unions, and six members appointed by the Canadian Railway War Board, will not be affected by the change, but will continue to operate as before."

The duties of the Railway Association of Canada will be recommendatory rather than administrating, as the Canadian Railway War Board's duties were. Article 2 of its constitution is as follows: "The purposes of the association are, consideration and recommendation upon matters pertaining to the operation of steam railways in the Dominion of Canada. To make such representations to the Government of Canada, the Board of Railway Commissioners for Canada, or to such other public bodies or other railway associations as in the opinion of the association may be desirable in matters of common interest to member companies. To act on behalf of member railways, either jointly or severally, as may be authorized, as the executive committee may from time to time approve."

The following officers and committees were elected at a meeting of railway officers in Montreal, Nov. 8:

Honorary Chairman, Lord Shaughnessy, Chairman, C.P.R. Co.

President, H. G. Kelley, President, G.T.R.

Executive Committee—D. B. Hanna, President, Canadian National Rys.; H. G. Kelley, President, G.T.R.; E. W. Beatty, President, C.P.R.; A. H. Smith, President, Ottawa & New York Ry.; J. N. Beasley, President, Toronto, Hamilton & Buffalo Ry.

Operating Committee — Grant Hall, Vice President, C.P.R.; W. D. Robb, Vice President, G.T.R.; M. H. MacLeod, Vice President, Canadian National Rys.; F. F. Backus, General Manager, Toronto, Hamilton & Buffalo Ry.; J. H. Walsh, General Manager, Quebec Central Ry.

Traffic Committee—C. A. Hayes, Vice President, Canadian National Rys.; J. E. Dalrymple, Vice President, G.T.R.; W. R. MacInnes, Vice President, Canadian Pacific Ry.; G. C. Martin, General Traffic Manager, T., H. & B.R.; Carl Howe, Traffic Manager, Canada Southern Ry.

Legal Committee—W. C. Chisholm, General Solicitor, G.T.R.; W. H. Curle, General Solicitor, C.P.R.; G. Ruel, Counsel, Canadian National Rys.; F. E. Robson, General Solicitor, Canada Southern Ry.; E. D. Cahill, General Solicitor, T., H. & B.R.

Financial Committee—I. G. Ogden, Vice President, C.P.R.; F. Scott, Vice President, G.T.R.; A. J. Mitchell, Vice President, Canadian National Rys.; W. H. Maund, Secretary-Treasurer, T. & N.O.R.; E. V. Barber, Comptroller, Algoma Central & Hudson Bay Ry.

Railway Finance, Meetings, Etc.

Canadian Pacific Ry.—The directors on Nov. 10, declared a dividend of 2½% on the common stock for the quarter ended Sept. 30, being at the rate of 7% per annum from revenue, and 3% per annum from special income, payable Dec. 31, to shareholders of record Dec. 1.

Timiskaming and Northern Ontario Ry.—

	Aug., 1919	Aug., 1918
Passenger earnings	$ 94,119.03	$ 64,798.36
Freight earnings	178,262.60	171,873.47
Total earnings	272,381.63	236,671.83

Canadian National Railways Board to Be Reorganized.

The following is the official report of the statement made on this question during the consideration of the bill for the acquisition of the G.T.R. in the House of Commons at the recent session:—

W. D. EULER, M.P. for North Waterloo: "I was very glad to read in Hansard the following remark made by the Minister of Railways a few days ago: 'There is another matter that I wish to mention in connection with this great railway undertaking. When these two railway systems are operated as one system it will be absolutely necessary for the government to select a management and a staff of the best men that can be found no matter where they come from, to operate this whole new complete system, and those who are decided upon must assume this responsibility.'

"I gather from that, and I would like to be corrected by the Minister of Railways if I am wrong, that it is his intention to appoint a new board to manage the enlarged national system.

Hon. J. D. REID, Minister of Railways: "The hon. member is absolutely right. I made that remark the other day, and if I can use any other words to make the expression stronger, I wish to be understood as doing so. I repeat that so far as I am concerned this road will be operated by the best railway men that we can get, no matter where they come from. The intimation or insinuation of a gentleman opposite—I think it was the member for North Cape Breton and Victoria (D. D. McKenzie)—that the management of these railways would be turned over to the present management was absolutely wrong. The whole board will be reorganized and a set of railway men will operate the system entirely independent of myself or any other man."

Mr. EULER: "I understand, then, that it is the intention to reorganize the whole board?"

Hon. J. D. REID: "Certainly."

Grand Trunk Railway's Indebtedness to Dominion Government.

In answer to a question as to the amount the Dominion Government claims the G.T.R. owes it, the Minister of Railways stated, in the House of Commons, recently, as follows:

Advance made to G.T.R. Co. prior to Confederation, $15,000,000.

Due Railways Department on rail account, $1,279,760.07.

Balance owing Canadian Government Rys. from Grand Trunk, Grand Trunk Pacific and subsidiaries and Grand Trunk Pacific receivership, Sept. 30, 1919, $1,040,346.79.

July 1, 1918, advance to enable company to meet interest payments on G.T. Pacific securities, $593,733.

Sept. 1, 1919, advance to enable company to meet interest payments on G.T. Pacific securities, $554,800.

G.T. Pacific Ry. Co., a subsidiary of the G.T.R.

Securities purchased by government under terms of the G.T. Pacific Implementing Act, 1913, £6,800,000, and being part of guaranteed securities issued under chapter 98, of acts of 1903, $33,093,000. Loan of $6,000,000 made against deposit of $7,500,000. Government guaranteed securities issued under chap. 34, acts of 1914, $6,000,000. Cash advances to company at various times as follows: Under G.T. Pacific Loan Act, 1909, $10,000,000; under G.T. Pacific Loan Act, 1913, $15,000,000; under Appropriation Act of 1916, $7,081,783.45; under Appropriation Act of 1917, $5,038,053.72; under Appropriation Act of 1918, $7,471,399.93. Total cash advanced, $44,591,137.10.

In addition to the above the G.T.P.R. owes the Dominion Government for interest on various advances as per statement rendered the company to Oct. 1, 1919, $7,568,983.83.

Grain Inspected at Western Points.

The following figures, compiled by the Dominion Bureau of Statistics, show the number of cars of grain inspected on railways at Winnipeg and other points in the Western Division, for Oct., 1919, and for two months ended Oct. 31, 1919 and 1918, respectively,—

	Oct., 1919	2 mons. to Oct. 31, 1919	2 mons. to Oct. 31, 1918
C.N.R.	8,645	15,745	15,182
C.P.R.	13,716	24,594	70,203
G.T.P.R.	4,508	6,887	15,311
G.N.R. (Duluth)....	210	340	1,025
Totals	26,629	47,566	137,721

Paving Charges—The London, Eng., County Council is planning to ask the British Parliament to relieve it of liability for the maintenance of roadways in thoroughfares on which there are tramways, and to provide that no part of street improvements be charged to tramway account, except such improvements as are solely and specifically required for the working of the tramway system.

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Maintenance of Freight and Passenger Terminals.

The following report was presented at the Roadmasters' and Maintenance of Way Association's annual meeting at Chicago, recently, by a committee of which L. M. Denney, C.C.C.& St,L.R., Indianapolis, was chairman, and of which D. McCooe, Superintendent of Track, G.T.R., Toronto, was a member.

Never before in the history of our association have the burdens of those connected with terminal maintenance been greater than in the past two years, and particularly during the past six months of retrenchment. To assist in overcoming some of these troubles your committee offers the following report.

In large terminals, sections should be established so that yard gangs will be of a uniform size of 15 to 18 men, with a foreman and one assistant foreman. Main line gangs should not be as large as those employed in yards, as the work must be done to a higher standard and needs closer supervision. Section limits should be worked out by the supervisor or roadmaster on the equivalent mileage basis, giving due consideration to traffic and other local conditions. In terminals a regular force of laborers should be employed throughout the year to take care of regular maintenance work, with extra gangs for such work as rebuilding ladder tracks, laying rail and other special work.

Water being a natural enemy to good track, the subject of drainage cannot be too forcibly impressed upon the minds of those responsible for the upkeep of track. Drainage in terminals is generally confined to surface drains, and in most cases is not sufficient. To this is due the poor condition of many terminals in regard to surface, poor ballast and broken rails. In large and busy classification, freight house and locomotive house yards, surface drains should not be depended upon, but a sub drain system should be installed, with catch basins and lateral drains, where needed, to carry off the water. Sub drains, where installed, to be back filled with cinders or other porous material. Roadmasters and supervisors should see that all surface drains are free from obstructions and repeatedly recommend sub drains where needed.

In large terminals, a regularly assigned work train, with a work train gang, is necessary for the economical handling of material and supplies. The work train should have a designated headquarters, and a track or tracks assigned to work train equipment and maintenance of way material. Cars so placed can be obtained and handled by the work train without delay. With our present work day of 8 hours and limited forces, it is necessary that work trains be given more opportunity to do their work than in former times. Work trains are often idle for half an hour or more by the failure of some yardmaster to co-operate. Such delays should be shown to the management in the same way that the operating department shows delays to trains.

In many instances, passenger car, freight house and heavy team yards were designed and built years ago, using heavy curves and switches with nos. 4, 5 and 6 frogs. In those days such frogs and curves were not unsatisfactory, due to the fact that equipment and loads were light. In making extensive repairs to such tracks the layout should be changed where possible, so as to eliminate excessive curvature, thereby reducing future maintenance cost. In most train and classification yards, the layout has not been from the standpoint of maintenance, and in such yards maintenance work is heavy and expensive. When such yards are rebuilt, they should always be rearranged where possible, in order to improve both the transportation and maintenance feature, instead of relaying to the old layout.

It is generally the practice of railways to use any material in the terminal when it is of no further use on main line or branch divisions. For this reason rail in terminals is usually of poor quality. In heavy terminals, switching ladders should be laid with manganese frogs, manganese tip switch points and automatic safety switch stands. Bolts of the proper size and length should be used so they may be properly tightened without waste of labor or material. Sufficient emergency material should be on hand in each yard to take care of emergency ends.

The policing of yards is a problem of ever increasing seriousness and varies with the different yards and kind of freight handled. In some yards it is necessary to clean tracks every 2 months; in others every 6 months. Cleaning yards with a work train, with flat cars and a gang of 30 men, will cost approximately $15 per 1,000 ft. of track. Such tracks as station, passenger car yards and repair tracks should be cleaned daily by regularly appointed attendants, and the cleanings put in a rubbish car, if one can be conveniently placed. In yards where the daily accumulation is heavy, an incinerator plant would be advisable.

In heavy classification yards it is generally difficult to obtain a track to make repairs, and for this reason repairs are generally made out of face. Arrangements are made and a designated track is put out of service for the working period of the day; a car with necessary supplies, such as ties, angle bars and other material is set out on the track. The day's work is carried through, and all old ties and track scrap material are placed on the car, and track left in service for the night. Where sufficient force is available the track can be worked from both ends in the same manner.

In such yards the rebuilding of ladder tracks is the most difficult work in the maintenance of terminals. In doing this work it is necessary that everything possible be done in advance of breaking the track. All material must be checked, all rail cut and drilled for lead rails, all switch ties properly marked so lengths can be identified at a glance. Where conditions permit, all material should be placed on the ground opposite the ladder. Where this is not convenient all material should be assembled on cars so loaded that it can be unloaded as used. Arrangements should be made to suspend operation over the ladder for 4 hours, during which time a gang of 40 men, experienced in laying switches, can renew 3 switches. All old material to be removed to a place of safety same day work is done. On ladder tracks, where the use of the track cannot be given up for any definite period of time, it is necessary to renew the rail on the old ties, a switch at a time, and renew the ties singly. This work is very expensive and it is difficult to accomplish good work

Railway Development, Projected Lines, Surveys, Construction, Betterments, Etc.

Bathurst Lumber Co.'s Development—We are officially advised that the Bathurst Lumber Co. has arranged to proceed with the development of the water power at the Great Falls of the Nipisiquit River, N.B., and that it has leased for two years the roadbed of the Northern New Brunswick and Seaboard Ry. from Nipisiquit Jct., 4 miles east of Bathurst for two years for use during construction. The rails on this line from Nipisiquit Jct. to the Canada Iron Corporation's iron mines, which were taken up during the war and laid temporarily on a section of the St. John and Quebec Ry., are being relaid, the work being about half completed when we were advised on Nov. 20. The contractors are Morrow and Beatty, Peterborough, Ont., who are using their own locomotives. The Bathurst Lumber Co. does not propose to buy any locomotives or rolling stock, and has no intention of keeping the railway in operation after the water power development is completed.

Canadian Niagara Bridge Co.—A press report of Nov. 15 states hat the C.P.R. has surveyed a line from north of Welland, Ont., to the Niagara River, a mile and a half above Black Creek, where an international bridge will be built across the river.

The first reference to any direct connection of the C.P.R. with railway activities in the Niagara peninsula was in April, when it was reported that the company had acquired 5,000 acres of land on Grand Island, Niagara River, opposite Bridgeburg, Ont. On April 4, Montreal officials of the company said they knew nothing of the matter. Nothing more has been heard about it until the statement of the present surveys having been made by the C.P.R. It may be taken for granted that the C.P.R. has nothing to do directly with the projected developments in the Welland-Bridgeburg district, but that it is interested indirectly through the Toronto, Hamilton and Buffalo Ry., which is owned by the New York Central Rd., the Michigan Central Rd., and the C.P.R. In 1918 the Dominion Parliament incorporated the Canadian Niagara Bridge Co., to build a bridge across the Niagara River, the Canadian end to be located between Chippawa and Fort Erie, and to build lines not exceeding 6 miles to connect the bridge with existing railways, the provisional directors of the company being Lord Shaughnessy, J. N. Beckley, E. S. Cahill and W. P. Torrance, all of whom are associated with the T., H. & B.R. Owing to the Michigan Central Rd., taking over for its own purposes certain lands, the bridge company obtained power from parliament at the first session of 1919, to build 12 miles of line instead of 6, the line to be built from Welland to Bridgeburg. The Senate was then advised that all arrangements had been completed for building the line, and the bridge, and that after the passing of the act, preparations for the work would be gone on with. The press report quoted above, no doubt, refer to the line from Welland to the Niagara River, at the Canadian end of the projected bridge. (Aug., pg. 431).

Esquimalt and Nanaimo Ry.—We are officially advised that a contract has been let to the Foundation Co., Vancouver, B.C., for clearing the right of way for a railway from two miles west of Port Alberni on the present line to Alberni, Vancouver Island, to Great Central Lake, 11 miles, and the work is in progress. The character of construction of the new line will be similar to that of the line to Port Alberni; the maximum gradient will be 1.5%. It has not been decided what weight of rails will be used.

We are advised that clearing of the right of way is about 40% completed. The work is under the supervision of R. A. Bainbridge, Division Engineer, E. & N.R., Victoria.

Nothing definite has been decided with regard to any extension of the line north of Courtenay, but plans are being prepared for improvements at Nanaimo wharf, and for the erecion of a new station at Nanaimo. (Nov., pg. 602).

Grand Trunk Ry.—The Board of Railway Commissioners has authorized the company to take certain lands at Gravenhurst, Ont., for additional tracks and terminal facilities.

The Board of Railway Commissioners has authorized the rebuilding of the overhead bridge at mile 92.50, district 20, London Division, carrying Mechanic St., over the rack at Drumbo, Ont., and also the renewal of the overhead bridge at mile 84.35 from Black Rock, District 20, London Division, carrying John St., over its tracks at Paris, Ont.

We are officially advised, in connection with the extension of the company's yards at London East, Ont., that 21,980 ft. of new track will be laid. The extensions of the several tracks are:—No. 1, 2,280 ft.; no. 2, 1,865 ft.; no. 3, 1,765 ft.; no. 4, 1,685 ft.; no. 5, 1,325 ft.; no. 6, 1,735 ft.; no. 6, 1,735 ft.; no. 7, 2,280 ft.; no. 8, 2,190 ft.; no. 9, 2,075 ft.; no. 10, 1,935 ft.; no. 11, 1,530 ft. Two new ladder tracks, one 815 ft. and the other 500 ft. long, have been laid. Approximately 50,000 center yards of material were used to fill into sub-grade. The tracks in the entire yard are now at 13½ ft. centers; the lead at the west end of the yard (Egerton St.), has been rearranged, and curves have been flattened out to give better operating conditions. (Oct., pg. 536).

Grand Trunk Pacific Ry.—The Board of Railway Commissioners has ordered the erection of a station building at Lorlie, Sask., mile 22 from Melville, on the branch from Melville to Regina, Sask. We are officially advised with respect to the diversions under consruction at Urling, mile 1,179, and Shere, B.C., mile 1,101 from Winnipeg, that they are simply changes in alignment, and the construction of fills in order to keep away from the sliding banks, which have given considerable trouble. The work was put in hand at the beginning of this year, and it is anticipated that it will be completed early in 1920. The contractors are Carleton and Fetter, Prince George, B.C. (Nov., pg. 602).

Great Northern Ry.—The Vancouver, B.C., City Council's railway committee has recommended that the company's application for permission to erect a cabin on the city boulevard, in which to operate the interlocking switch at the intersection of the British Columbia Electric Ry. and the G.N.R. tracks on Georgia St. E., be granted.

Hudson Bay Ry.—The Minister of Justice stated in he House of Commons, Nov. 10, in answer to an enquiry, hat the approximate estimate to complete track laying from Kettle Rapids, mile 332, to Port Nelson, mile 424, with permanent structures over Limestone and Kisemachisk Rivers, using 80 lb. steel ballasting, train filling, erecting tanks and telegraph line, is $1,750,000. In answer to the question, "Will the financial condition of the country now permit of this cost being incurred?" the Minister said that work on the H.B.R., and certain other public works, was closed down during the war.

Kettle Valley Ry.—A press report states that the branch line from Grand Forks to Lynch Creek, is being relaid with heavier rails, and is being reballasted. A number of additional side tracks are also being built. This branch serves a mining area only. It is reported that the company is negotiating with the British Columbia Government in regard to an extension of its lines south of Penticton, and that it is probable an agreement will be reached within the next few weeks, but the agreement would have to be ratified by the legislature before any action could be taken under it. (Nov., pg. 602).

Lacombe and North Western Ry.—We were officially advised recently that the Alberta Government, which owns the line, expected to have the track laid into Rimbey, Alta., by the end of November. With regard to the reports that the line might be acquired by the C.P.R., we are officially advised that although the latter company has made some preliminary investigations, both from physical and revenue producing standpoints, no advances or offers to purchase have been made.

Lake St. John, Que.—Chicoutimi and Lake St. John District residents have asked the Quebec Government to consider the question of building a belt railway round Lake St. John, with branches to connect with the Ha Ha Bay section of the Roberval-Saguenay Ry., and with the Quebec and Saguenay Ry.

Pacific Great Eastern Ry.—The Premier of British Columbia is reported to have stated recently that some trouble had developed near Lac La Biche, where the track was continually subsiding, and that piles and trestles were being put in as a temporary expedient, but in all probability the line will have to be taken from the present location along an old creek dam, to higher ground. With respect to the proposal to relocate the line near the Cottonwood River, in order to avoid shifting hillsides and to run the line through Quesnel, the Premier stated that surveys were about completed. The relocation of the line would involve the abandonment of about 15 miles of grading completed by the old company. The new survey would shorten the route by 4.73 miles; would lower the crossing between Ten Mile Lake and Cottonwood River by 37 ft., and would eliminate considerable curvature. The Cottonwood River crossing would require a bridge 400 ft. long, as compared with one of 1,800 ft. of steel work and 1,200 ft. of trestlework on the old location. The estimated cost of the 10 miles of new location, including bridge work, is $500,000. A. W. Vassir was the locating engineer in charge of the relocation survey.

The bridge at Deep Creek, mile 294 from Squamish, for which tenders were invited recently, will have a total length of 1,163 ft. 8 in. between parapet walls. The substructure will consist of 2 reinforced concrete abutments, and 24 pedestals of 1-2-4 concrete, set in 6 groups of 4 pedestals each. On these pedestals will be carried steel towers, 2 of 70 ft. span each, and the 4 center ones of 80 ft. span each; the towers being linked up to each other, and to he abutments by seven 100 ft. deck plate connecting girders. The two central towers, which will give the bridge a height of 290 ft. to base of rail, will have a spread of 89 ft. 11 in. center to center of pedestals, east to west, and 80 ft. south to north; the other towers being on rising ground will have a proportionately lesser spread east to west. The southern approach will be on a spiral, ending on the first tower. The construction of the bridge involves a diversion of the Deep Creek so as to carry it between the two central spans, a diversion of approximately 100 ft. to the south.

A press report states that Major Cecil Ewart has been engaged by the British Columbia Government to locate a branch from the P.G.E.R. at Clinton to Ashcroft. He was overseas with the 9th Battalion, Canadian Railway Troops. (Nov., pg. 602).

Pas, Man., to Flin Flon Mines—A press report states that engineers representing Hayden, Stone and Co., of Boston, Mass., have returned from making an investigation of the Flin Flon copper mining properties in Northern Manitoba; that they are favorably impressed with the properties, and that the negotiations for purchase will likely be concluded during December. For the future development of the property a railway about 70 miles long would have to be built from Pas, Man. Some negotiations for the building of this line have already been carried on with the Canadian National Rys., and it is stated that should these not be successful, the line will be built by the Manitoba Government. (Nov., pg. 602).

Quebec and Chibougamau Ry. Co.—The Quebec Legislature is being asked to incorporate a company with this title to build a railway from Quebec City northerly through Quebec, Montmorency, Charlevoix and Chicoutimi Counties to Chicoutimi on the Saguenay River, thence northwesterly through Chicoutimi and Lake St. John Counties to Chibougamau Lake. The provisional directors are: J. Cote, E. Parodes, Quebec; M. Paris, Montreal; D. Roy, Beaumont, Que.; W. J. Ewin, Richmond, Que.

Quebec, Montreal and Southern Ry.—Napierville Jct. Ry.—These two lines are controlled and operated by the Delaware and Hudson Co., of which F. P. Gutilius, formerly General Manager, Canadian Government Rys., is Federal Manager. Accompanied by the D. and H. Co.'s Chief Engineer, he spent some time recently in Quebec and is said to have gone over the country between the company's lines and Quebec, and also to have visited Murray Bay, and other points on the Quebec and Saguenay Ry. The visit was reported to be of a personal character, but press reports now connect it with an extensive plan of railway building in order to give the D. and H. Co. connection with Quebec and beyond. The reports state that the plan is to acquire the charter of the Quebec Eastern Ry., which was owned by the interests owning the Lotbiniere and Megantic Ry., and to buy the Quebec Ry., Light and Power Co.'s Montmorency Division and the Roberval-Saguenay Ry. The construction of the lines authorized under the Quebec Eastern Ry. charter would give the D. and H. Co. an entrance into Quebec over the bridge. The purchase of the Quebec Ry., Light and Power Co.'s Montmorency Division and the Quebec and Saguenay Ry., would give connection with Murray Bay, whence a line is projected to Ha Ha Bay and Chicoutimi, there connecting with the Roberval-Saguenay Railway. The reported project is an extensive one, but it is still in the rumor stage. (Aug., 1918, pg. 337).

Roberval-Saguenay Ry.—A Quebec press report states that terminals are being built at Ha Ha Bay on the Saguenay River to accommodate the Roberval-Saguenay Ry., and possibly other railways that may find it advantageous to use that point in lower Quebec. (Nov., 1918, pg. 488).

The St. George's Coal Fields Ltd.—A Newfoundland corporation is reported as planning extensive developments, including the building of railway lines. T. J. Freeman is the Manager.

St. John and Quebec Ry.—In a report to the New Brunswick Government the directors stated, Nov. 13, that construction on the line was practically completed; that the turntable at Gagetown is to be removed to Westfield, N.B., and submitted the contractor's final estimates for approval. Some small items of work, which had been delayed, owing to the difficulty of obtaining supplies, were being done by Canadian National Rys. section men.

Dominion Atlantic Ry.—Grant Hall, Vice President, C.P.R., who arrived in Halifax, N.S., Nov. 20, after a trip of inspection over the D.A.R., is reported to have said that before long the present light rails on the D.A.R. will be replaced with heavier ones. War conditions had delayed this work, but it will now be undertaken. Digby, N.S., citizens, at a meeting, held Nov. 17, decided to close a portion of Prince William St. to vehicular traffic in order that the D.A.R. may secure a suitable site for the projected new station building. It is said that the building will cost from $60,000 to $65,000, and that it will be completed during 1920. (Nov., 1918, pg. 488).

British Transport Ministry Organization—The organization of the staff of the Minister of Transport in Great Britain is reported to be proceeding. It is stated that there are to be nine separate departments, the head of each of which will be directly responsible to the minister for the work under his control. Following is a list of these departments with their heads:—Chief Mechanical Engineer, Col. L. Simpson; Director General of Civil Engineering, Sir A. Gibb; Director-General of Development, Sir C. de Bartolome; Director General of Traffic, Sir P. Nash; Secretary and Solicitor, Sir F. Dunnell; Director General of Finance and Statistics, Sir G. Beharrell; Director General of Public Safety and General Purposes, Sir W. Marwood; Director General of Roads, Sir H. Maybury; Director General of Transport (Ireland), H. G. Burgess.

Werner Horn, who claimed to be a German officer, has been found guilty by a New Brunswick jury, of attempting to blow up the C.P.R. bridge over the St. Croix River, N.B., Feb. 2, 1915, and has been sentenced to 10 years imprisonment. He was removed to the penitentiary at Dorchester, N.B.

United States Railroad Administration Notes.

President Wilson on Nov. 1[illegible] signed the bill restoring to the Interstate Commerce Commission its pre-war rate making power.

The Senate Interstate Commerce Committee, on Nov. 5, decided on temporary legislation to continue government guaranteed returns to railways, if they return to private control on Jan. 1, until Congress can enact permanent legislation.

The regional supervisor of eastern United States railways, reporting on the results of the national railway accident prevention drive from Oct. 1[illegible] to 31, gives the Grand Trunk Ry. lines the highest place, as during that period there were no accidents reported on its New England lines.

Representative Denison stated in the House of Representatives at Washington, Nov. 12, that under the permanent railway legislation proposed in the house bill, the Railroad Administration's estimate that Congress will have to appropriate $363,355,000, to square accounts for the period of government operation of carriers ending Dec. 31.

The Director General announced Nov. 2, that the administration was about to file with the Interstate Commerce Commission, effective upon 5 days notice, supplements to tariffs, providing for establishment of minimum weights on grain and grain products, designed to secure heavier loading, and to make available additional freight cars for transportation of grain and grain products.

A Washington, press dispatch states it was reported to the Senate Interstate Commerce Committee, Nov. 15, that in he event of the Cummins' bill being passed the government will be required to appropriate $415,451,000 in addition to the $1,250,000,000 already appropriated for railways, making the total indebtedness of the railways to the government $1,665,451,000. Under the provisions of the loan the rate of interest is to be 6% and the companies are to furnish such collateral sa the President may deem it advisable to require.

Victoria and Sidney Ry.—A British Columbia court on Oct. 31, directed the sale of the Victoria and Sidney Ry. right of way, upon an application by the trustee for the debenture holders. This line was built by a local company under a guarantee of bonds by the B.C. Government. It extends from Victoria to Sidney, Vancouver Island, 17 miles, and for a number of years was operated by the Great Northern Ry. (U.S.A.), a ferry service being maintained with the mainland. The line has not been operated for nearly two years, and negotiations for its continued operation, either in whole or in part, by the Canadian National Rys., or the British Columbia Electric Ry. having failed, the debenture holders are realizing the company's assets. The opening of the B.C.E.R. line to the Saanich peninsula and the Canadian Northern Ry. line between Victoria and Patricia Bay, cut off a good deal of the V. & S.R. traffic.

The Edmonton, Dunvegan and British Columbia Ry.—The Minister of Justice informed the House of Commons, Nov. 10, that the Dominion Government did not propose to purchase the Edmonton, Dunvegan and British Columbia Ry. "at the present time."

Mainly About Railway People Throughout Canada.

George Annand, who is said to have been the oldest pensioned G.T.R. employe, died at Oshawa, Ont., Nov. 12, aged 92. He entered G.T.R. service in 1856 and at various times was agent, at Coteau and St. Annes, Que., and Gananoque, Newcastle, Trenton and Oshawa, Ont.

William Edward Gladstone Bishop, whose appointment as Division Freight Agent and District Passenger Agent, Canadian National Rys., Cochrane, Ont., was announced in our last issue, was born at Central Clarence, N.S., Dec. 4, 1888, and entered railway service, Aug. 5, 1908, since when he has been, to Oct., 1910, stenographer, District Freight Agent's office, Intercolonial Ry., Halifax, N.S.; Oct., 1910, to Oct., 1914, in General Freight Agent's office, Intercolonial Ry., Moncton, N.B.; Oct., 1914, to May 1, 1916, chief clerk, District Freight Agent's office, Canadian Government Rys., Halifax, N.S.; May 1, 1916, to Oct. 1, 1919, Travelling Freight Agent, Canadian Government Rys., Halifax, N.S.

Earl Brassey, who was killed in London, Eng., Nov. 13, in a motor car accident, was a grandson of Thos. Brassey, a well known railway contractor between 1805 and 1870, and one of the builders of the original Grand Trunk Ry. and the G.T.R., Victoria bridge, Montreal.

Ernest Robert Bruce, whose appointment as Director of Exhibits, Colonization and Development Department, C.P.R., Montreal, was announced in our last issue, was born in England, Oct. 9, 1877, and entered C.P.R. service Mar. 1, 1910, since when he has been, to Mar. 1, 1912, in charge of farm development work, Natural Resources Department, and from Mar. 1, 1912 to Aug. 1, 1919, Director of Exhibits, attached to Publicity Department, Calgary, Alta.

Sir George Bury, President, Whalen Paper & Pulp Co., left Vancouver, Oct. 30, for China, accompanied by his daughter, Mrs. H. R. Drummond-Hay, of Winnipeg, and C. W. Harrison, Sales Manager, Whalen Pulp & Paper Co. He is not expected to return to Vancouver until the end of January, or early in February.

M. J. Butler, C.M.G., Managing Director, Armstrong Whitworth of Canada, Ltd., Montreal, has retired and taken up residence at Oakville, Ont. He was born at Deseronto, Ont., Nov. 19, 1856, and educated in the public schools and Toronto University. From 1878 to 1883 he was engaged on government surveys and in 1884 was one of the engineers on the Kingston and Pembroke Ry.; 1884 to 1885, Chief Engineer, Thousand Island Ry.; 1885, Chief Engineer, Napanee, Tamworth & Quebec Ry.; 1886 to 1887, engaged in water service engineering; 1890 to 1899, Chief Engineer, Bay of Quinte and Navigation Co.; 1900 to 1903, Chief Engineer, Locomotive and Machine Co., Montreal (now Montreal Locomotive Works Ltd.); 1903 to 1908, Assistant Chief Engineer, Eastern Division, National Transcontinental Ry.; 1908 to Jan., 1910, Deputy Minister and Chief Engineer, Railways and Canals Department, and from April, 1909, also Chairman of the Board of Management, Canadian Government Railways; January, 1910, General Manager, Dominion Iron and Steel Co., and subsequently Managing Director, Armstrong Whitworth of Canada, Ltd.

Jos. Carroll, assistant station master, Toronto union sation, died Nov. 9, aged 59, from pneumonia. He was born in Dublin, Ireland, and came to Canada at the age of 17. He entered G.T.R. service as a brakeman, and while a conductor, los his right foot through an accident in the Parkdale yards, and subsequently occupied the position which he held at the time of his death.

Hon. F. B. Carvell, Chief Commissioner, Board of Railway Commissioners, left Ottawa, Nov. 12, to preside at sittings of the board at various points in the prairie provinces and in British Columbia.

E. J. Chamberlin, ex-President, G.T.R. and G.T. Pacific Ry., and Mrs. Chamberlin, have left Ottawa for California, to spend the winter.

Frederick H. Clendenning, who has been appointed Foreign Freight Agent, C.P.R., Vancouver, B.C., was born at Montreal, Nov. 9, 1881, and entered transportation service Aug. 1, 1898, since when he has been, to June 30, 1902, junior clerk, Fourth Vice President's office, register clerk, and stenographer, successively, C.P.R., Montreal; July 1, 1902, to Mar. 31, 1903, stenographer and freight clerk, Commercial Agent's office, New York Central and Hudson River Rd., Montreal; Apr. 1, 1903, to Jan. 31, 1904, stenographer, rate and tracing clerk, General Freight Department, C.P.R., Vancouver, B.C.; Feb. 1, 1904, to June 30, 1905, chief clerk, City Freight Office, C.P.R., Victoria, B.C.; July 1, 1905, to Aug. 31, 1908, chief clerk, District Freight Office, C.P.R. and Esquimalt & Nanaimo Ry., Victoria, B.C.; Sept. 1, 1908, to Aug. 16, 1909, City Freight Agent, C.P.R., and District Agent, Esquimalt & Nanaimo Ry., Victoria, B.C.; Aug. 17, 1909, to Mar. 31, 1911, Assistant General Freight Agent, C.P.R., Vancouver, B.C.; Apr. 1, 1911, to Jan. 31, 1914, District Freight Agent, C.P.R., Vancouver, B.C.; Feb. 1, 1914, to May 1, 1919, Division Freight Agent, Steamship Lines, C.P.R., Vancouver, B.C. From Nov. 1, 1918, he was loaned to the British Ministry of Shipping (Canada), and in May, 1919, he was appointed Assistant Foreign Freight Agent, C.P.R., Vancouver, B.C.

George Cobb, who has been appointed Superintendent, Western Division, Reid Newfoundland Co., Bishops Falls, Nfld., was born at Coupar Angus, Scotland, April 21, 1885, and entered Reid Newfoundland Co.'s service Nov. 14, 1901, since when he has been, to Sept. 27, 1903, telegraph operator; Sept. 27, 1903 to May 1, 1905, agent, Gambo; May 31, 1905, to May 20, 1908, night dispatcher, St. Johns; May 20, 1908, to Nov. 11, 1910, emergency dispatcher and agent, Bishops Falls; Nov. 11, 1910 to Jan., 1913, Chief Dispatcher, St. John's; Jan., 1913 to May 26, 1919, Superintendent, St. John's; May 26 to Nov. 11, 1919, Assistant General Superintendent, St. John's.

James Colley, whose appointment as Publicity Agent, Colonization and Development Department, C.P.R., Calgary, Alta., was announced in our last issue, was born at Colchester, Eng., Sept. 19, 1881, and entered C.P.R. service in July, 1912, since when he has been, to March, 1915, clerk, Superintendent's office; March, 1915, to March, 1917, clerk, Natural Resources Department, Sales Branch; July, 1917, to Sept. 30, 1919, Assistant Publicity Agent, Colonization and Development Department, all at Calgary, Alta.

Albert Roy Curran, whose appointment as Paymaster, Eastern Lines, Canadian Northern Ry., Toronto, was announced in our last issue, was born there, July 3, 1887, and entered railway service Aug. 27, 1904, since when he has been, to Oct. 15, 1904, office boy, Chief Dispatcher's office, C.P.R., Toronto; Oct. 16, 1904, to Apr. 30, 1906, junior clerk, same office; Mar. 1, to June 25, 1906, junior stenographer, Division Engineer's office, C.P.R., Toronto; June 26 to Oct. 31, 1906, stenographer, Treasurer's office, Canadian Northern Ry., Toronto; Nov. 1, 1906 to June 30, 1908, clerk, Cashier's office, C.N.R., Toronto; July 1, 1908 to Oct. 30, 1917, Assistant Cashier, C.N.R., Toronto; Nov. 1, 1917, to Jan. 31, 1919, pay car clerk, C.N.R., Toronto; Feb. 1, to Sept. 30, 1919, Assistant Paymaster, C.N.R., Toronto.

Col. J. S. Dennis, C.M.G., Chief Commissioner of Colonization and Development, C.P.R., is one of the directors of Alberta Flour Mills Ltd., which is building a $5,000,000 flour mill at Calgary, Alta.

Jacob Lewis Englehart, whose resignation as Chairman, Timiskaming and Northern Ontario Ry. Commission, Toronto, was announced in our last issue, was born at Cleveland, Ohio, Nov. 2, 1847. He has been for a number of years associated with the oil industry in Canada and the United States, and in 1881 was elected Second Vice President of the Imperial Oil Co. He was appointed to the T.& N.O.R. Commission in March, 1905, and was associated with numerous financial and industrial undertakings in Ontario. In 1910 he founded the Charlotte Eleanor Englehart Hospital at Petrolea in memory of his late wife, and he also presented an X-ray apparatus to St. Michael's Hospital, Toronto.

J. H. Flock, K.C., who died at London, Ont., Nov. 20, aged 85, was Honorary Counsel for the Canadian Ticket Agents' Association for many years. He was responsible for the drafting of a franchise agreement between the London Street Ry. Co., and the city.

C. O. Foss, Chief Engineer, St. John and Quebec Ry., has been granted leave of absence to go to British Columbia for a rest and on private business.

F. C. Foy, formerly Canadian Passenger Agent, New York Central Rd., Toronto, who was transferred to the company's office at Buffalo, N.Y., when the Canadian office was closed, and who was afterwards stationed at Utica, N.Y., for some time, is on a short leave of absence, but is expected to return to the Buffalo office in the near future.

Spencer L. Furniss, Chief Assistant to the European General Manager, C.P.R., was married Oct. 25 in London, Eng., to Miss E. M. H. Booth. He was presented with an address, a case of cutlery, and a silver jewel box, by Sir George McLaren Brown, on behalf of the European staff.

William Garty, who died at Concord, Mass., Nov. 2, was for many years, New England Agent, Chicago, Burlington and Quincy Rd., Boston, Mass., with jurisdiction over Canadian territory.

H. W. Gillis, who has been appointed Assistant Foreign Freight Agent, C.P.R., Montreal, entered the company's service in May, 1905, and has been, to June, 1906, clerk, Mile End station, Montreal;

June, 1906 to June, 1908, clerk, Place Viger freight station, Montreal; June, 1908, to Dec., 1909, billing clerk, Outremont station, Montreal; Dec., 1909 to July, 1911, clerk, General Freight Department, Montreal; July to Sept., 1911, rate clerk, Division Freight Department, Montreal; Sept., 1911, to July, 1913, clerk, General Freight Department, Montreal; July, 1913 to July, 1914, rate clerk, General Freight Department; July, 1914 to March, 1915, assistant chief clerk to Freight Traffic Manager; March, 1915, to Sept., 1918, chief clerk to Freight Traffic Manager; Sept., 1918, to Nov., 1919, chief clerk, Vice President (Traffic), Montreal.

Grant Hall, Vice President, C.P.R., accompanied by a number of other officials, visited Quebec, Nov. 15, for a routine inspection.

M. A. Hutton, chief accountant, Maritime Coal, Ry. and Power Co., Joggins, N.S., has resigned, and removed to Moncton, N.B., where he has engaged in general auditing and accountancy.

Mrs. E. Langham, wife of the General Purchasing Agent, Canadian National Rys., died in Toronto, Nov. 18, aged 59, after a very long illness. Besides her husband, she left a son, Dr. J. D. Langham.

Frank Lee, who has been appointed Engineer Maintenance of Way, Western Lines, C.P.R., Winnipeg, was born at Chicago, Ill., Mar. 7, 1873, and entered railway service in Jan., 1895, as rodman and draftsman on location and construction of extensions to the government railways in Trinidad, British West Indies. He has been, from May, 1896, to Nov., 1902, on construction and maintenance, Chicago and Northwestern Ry.; Nov., 1902 to Jan., 1904, Signal Engineer, C.P.R., Montreal; Jan., 1904, to Aug., 1905, Assistant Engineer, C.P.R., Winnipeg; Aug., 1905 to Apr., 1912, Division Engineer, C.P.R., Winnipeg; Apr., 1912 to Nov. 20, 1917, Principal Assistant Engineer Western Lines, C.P.R., Winnipeg; Nov. 20, 1917 to Oct., 1919, Engineer Maintenance of Way, Eastern Lines, C.P.R., Montreal.

Mrs. W. R. MacInnes, wife of the Vice President in Charge of Traffic, C.P.R., and their daughter, Miss Judith MacInnes, returned to Montreal, Nov. 11, from England.

Lieut.-Col. Martin, of the 7th Canadian Railway Troops, entertained his officers at dinner in Toronto, Nov. 13, when it was decided to carry on the battalion's organization.

Hon. S. C. Mewburn, Minister of Militia, has been acting as Minister of Railways and Canals, during the absence from Ottawa of Hon. J. D. Reid.

Hon. Harry Mills, M.L.A., who has been sworn in as a member of the new Ontario Government, and will be appointed Minister of Mines when that department is created, was born at Birmingham, Eng., Oct. 11, 1873. He entered C.P.R., service at Fort William, Ont., in Aug., 1894, and was, to 1897, wiper; 1897 to 1901, locomotive fireman; 1901 to July 1, 1919, freight locomotive man, and from July 1, 1919, passenger locomotive man, running between Fort William and Ignace, Ont. At the time of his present appointment he was Chief Officer, Division 243, Brotherhood of Locomotive Engineers, and has been a member of the brotherhood's general legislative committee for several years. He was a member of the Fort William Board of Education for 7 years, and chairman for 3 years.

James Hunt Norton, whose appointment as Assistant General Freight Agent, Eastern Lines, Canadian National Rys., Moncton, N.B., was announced in our last issue, was born at Shaftesbury, Eng., Apr. 21, 1884, and entered railway service June 1, 1899, since when he has been,. to Dec. 31, 1909, in various positions in Car Service Department, from messenger to Car Accountant's secretary, Intercolonial Ry., Moncton, N.B.; Jan. 1, to Sept. 20, 1910, clerk, General Freight Agent's office, same road, Moncton, N.B.; Sept. 20, 1910, to Apr. 30, 1912, secretary to General Freight Agent, Canadian Government Rys., Moncton, N.B.; May 1, 1912 to May 30, 1917, assistant chief clerk, General Freight Agent's office, C.G.R., Moncton, N.B.; June 1, 1917, to Jan. 22, 1919, Division Freight Agent, C.G.R., and from Jan. 22 to Sept. 30, 1919, Division Freight Agent, Canadian National Rys., Halifax, N.S.

J. H. Norton,
Assistant General Freight Agent, Canadian National Railways, Moncton, N.B.

Sydney John Lyle Potter, whose appointment as Local Treasurer, Eastern Lines, Canadian Northern Ry. System, Toronto, was announced in our last issue, was born at Burrington, Devonshire, Eng., Apr. 5, 1887, and entered railway service May 5, 1905, since when he has been, to Oct. 1, 1907, clerk, Great Northern Ry., King's Cross, London, Eng.; Oct. 18, 1907, to Oct. 1, 1915, clerk, Canadian Northern Ry., Toronto; Oct. 1, 1915, to Dec. 31, 1918, Assistant Paymaster, Eastern Lines, same road, Toronto; Jan. 1, to Sept. 30, 1919, Paymaster, Eastern Lines, same road, Toronto.

Norman S. Rankin, whose appointment as Special Publicity Agent, Colonization and Development Department, C.P.R., Montreal, was announced in our last issue, was born [illegible], Apr. 16, [illegible]. He was for three years private secretary and paymaster during the construction of the Cuba Rd., and subsequently was engaged in newspaper work in Havana for a year. He was later engaged as Traffic Manager of a steamship company operating between Santiago, Cuba; Kingston, Jamaica; Colon, Panama, and Cayman Islands. He entered C.P.R. service in Nov., 1909, as private secretary to J. S. Dennis, Assistant to President, Calgary, Alta., and has been from Oct., 1910, to Nov., 1911, publicity clerk, Natural Resources Department, Calgary, Alta.; Nov., 1911, to 1916, General Publicity Agent, Natural Resources Department, Calgary. He enlisted for active service in 1916, spent 2 years overseas, and was appointed Publicity Agent, Colonization and Development Department, C.P.R., Calgary, on his return to civil life, July 15, 1919.

D'Arcy Scott, formerly Deputy Chief Railway Commissioner, Board of Railway Commissioners, is reported to have announced in Ottawa, Nov. 7, that he will be a candidate for the mayoralty which he held previously.

J. G. Sullivan, formerly Chief Engineer, Western Lines, C.P.R., was elected an alderman for the City of Winnipeg, at the recent municipal elections.

Charles H. Tillett, who has been appointed Signal Engineer, G.T.R., Montreal, was born at Peru, Ind., Dec. 8, 1884, and entered railway service in Aug., 1907, since when he has been, to Nov., 1907, signal repair man, Pennsylvania Rd., Fort Wayne, Ind.; April, 1908 to Feb., 1910, signal repair man, Great Northern Ry., Seattle, Wash.; Feb., 1910 to July, 1913, Signal Inspector, Chicago and Eastern Illinois Rd., Chicago, Ill.; July to Oct., 1913, Signal Inspector, G.T.R., Montreal; Oct., 1913, to June, 1918, Supervisor of Signals, G.T.R., Montreal; June to Dec., 1918, Electrical Engineer, Signal Department, G.T.R., Montreal; Dec., 1918 to Nov., 1919, acting Signal Engineer, G.T.R., Montreal.

E. N. Todd is General Foreign Freight Agent, C.P.R., Montreal, his jurisdiction covering all lines, and not merely Eastern Lines, as erroneously stated under "Birthdays of Canadian Transportation Men," in Canadian Railway and Marine World for October.

R. C. Vaughan, Assistant to President, Canadian National Rys., left Toronto, Nov. 9, for Vancouver, accompanied by D. O. Wood, Traffic Manager, Export & Import Department, C.N.R., on business connected with Canadian Government Merchant Marine Ltd., and the operation of its ship which are being built at the Pacific Coast. They are expected to return to Toronto early in December.

N. M. R. Wilson, who has been appointed Chief Engineer of Waterworks, Brantford, Ont., was born at Bombay, India, Dec. 3, 1869, and educated in England. He was articled to the Chief Engineer of the Great Northern Ry., there in 1885, and was 5 years in general railway engineering. He was later engaged on the construction of the Highland Ry., Scotland, and for [illegible] years was Assistant Engineer, North Eastern Ry., engaged in the maintenance and construction of railways and docks. In 1901 he was appointed Resident Engineer, Dearne Valley Ry., now a part of the Lancashire and Yorkshire Ry. He came to Canada in 1907, and entered C.P.R. service as Resident Engineer on the construction of steel bridges, chiefly in New Brunswick, and left railway service in 1909.

Central Argentine Ry. is reported to be arranging to use fuel oil for locomotives instead of coal, and more recently wood.

Canadian National Railways Construction, Betterments, Etc.

Sydney Sidings—A press report states that the Sydney, N.S., City Council has before it the board of works recommendation to grant permission for the installation of a siding, 320 ft. long on Victoria Road.

New Glasgow Station—We are officially advised that the extension to the station at New Glasgow, N.S., for which tenders were invited recently, will be carried out by the railways' own staff, The work consists of the erection of a 2 story brick building 41 x 30 ft. with slate roof, and the remodelling of the interior of the present building.

Fredericton, N.B., Bridge—A press report states that it is proposed to ask tenders shortly for the erection of a new railway bridge across the St. John River at Fredericton, N.B.

Koospeganishe River Bridge — The Board of Railway Commissioners has authorized the rebuilding of the bridge over the Koospeganishe River, Caron Tp., Que., mile 186.2 from Quebec, on the Quebec and Lake St. John Ry.

Rouge River Bridge—The Board of Railway Commissioners has authorized the rebuilding of the bridge across the Rouge River, mile 3.3, on the China Clay spur, Montford Subdivision, Arundel Tp., Que.

Jacques Cartier Bridge—We are officially advised that the boring work for which tenders were, until recently, in connection with repairs to the foundation of the bridge across the Jacques Cartier River bridge, Que.

Beckets Creek Bridge—The Board of Railway Commissioners has authorized the rebuilding of the bridge across Beckets Creek, Cumberland Tp., Ont.; mile 94.25 from Montreal.

The Moira River Bridge over the east channel of Moira River, Stoco Lake, Ont., mile 31.75, Tweed Subdivision, for the renewal of which a contract has been let, consists of 2 through truss spurs, each 145½ ft., center to center, on stone abutments, and pier, and was erected in 1889. The superstructure being of very light design is not of sufficient capacity for present traffic. The bridge is to be renewed by using 3 half through plate girders, 100 ft., 85 ft. and 55 ft., respectively, with the addition of one new half deck span of 45 ft. at the north end. The 3 spans first mentioned are to be removed from the Toronto-Sudbury line. The weight of steel in the renewal structure will be approximately 220 tons, and the capacity will be equal to Cooper's E-46 loading. Two piers are to be built midstream, and the substructure of the present bridge is to be repaired.

Bancroft to Alice Tp.—A press report states that a project is under consideration for building of a line from Bancroft, Ont., to the main line in Alice Tp., Ont., 40 miles. Bancroft is the junction of the old Irondale, Bancroft and Ottawa Ry., with the old Central Ontario Ry., both of which were acquired by the Canadian Northern Ry., and the building of such a line would open up a considerable territory now without railway connection. The original project of the I.B. and O.R., included a line from Ottawa, to Georgian Bay, but the only section built extended from a junction with the G.T.R., Lindsay-Haliburton branch, just north of Kinmount, to Bancroft, 54 miles. The iron ore mining in he district failed to come up to expectations, and as the lumbering moved farther away, the railway business gradually fell off.

Parry Sound Subway and Bridge—The Board of Railway Commissioners has authorized the company to rebuild the subway carrying its tracks under Bowes St., and the bridge carrying the railway over William St., Parry Sound, Ont.

Grant to Long Lake, Ont.—A press report states that a plan is under consideration for building a line from Long Lake, Ont., on the Canadian Northern Ry. to Grant, Ont., on the Transcontinental Ry. This matter has been discussed in the press on several occasions within the past few years.

Mulvihill Station—The Board of Railway Commissioners has ordered the building of a station at Mulvihill, Man., mile 99, Oak Point and Gypsumville Branch.

Morris Pipe Line—Tenders are under under consideration for the installation of a 6-in. cast iron pipe line at Morris, Man.

Prince Albert to Paddock Wood—We are officially advised that it is not intended to proceed with any construction this year on the recently surveyed branch from Prince Albert to Paddock Wood, Sask. Surveys were made in September for this line, from Prince Albert northeasterly for about 40 miles.

Edmonton Station and Shops—An unconfirmed press report states that a new station building, costing approximately $1,000,000, will be built at Edmonton, Alta., that construction on the same will be started next spring and that the new building, which will be 5 stories high, will be located near the present station. The same report states that it is proposed to build large car shops, etc., at Edmonton, on which it is also expected to start work next spring.

Oliver-St. Paul de Metis Line—Track is reported to have been laid on 100 miles of the Oliver to St. Paul de Metis, Alta., line; tracklaying is expected to be gone on with on a further 20 miles. E. G. Richardson, engineer in charge of construction, is reported to have stated in Edmonton, Nov. 3, that a further 22 miles of grading was expected to be ready for tracklaying by Nov. 15.

Vancouver Station—With the inauguration of a daily transcontinental service over the Canadian National Rys., Nov. 1, the new Canadian Northern Pacific Ry. station at the False Creek terminals, Vancouver, was officially opened. The mayor of Vancouver, with a delegation of citizens, received the company's officials who arrived on the train and formally declared the station open. Following the ceremony, the city aldermen, railway officials, etc., were entertained at a dinner by the C.N.R., at which congratulatory speeches were made. A description of the building was given in Canadian Railway and Marine World in July, 1916, and a more detailed description was given Sept., 1916. A description of the train shed and platforms was given in Feb., 1918. (Nov., pg. 590).

Copenhagen, Denmark, Tramway Fares have been raised 50%.

Light Railways Projected for Northern Ontario.

A Cobalt, Ont., press report of Nov. 6, stated that a plan was under consideration to provide light narrow gauge railways for the outlying Northern Ontario mining districts. It was stated that temporary arrangements had been made with, presumably, the late Ontario Government by J. W. Solloway of Toronto, to build a light railway similar to those used at the front in France for the transportation of munitions, and that a charter would be applied for, for the construction of such a line between Elk Lake and Gowganda, Ont. Elk Lake is the terminus of a Timiskaming and Northern Ontario Ry. branch from Earlton Jct. The Gowganda mining district has been asking for railway connection for a number of years.

Another press report states that the principal mine in the neighborhood of the projected Elk Lake-Gowganda, is the Millar Lake-O'Brien, and that the promoters of the line are prepared to provide lines into West Shining Tree and Matachewan. A further report states that a line to the Kirkland district is also projected.

Canadian Light Ry. Construction Co. Ltd., has been incorporated under the Ontario Companies' Act with a capital of $500,000 and offices in Toronto, to carry on the business of contractors and builders, and to build, equip and construct a light railway or light railways in the unorganized districts of Ontario.

Toronto Union Station and Esplanade Viaduct Plans.

E. W. Beatty, K.C., President, C.P.R., while in Toronto, Nov. 20, is reported to have said that he did not think there was any likelihood of construction on the esplanade viaduct being proceeded with for some time, owing to the high cost of labor and materials.

As to the new union station, he is said to have expressed the opinion that it would not be ready for occupancy until May, 1920. There were questions in connection with both the union station and the viaduct which had assumed new phases, now that the G.T.R. is being acquired by the Dominion.

He is also reported to have said that there is no truth in the report that the C.P.R. own the "Mystery Block" on Yonge St., on which press reports recently credited the C.P.R. with planning to erect a new station and hotel.

Transportation Statistics—The collection compilation, etc., of railway, canal, express, telegraph, and telephone statistics carried on heretofore in the Railways and Canals Department by the Comptroller of Statistics, J. L. Payne, is about to be transferred to the Dominion Bureau of Statistics, Trade and Commerce Department, where it will be carried on under the direction of the Dominion Statistician and Controller of Census, R. H. Coats, B.A.

Quebec & Saguenay Ry. Operation—The Minister of Justice stated in the House of Commons, Nov. 10, in answer to questions, that the government did not intend to discontinue train service between Quebec and Murray Bay, and that the question of operating trains between those points only two or three times a week, was then under the management's consideration.

Orders by Board of Railway Commissioners for Canada.

Beginning with June, 1904, Canadian Railway and Marine World has published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed the paper have a continuous record of the Board's proceedings. No other paper has done this.

28,883. Oct. 9.—Dismissing Canadian Association of Ice Cream Manufacturers' application for reduction in express classification of ice cream from first to second class.

28,884. Oct. 10.—Amending order 28,789, Sept. 16, re building of C.P.R. Russell Northerly Branch across highways between mileage 0 and 12.34, Man.

28,885. Oct. 8.—Extending to June 30, 1920, time within which Grand Trunk Pacific Ry. may build station, platform, stock pen and spur as required by order 21,937, May 29, 1914, between Tofield and Deville, Sask.

28,886. Oct. 9.—Relieving G.T.R. from providing further protection at Russell, or Long crossing, near Carlsbad Springs, Ont.

28,887. Oct. 9.—Ordering Grand Trunk Pacific Ry. to appoint caretaker at Lorlie, Sask., to see that station is kept clean, heated and lighted for accommodation of passengers.

28,888. Oct. 10.—Relieving G.T.R. from providing further protection at first crossing west of Cupar, Sask.

28,889. Oct. 8.—Authorizing C.P.R. to build its Leader Southeasterly Branch across highways between mileage 0 and 31.37, Sask.

28,890. Oct. 11.—Approving location of C.P.R. station at Harding, Man.

28,891. Oct. 10.—Ordering G.T.R. to restore its passenger train known as the Scoot between Richmond and Sherbrooke, Que., from Oct. 20, to May 1, 1920.

28,892 Oct. 10.—Ordering C.P.R. to refrain from leaving cars standing on north siding on either side of Renfrew St., Renfrew, Ont., nearer than 100 ft. from the street line.

28,893. Oct. 14.—Authorizing Canadian National Rys., and Montreal Terminal Ry. to operate over crossing at Longue Pointe, near Montreal, without first stopping.

28,894. Oct. 14.—Suspending, pending hearing complaint of Dominion Canners, Ltd., Canadian Canners, Ltd., and others, C.P.R., G.T.R., Canadian National Rys., Michigan Central Rd., Toronto, Hamilton & Buffalo Ry., and Pere Marquette Rd. supplements of tariffs cancelling special commodity rates on canned goods in carloads.

28,895. Oct. 8.—Authorizing C.P.R. to make changes in spurs serving Ogilvie Flour Mills Co., Winnipeg, and to build new spurs, one of them across Higgins Ave., and Winnipeg Electric Ry.

28,896, 28,897. Oct. 11.—Authorizing G.T.R. to operate, jointly with C.P.R., over siding and spurs built by G.T.R. for E. W. Gillett Co., and Canada Metal Co., Toronto.

28,898, 28,899. Oct. 11.—Approving Bell Telephone Co.'s agreements with Wellesley Tp., operating in Waterloo and Perth Counties, Ont., Oct. 1; and Head Lake Telephone Co., operating in Victoria County, Ont., Sept. 23.

28,900. Oct. 14.—Authorizing G.T.R. to build spur for London Shipping Containers, Ltd., London, Ont.

28,901. Oct. 14.—Rescinding order 20,901, Nov. 25, 1913, re G.T.R. spur for Harris Abattoir Co., Hamilton, Ont.

28,902. Oct. 14.—Relieving Canadian Northern Saskatchewan Ry. and Grand Trunk Pacific Ry. from maintaining signalman on Sundays to operate interlocking plant at Yorkton, Sask.

28,903. Oct. 10.—Ordering Edmonton, Dunvegan & British Columbia Ry., to build a 2 car loading platform at Fowler, Alta.

28,904. Oct. 14.—Dismissing complaint of Canadian manufacturers against general order 162 and the relieving of telegraph companies from responsibility for failure to transmit messages.

28,905. Oct. 15.—Authorizing Grand Trunk Pacific Branch Lines Co. to build spur for Northern Saskatchewan Co-operative Stock Yards Co. at mileage 111.25, Prince Albert Branch, Sask.

28,906. Oct. 11.—Disallowing G.T.R. Supplement 16 to tariff C.R.C. no. E-4024, and cancelling of item 195 in C.P.R. Supplement 14 to tariff C.R.C. no. E-3551, increasing rates on agricultural lime or stone dust from Kirkfield, Ont.

28,907. Oct. 14.—Authorizing Toronto, Hamilton & Buffalo Ry. to divert and join into one crossing, at grade, over its tracks, portions of certain highways in North Grimsby Tp., Ont.

28,908. Oct. 15.—Authorizing C.P.R. to divert road allowance in s.e. ¼, Sec. 29, and n.w. ¼ Sec. 21, Tp. 20, Range 28, west 3rd meridian, and to build its Leader Southeasterly Branch, at grade across road allowance at mileage 19.38, and to close diverted portion within limits of its right of way.

28,909. Oct. 16.—Authorizing Canadian National Rys. to cross Pembina Highway at Portage Jct., Winnipeg.

28,910. Oct. 14.—Authorizing G.T.R. to take certain lands in Pointe Claire Parish, Jacques Cartier County, Que., for changing location of Y to eliminate a facing point switch in its eastbound main track.

28,911. Oct. 16.—Relieving G.T.R. from providing further protection at Mooney's crossing, North Fredericksburg, near Napanee, Ont.

28,912. Oct. 16.—Ordering G.T.R. to erect whistle posts 80 rods from all flag stations where its tracks parallel C.P.R., between Montreal and Vaudreuil, Que.

28,913. Oct. 17.—Ordering C.P.R. to build a station at Dafoe, Sask.

28,914. Oct. 15.—Amending order 28,876, Oct. 8, re rebuilding of Canadian National Rys. bridge over Bolger Creek, Ont.

28,915. Oct. 18.—Approving Chatham, Wallaceburg and Lake Erie Ry. standard freight tariff C.R.C. 576, effective Nov. 8.

28,916. Oct. 18—Relieving C.P.R. from providing further protection at crossing six poles south of mileage 13, MacLeod Subdivision, Alta.

28,917. Oct. 18.—Relieving Canadian National Rys. from providing further protection at crossing at Johnston St., Minto, Man.

28,918. Oct. 22.—Authorizing C.P.R. to build spur for Crane Ltd., Calgary, Alta.

28,919. Oct. 16.—Dismissing application of City of Kingston, Kingston Board of Trade, Town of Brockville and others for order directing G.T.R. to restore trains 31 and 32, between Brockville and Belleville, Ont., discontinued Sept. 28.

28,920. Oct. 20.—Approving agreement Oct. 6, between Bell Telephone Co., and Wallacetown & Lake Shore Telephone Association, operating in Elgin County, Ont.

28,921. Oct. 20.—Amending order 28,891, Oct. 10, re G.T.R. passenger service between Richmond and Sherbrooke, Que., by substituting Coaticook for Sherbrooke in the fourth line of operative part of order.

28,922. Oct. 20.—Authorizing Grand Trunk Pacific Ry. to build spur for U.G.G. Saw Mills at mileage 1,222, Cariboo District, B.C.

28,923. Oct. 20.—Authorizing G.T.R. to rebuild overhead bridge carrying Mechanic St. over its track at Drumbo, Ont.

28,924. Oct. 21.—Ordering Canadian National Rys. to appoint caretaker at Pathlow, Sask., to see that station is kept clean, heated and lighted for passengers, and to care for l.c.l. freight and express shipments.

28,925. Oct. 23.—Relieving Canadian National Rys. and C.P.R. from maintaining signalman on Sundays to operate interlocking plant at Brookdale, Man.

28,926. Oct. 20.—Amending order 28,756, Sept. 10, re C.P.R. spur for Crescent Collieries, Bienfait, Sask., by striking out the word Manitoba, wherever it occurs in the order, and substituting therefor the word Saskatchewan.

28,927. Oct. 25.—Authorizing C.P.R. to build spur for Lachance Ltd., Quebec, Que.

28,928 Oct. 25.—Relieving G.T.R. from providing further protection at first crossing north of Newton station, Ont.

28,929. Oct. 21.—Amending order 28,917, Oct. 18, re speed limitation over crossing at Minto, Man.

28,930. Oct. 25.—Extending to Dec. 31, time within which half interlocker at crossing of Canadian National Rys., by Fort William Municipal Ry., at intersection of Victoria Ave. and Vickers St., Fort William, Ont., may be installed.

28,931. Oct. 22.—Authorizing Canadian National Rys. to rebuild bridge over Rouge River at mile 3.3, china clay spur, Montfort Subdivision Arundell Tp., Que.

28,932. Oct. 23.—Rescinding order 28,129, Feb. 28, re C.P.R. operating trains over crossing of Bull St., Woodstock, N.B. at [illegible].

28,933. Oct. 23.—Authorizing G.T.R. to discontinue sale of tickets at Hawtrey station, Ont., and to employ caretaker to see that station is kept clean, heated and lighted for passengers.

28,934. Oct. 2[illegible].—Extending to Dec. 31, time within which Lake Erie & Northern Ry. shall install interlocking plant at crossing of G.T.R. in Brantford, Ont.

28,935. Oct. 23.—Authorizing C.P.R. to build spur for St. Maurice Lumber Co., Three Rivers, Que.

28,936. Oct. 24.—Relieving G.T.R. from providing further protection at first crossing north of station at W[illegible], Que.

28,937. Oct. [illegible].—Authorizing C.P.R. to take certain lands of H. [illegible] in St. Sauveur Parish, Terrebonne County, Que.

28,938. Oct. [illegible].—Authorizing Grand Trunk Pacific Ry. to build spur for U.G.G. Sawmills Ltd., at mile 1,228, Cariboo District, B.C.

28,939. Oct. [illegible].—Amending order 16,601, June 4, 1912, authorizing City of Edmonton, Alta., to erect poles and wires to transmit power across Grand Trunk Pacific Ry. along 21st St., and intersection with Short and Nelson Aves.

28,940. Oct. 23.—Authorizing C.P.R. to build spurs for Northwest Milling Co., Strathcona, Alta.

28,941. Oct. 27.—Authorizing C.P.R. to divert road allowance in n.w. ¼ and s.w. ¼ Sec. 32, Tp. 23, Range 1[illegible], west 2nd meridian, Man.

28,942. Oct. 27.—Authorizing C.P.R. to build spur for McArthur Irwin Ltd., Outremont, Que.

28,943. Oct. 22.—Approving revised location of C.P.R. Langdon North Branch from Sec. 1[illegible], Tp. 29, Range 2[illegible], at mile [illegible] to Sec. [illegible], Tp. 30, Range 20, west 4th meridian, at mileage [illegible], Alta.

28,944. Oct. 2[illegible].—Authorizing Town of Dorval, Que., to make highway crossing over G.T.R. at Cote de Liesse Road.

28,945. Oct. 2[illegible].—Authorizing Alberta Public Works Department to make highway crossing over Canadian National Rys. in [illegible], Canadian Indian Reserve [illegible], Alta.

28,946. Oct. 2[illegible].—Approving standard maximum freight mileage tariff C.R.C. [illegible], standard passenger tariff of maximum mileage tolls on [illegible] C.R.C. [illegible], standard tariff of maximum tolls on street car lines [illegible], express tariff C.R.C. E[illegible], and Supplement 1 thereto, of British Columbia Electric Ry. and Vancouver Power Co.

28,947. Oct. 27.—Authorizing Canadian National Rys. to rebuild subway carrying tracks across [illegible] St., Parry Sound, Ont.

28,948. Oct. 27.—Approving location of C.P.R. Rosetown Southeasterly Branch from Sec. [illegible], Tp. 27, Range 16, at mileage [illegible] to Sec. [illegible], Tp. [illegible], Range 1[illegible], west 3rd meridian, at mileage [illegible], and authorizing C.P.R. to cross [illegible] highways on said location.

28,949. Oct. 2[illegible].—Ordering Grand Trunk Pacific Ry. to build station at [illegible], Sask.

28,950. Oct. 27.—Authorizing Saskatchewan Government to make highway crossing over Canadian National Rys. between [illegible] Sec. 31, Tp. 4[illegible], Range [illegible], west 3rd meridian.

28,951. Oct. 27.—Ordering Canadian National Rys. to build station at [illegible], Man.

28,952. Oct. 27.—Authorizing G.T.R. to build spur for Canada Foundries & Forgings Ltd., Welland, Ont.

28,953. Oct. 27.—Rescinding order [illegible] Sept. 18, relieving Algoma Eastern Ry. and Canadian Copper Co. from maintaining signalman at crossing at Copper Cliff Jct., Ont.

28,954. Oct. 29.—Dismissing complaint of R. Patterson, Stamford, Ont., re G.T.R. charge of 50c a ton on sand and gravel from Stamford to Niagara Falls, Ont.

28,955. Nov. 4.—Authorizing G.T.R. to take certain lands at Gravenhurst, Ont., for additional tracks and terminal facilities.

28,956. Nov. 4.—Relieving Canadian National Rys. from providing further protection at crossing of Main St., Newburgh, Ont.

28,957. Nov. 3.—Extending to Dec. 31, time within which Lake Erie & Northern Ry. may operate over crossing at Brantford, Ont., pending installation of interlocking plant.

28,958. Nov. 4.—Authorizing C.P.R. to build siding for J. H. [illegible] Ltd., Quebec, Que.

28,959. Nov. 3.—Authorizing G.T.R. to build spur for Interprovincial Brick Co. of Canada on Lot 29, Con. 5, Chinguacousy Tp., Ont.

28,960. Nov. 4.—Authorizing Canadian National Rys. to divert road on Lot 24, Con. 8, Marlborough Tp., Ont., at mile [illegible], Rideau Subdivision.

28,961. Nov. 4.—Authorizing C.P.R. to extend Provincial Reformatory spur to coal dump at mile 29.05, Hamilton-Goderich Subdivision, in lot 4, Con. 2, Guelph Tp., Ont.

28,962. Nov. 3.—Authorizing G.T.R. to build spur for Farmer's Dairy Co., Napanee, Ont.

28,963. Nov. [illegible].—Authorizing Saskatchewan Government to make highway crossing over Canadian National Rys. in [illegible] ¼, Sec. [illegible], Tp. [illegible], Range 2[illegible], west 2nd meridian, Sask.

28,964. Nov. [illegible].—Authorizing Canadian National Rys. to rebuild bridge over [illegible] Creek, [illegible] Tp., Ont., at mile [illegible] from Montreal.

28,965. Nov. [illegible].—Approving location of C.P.R. station at [illegible], Sask.

28,966. Nov. 3.—Authorizing G.T.R. to build spur for Chesley Furniture Co., Elderslie Tp., Ont.

28,967. Nov. [illegible].—Approving Dominion Atlantic Ry. standard passenger tariff of maximum mileage tolls C.R.C. no. S-4.

28,968. Nov. 4.—Extending to July [illegible], 1920, time within which Canadian National Rys. may install interlocking plant at junction with C.P.R. at mile 18.4, Kingston Subdivision, near Harrowsmith station, Ont.

28,969. Nov. 4.—Authorizing Canadian National Rys. to rebuild bridge over [illegible] road in Chatham Tp., Que., at mile [illegible] from Montreal.

28,970. Nov. [illegible].—Approving plans of superstructure of subway to be erected at St. Paul St., Brantford, Ont.

28,971. Nov. 4.—Relieving C.P.R. from providing further protection at crossing of road near [illegible] station, Man.

28,972. Nov. 4.—Approving agreement, Oct. 8, between Bell Telephone Co. and Russell Rural Telephone Co., operating in Russell and Carleton Counties, Ont.

28,973. Nov. 4.—Authorizing Quebec and Lake St. John Ry. (C.N.R.) to rebuild bridge over the [illegible] River, [illegible] Tp., Que., at mileage [illegible].

28,974. Nov. 4.—Authorizing Canadian National Rys. to rebuild bridge over William St., Parry Sound, Ont.

28,975. Oct. [illegible].—Authorizing Oshawa Ry. to build [illegible] sidings for General Motors of Canada Ltd., Oshawa, Ont.

28,976. Nov. [illegible].—Approving stress sheets showing steel girders of bridge over west branch of Yamachiche River at mile [illegible] from Quebec, on the Canadian Northern Quebec Ry.

[illegible] Vancouver, Victoria & [illegible] Ry. & Nav. Co. (G.N.R.) to widen out- [illegible] and move it at least [illegible] and run- [illegible] the work to be done at [illegible]

[illegible] Nov. 7.—Authorizing C.P.R. to build spur for Brett Manufacturing Co., Winnipeg, Man.

28,979. Nov. 7.—Authorizing Canadian National Rys. to build spur to ballast pit in Con. 1, Cramahe Tp., Ont.

28,980. Nov. 8.—Relieving G.T.R. from providing further protection at crossing 3 miles west of Chatham, Ont.

28,981. Nov. 7.—Authorizing G.T.R. to build spur for Canadian Vegetable Parchment Co., Grantham Tp., Ont.

28,982. Nov. 7.—Dismissing City of Toronto's application for order apportioning cost of alterations to Consumers Gas Co.'s mains, Toronto, necessitated by subways at 10 points.

The Shortage of Railway Cars Discussed in the House of Commons.

The Minister of Railways, Hon. J. D. Reid, said in the House of Commons, Nov. 8: "For some time I have been receiving telegrams from the west complaining about the shortage of cars for the shipment of hay, coal and wheat. That has been going on not only for the last few weeks, but for a year. The reason for the shortage is this: In the past there was generally a surplus of United States cars in Canada, but the U.S. Government since it has had charge of the situation, has been keeping our cars in the U.S., and there have been in the neighborhood of 20,000 more Canadian box cars in the U.S. than U.S. cars in Canada. Yesterday the way in which the car situation stood was this: There were located in the U.S., 18,030 Canadian livestock cars and 43,661 Canadian box cars, to offset which we have only 158 livestock cars and 21,240 box cars of U.S. railroads in Canada. In other words, yesterday there were 22,000 Canadian box cars in the U.S. over and above the number of U.S. cars in Canada. I have been taking the matter up by wire in the strongest possible terms with W. D. Hines, Director General U.S. Railroad Administration. The railways themselves have been doing everything possible to get those cars over here, but we have not yet been successful in reducing that great difference. We are still continuing our efforts, and I will read a telegram that I received yesterday that will show exactly the position I have taken as regards the shortage of empty cars in the west. I took the matter up with the Canadian Railway War Board on account of the complaints from the west about not getting cars for livestock, and this is the reply I received:

"Supplementing telegrams and telephone conversation yesterday re Alberta livestock shippers complaints, further report just received from C.P.R. reads as follows: 'There is undoubtedly a shortage of stock cars on the C.P.R. in Alberta and the cause of it is perfectly well known to Messrs. Kenny and McDaniels and to the Calgary Livestock Exchange, a great proportion of the stock market has been going to Chicago via Portland and U.S. connections are not in position to supply any cars for it. There are 1,500 C.P.R. stock cars south of the line and connections have been unable to make prompt return on account of delay in cleaning and disinfecting after unloading which delay they assert is due to shortage of labor and to the cold weather. The feed situation in Alberta was well known to everybody associated with the stock business, but they waited until the advent of winter to throw thousands of head of cattle on the railway companies for transportation. In addition to the movement via Portland there is a heavy movement to St. Paul and Chicago out of Union stock yards at Winnipeg. Other Canadian railways are supplying cars for this movement and U.S. connections state they are not in position to send up cars. The result is that the whole burden of the traffic is thrown on C.P.R. Our wire yesterday gave information showing considerable improvement in return of C.P.R. stock cars from Soo line. This board has been in touch with U.S. railway authorities continually about accelerating return of cars which efforts now appear to be bearing fruit. Stock cars have been and are being rushed from eastern Canada as fast as available. In absence of stock cars, box cars have been placed at disposal of Alberta shippers in ratio of 3 box for 2 stock when and where they would use them, and, in fact, investigation shows that railways have been leaving no stone unturned in their efforts to cope with extraordinary situation brought about by conditions already described. Board is informed that Kenny and McDaniels have telegraphed you withdrawing their complaint.' "

"I think it is an outrage and a disgrace for the U.S. railways to keep 22,000 Canadian cars over there and to use them, when they know that we in Canada are suffering for lack of those cars. I only want members and the people of this country to know that the Railway Department, the Canadian Pacific, the Grand Trunk and the Canadian National Railways have for a long time been taking every means possible to get those cars back. But W. D. Hines, who is in charge of this, seems utterly to ignore all appeals we make in the interest of humanity and doing justice to our country to give to us the cars to which we are entitled.

J. E. Armstrong, M.P. for Lambton, Ont., having asked whether it would not be possible for the Minister of Railways to increase the per diem rate charged for cars, to double, or treble, if necessary, the Minister replied:

"The international rates are fixed. Supposing you did that, how are you going to collect the rates? The cars are there, and if you start endeavoring to force the U.S. Government in the way the member states, or in some other way of that kind, they will put some restrictions on our traffic going into the U.S., and the result might be disastrous to international shipping. I am satisfied that if those means, or any other that might be suggested, could be adopted, the Canadian Pacific, Grand Trunk and the Canadian National Railways would take such means to get the cars."

On Nov. 10 the Miniser brought the matter up again in the Commons and said: "With further reference to the shortage of cars on Canadian railways, I had the Canadian Railway War Board meet on Nov. 8 and take the matter up. They have wired me as follows:

" 'Referring further your telegram yesterday. Several reports which have reached you with respect to car shortage as referred to therein dealt with at meeting this board today. As to coal situaion Canadian Pacific state full supply of cars at all mines on its line. Canadian National Rys. had excess supply of cars at mines they serve until Oct. 12, when there was slight shortage which existed for few days only. Since that time no shortage reported. Average daily shipments commercial coal from Canadian National mines since Nov. 1, 7,000 tons and at same rate of shipment for balance of month, total shipments during November will be double those of corresponding month last year. Would point out that despite warnings issued repeatedly by government and this board, coal shipments early part of season were greatly under amount shipped last year, with that total shipments from April 1 last to present are only 50% of quantity shipped during same period last year. This apparently due to failure of dealers to place orders and to short hours worked at mines account labor troubles. Total tonnage commercial coal shipped from western mines April 1 to Aug. 31, 1919, was 332,977 tons, compared with 1,703,792 tons same period 1918. Since Sept. 1 this year, shipments total 544,495 tons, as against 534,200 tons same period last year. As to stock cars situation, improved delivery of empty cars from U.S. roads within past few days has greatly improved condition, and with continued prompt return of Canadian equipment sent to St. Paul and Chicago railways will be enabled to handle heavy live stock traffic. Administrative sub-committee of this board at Winnipeg has been directed to confer at once with Mr. Stewart, of Wheat Board, with view to determining what is actual reason for movement of wheat being less than desired by Wheat Board and to take what action may be necessary, in so far as railways are responsible to meet situation. Regret board has no information available as to stocks of commercial coal stored in various parts of country, but understand Fuel Controller assembling this data with respect to movement coal from Canadian mines as mentioned in later portion your message. Assume this has particular reference to movement from Nova Scotia to Ontario. In absence of definite information as to what additional requirements may be placed on railways in this connection either as to territory or volume to be handled, it is difficulty to give specific report. Railways are prepared however to move coal from Maritime Provinces to interior to capacity of equipment made available.

"I might say, in reference to the last part of that telegram, that I asked the Canadian Railway War Board what the situation would be in case we had to bring coal from the maritime or the western provinces to the interior provinces of Ontario and Quebec, and that is why they mention the question of bringing coal from Nova Scotia or the west in case there was a shortage in the interior provinces."

H. M. SHAW, M.P. for Macleod, Alta.: "Has the minister had any more complaints regarding the Canadian National Rys. in the west refusing to give cars to parties wishing to ship hay to Canadian Pacific points, and if so, what is being done to remedy the situation?"

HON. J. D. REID: "I have not received any more complaints; but when the member brought this matter to my attention, I sent telegrams to the Canadian National Rys. and the Canadian Railway War Board. I shall likely receive replies during the day, and I will at once communicate them to the member."

Canadian Pacific Railway Construction, Betterments, Etc.

St. John, N.B., Baggage Shed—A press report states that it is proposed to build a baggage shed at West St. John, on the site of the old cattle sheds leased from the city. It is stated that the plans provide for the erection of a one story building, 475 x 60 ft., on a pile foundation, and that there will be a platform 12 ft. wide. along either side of the building for its entire length, so that 2 trains of 8 cars each can be accommodated at the same time. The contract is expected to be let at an early date. Matters in connection with the building of the shed came up at a meeting of the St. John City Council, Oct. 26, in connection with some other matters affecting the C.P.R. and were referred to Commissioner Bullock, the City Solicitor and the City Engineer with power to act.

Interprovincial and James Bay Ry.—An unconfirmed press report states that the company has under consideration the construction of this projected railway from Kipawa, Que., the terminus of a branch line from Mattawa, Ont., to the head of Lake Timiskaming, 65 miles.

Toronto—A Toronto daily paper stated recently that the C.P.R. was the purchaser of "the 'Mystery Block,'" from Yonge St., east and south of College St., and that it would build a large passenger station and hotel at a cost of $3,000,000 or more, and connect them by a tunnel with its Yonge St. station, and that the carrying out of this project would mean the withdrawal of the company from the Union Station. Grant Hall, Vice President, is reported to have said that "the report was premature to say the least about it."

Another unconfirmed report credits the New York Central Rd., and the Michigan Central Rd., which with the C.P.R., own the Toronto, Hamilton and Buffalo Ry., with being interesed in a project for the erection of terminal facilities in Toronto.

Harriston Station—The building of a new station at Harriston, Ont., on the Toronto-Teeswater Branch, is being considered.

Manitoulin Island—A press report states that Grant Hall, Vice President, and other C.P.R. officials, visited Manitoulin Island, Ont., recently to investigate the needs and possibilities of railway construction here. At present, beyond the terminus of the Algoma Eastern Ry. at Current River, there is no railway on the island.

Emerson Branch — The company is building a large concrete bridge on its line at Emerson, Man. A work train of 31 cars carrying concrete blocks for the bridge and a gang of men had an accident at the Higgins Ave. subway, Winnipeg, Oct. 27, William McGill, the foreman, being killed.

Prairie Stations—The Board of Railway Commissioners has approved of locations for stations a Harding, Man., on the Brandon-Lenore line at Marchwell, Sask., 176 miles from Portage la Prairie, on the line to Saskatoon, and at Dafoe, Sask., between Binscarth and Saskatoon.

Rosetown Southeasterly Branch—The Board of Railway Commissioners has approved location plans for the branch from Rosetown, southeasterly, from mile 20.56, in Sec. 27, Tp. 27, Range 16 to mile 45.76 in Sec. 31, Tp. 23, Range 15, both west of he 3rd meridian, and has authorized the crossing of highways.

Langdon North Branch—The Board of Railway Commissioners has approved revised location of the branch from Langdon, Alta., northerly, from mile 38.88 in Sec. 19, Tp. 29, Range 25, to mile 76.24 in Sec. 8, Tp. 29, Range 20, both west of the 4th meridian.

Connaught Tunnel—We are officially advised that the Carter-Halls-Aldinger Co. has finished its contract for lining 750 ft. of the Connaught Tunnel, Selkirk Mountains, with concrete.

Matsqui Bridge—A press report states that the C.P.R. has refused to entertain a project for using its bridge at Matsqui, B.C., for general traffic purposes as proposed by local residents through the British Columbia Government.

British Ferry Slip—A 3 track car ferry slip has recently been completed on the south shore of Burrard Inlet, Vancouver, recently. The plans were approved by the Minister of Public Works in February. The trestlework leading to the apron is 210 x 45 ft., and is supported on creosoted piles. The apron is 70 ft. long, and is composed of 6 deck trusses, with top cord and wooden posts. The apron is raised or lowered as required by hydraulic power; the counter weights being of 1-3-5 reinforced concrete.

Vancouver Pier—We are advised that plans for the new pier proposed to be built at Vancouver, are not yet available. The only work actually decided upon at present is the dredging of overlaying material at the site, and the raising of the bottom by a fill to reduce the unsupported length of piling when the other work may be gone on with. (Nov., pg. 603).

C.P.R. Employes' Enlistments, Re-Employment, Etc.

Following are figures revised to Oct. 31, showing C.P.R., employes who enlisted in the army and army men who have been given employment by the company on their return from overseas:—

Total reported as enlisting	10,774
Dead	1,031
Wounded	2,025
Re-employed in the service	6,060
Other soldiers given employment	6,973
Total soldiers given employment to date	13,033

Demurrage Rates—The Director General of the United States Railroad Administration has announced that, owing to questions arising as to application and interpretation of demurrage, it was determined some time ago to recodify the rules, with a view to improve their form so far as possible and avoid any questions. As a result this work was undertaken by the American Railroad Association, in connection with committees of the National Industrial Traffic League, and the results were submitted to the Railroad Administration's Traffic and Public Service Divisions, and finally to the Interstate Commerce Commission, which has given its tentative approval, subject to its right and duty to enquire into the legality or reasonableness of any rule or rules which may be subject of any complaint.

The Public Works Department, Ottawa, has moved its offices from the western departmental block to the new Hunter building, O'Connor St.

Quebec and Saguenay Railway Purchase and Operation.

The Minister of Railways gave the House of Commons the following information recently about the Quebec and Saguenay Ry., in reply to a series of questions: The Dominion Government has purchased the railway for $3,459,313.51; the first instalment, $667,862.70, was paid Feb. 27, and the balance, $2,791,450.81, was paid April 12. On Sept. 24, an order in council was passed, placing the railway under the Canadian National Rys. directors for operation.

The construction of the line has been completed under the supervision of Gordon Grant, C.E., of the Railways Department, who is engaged in transferring it to the Canadian National Rys. board. The line has heretofore been operated by the contractors, Hugh Doheny & Co. It is completed for operation, with the exception of some minor items, such as telegraph instruments, train order boards, road crossing signals, etc. No decision had then been reached upon the question of continuing the line from its present terminus near Murray Bay, north to Ha Ha Bay, and as to the government's intention to build a branch from Baie St. Paul to St. Urbain. Some claims for right of way, etc., have not been settled, as in some cases the amount demanded by land owners is considered exorbitant, and they have been referred to the Exechequer Court.

The Minister of Railways informed the House of Commons, subsequently, that 33,899 passengers had been carried on the Q. & S.R. from Aug., 1918, to Oct. 1, 1919, and that the net earnings for that period were $12,941.66.

Land Subsidies to Railways.

Canadian Railway and Marine World for November contained, on pg. 582, the reply given by Sir James Lougheed in the Senate to questions asked by Senator Casgrain, Oct. 21, as to the amount paid in subsidies to the Grand Trunk, Canadian Pacific Ry., Canadian Northern Ry. and Grand Trunk Pacific Railways. Similar information was given in the House of Commons, Oct. 22, by the Minister of Railways in reply to questions asked by P. F. Casgrain, M.P.; the minister adding that the following additional information is necessary to make the answers complete: The G.T.R. received no land subsidy. The C.P.R. received land as follows, for main line, 18,206,986 acres, of which 18,198,592.81 have been patented; Souris Branch, 1,408,704 acres, of which 1,406,932.02 have been patented; Pipestone extension, 200,320 acres, of which 3,104,146.18 have been patented. It also received as a subsidy for the Manitoba and Southwestern Ry., 680,320 acres, of which 679,746.07 have been patented. No land subsidy has been given to the Grand Trunk Pacific Ry.

Gold Coast Trade Opportunities—Lloyd Harris, Chairman Canadian Mission in London, Eng., is reported to have said in speaking in Toronto recently, that the newly appointed governor of the Gold Coast has told him that that colony would build some large docks and about 1,000 miles of railway. If this information was properly followed up, Canada could obtain the greater part of the construction contract, to say nothing of the commercial goods required immediately there.

Electric Railway Department

The Montreal Tramways Co.'s Service at Cost Plan.

By J. E. Hutcheson, General Manager, Montreal Tramways Co.

In 1916 the Montreal Tramways Co. possessed on the Island of Montreal, under its name, or under the names of the companies absorbed by it, franchises in 30 municipalities; 27 of which were exclusive; 23 terminable between 1922 and 1961; and 7 interminable. The contract with the City of Montreal, as it existed in 1892, was of 30 years duration, expiring in 1922. The company's system was operating under 14 municipal councils, charged with looking after the proper execution of their respective contracts. The consideration for the use of the streets in the City of Montreal was an annual payment on the basis of a percentage on the gross earnings which applied only to the revenue from operation within the city limits as they existed in 1892. The tariffs, with free transfers, in each municipality were fixed for the duration of the respective contracts. In 1916 the average fare per revenue passenger on the entire system was 4.12c, and for total passengers 3.04c.

From time to time, during several years prior to 1917, the city requested the company to make extensions of tracks in municipalities which had been annexed. The company quite properly replied that it was fulfilling every obligation under the contracts with the said annexed municipalities, and while admitting that, in certain sections, there was need of further service being given, the revenue from extensions in outlying districts would not be sufficient, for years after construction, to pay operating expenses, and furthermore, that the city could only order extensions beyond the contract requirements in the areas annexed, by making a new contract covering such annexed areas.

This led to negotiations between the city and the company and several conferences were held, with the object of making a new contract to cover greater Montreal, which in 1917, had grown to such an extent as to take in several adjoining municipalities where the company was established. Because of accusations and recriminations amongst the members of the civic government, and because of the activities of the unfriendly press, no progress was made, until matters were taken to the Quebec Legislature in 1917, where an act was passed creating a commission of five prominent citizens of Montreal to prepare a contract that would safeguard the interest of the citizens and the company's shareholders; such contract to become law when signed by the members of the commission and by the company, and ratified by the legislature.

The commission, after visiting many cities in Canada and the United States, and after hearing the views of the various municipalities interested, and of public bodies, such as the Board of Trade and Chamber of Commerce, were unanimous in the opinion that a form of service at cost plan was the only equitable basis upon which a street railway franchise should be made. The company after two years operations under war conditions, and because of the uncertainty of the future, was agreeable to negotiate on this basis. The commission took several months to study the subject, during which time a valuation of the company's physical assets was made on a basis of reproduction cost, pre war prices. Finally a contract, for 35 years, covering the company's entire system, was prepared and signed by the officials of the company and the members of the commission on Jan. 28, 1918, and ratified by the legislature on Feb. 9, 1918.

The new contract provides for the appointment of a commission of control, to be known as the Montreal Tramways Commission, which shall consist of three members appointed by the Lieutenant-Governor in council, for 10 years. The commission has control of the service; may fix speed of cars, establish routes, stopping and transfer points; fix passenger density per car mile, stipulate type of rolling stock and of track construction, and must approve of all renewals and extraordinary maintenance expenditures; is empowered to examine and audit all receipts and disbursements. The necessary expense incurred by the commission in the performances of its duties shall be paid by the company and shall form part of the operating expenses.

J. E. Hutcheson,
General Manager, Montreal Tramways Co.

Any party in the case, the company, the city or any municipal corporation interested, may appeal to the Quebec Public Utilities Commission from any decision of the commission on any question of law or jurisdiction relative to this contract, as well as from any decision rendered by the commission relative to the provisions of the contract. Such appeal shall be final, except on questions of law.

Within 60 days following the appointment of its members, the Tramways Commission shall, if necessary, amend the tariffs in order to give full effect to the contract. They shall make said tariff uniform for the territory comprising the city as it exists at the date of the contract, as well as in five municipalities within the limits of the City of Montreal. Such territory shall be known as the uniform tariff territory. Outside of the uniform tariff territory the commission may fix different rates for the various municipalities as well for local traffic as for traffic from one municipality to another, or from a municipality to the uniform tariff territory and vice versa, providing that such tariffs, or any of them do not unjustly burden the rest of the system, and providing further that such municipalities may, with the consent of the commission, agree to pay the company any part of the excess of their respective services for the purpose of obtaining lower rates. The Tramways Commission may, from time to time as required, but in conformity with the provisions of the contract, amend the tariff established in virtue of the present article.

Guarantee Fund—It is provided that the company, by yearly instalments of not less than $10,000, shall provide out of its own resources a special fund of $500,000 to be known as the guarantee fund, which shall be used to meet all liabilities and other debts (except mortgage debts) incurred by the company, prior to the coming into force of this contract, through the operation of its system, and to provide for the payment in each year of any portion of excess expenditure as hereinafter defined, which shall be found by the commission to have been unnecessary for the payment of penalties imposed upon the company, and also to guarantee fulfilment by the company of all obligations assumed by it under the contract. Such fund, when created, shall be maintained by the company at all times at $500,000.

The Gross Revenues are to be disposed of for the following purposes and in the following order: 1, operating expenses and taxes, grand operating profit; 2, maintenance and renewals fund; 3, return on capital value; 4, city rentals; 5, contingent reserve fund; 6, division of surplus.

1. **Operating Allowance**—Within 60 days after the coming into force of the contract, the commission shall, for the first year of operation, allow the company, out of gross revenues, a sum for each revenue car mile, exclusive of car house and car yard miles, made by the cars equipped with motors, except cars operated to carry materials used in the construction and repair work of the company itself, and other sums for each revenue car mile, exclusive of car house and car yard miles, made by the cars equipped with motors, except cars operated to carry materials used in the construction and repair work of the company itself, and other sums for each revenue car mile for trailers and freight cars, always exclusive of car house and car yard miles. Such sums shall be known as the operating allowance, and shall be used for the payment of all operating expenses (exclusive of maintenance,

renewals and depreciation) and all taxes levied against the company on its property.

The company shall so increase the transportation service, under the direction of the commission, that the permissible average density of traffic per car mile, during the first year of operation under this contract, shall not be excessive. Within 60 days after the close of the first year of operation under the contract, and annually thereafter, the commission shall redetermine and fix for the ensuing year, the amount of operating allowance and permissible average car mile density, and in so doing, it shall base its action upon the actual and necessary operating expenses accrued during the preceding year, with such adjustments as may be foreseen to be necessary on account of modifications of service, changing costs, or any circumstances tending to increase or diminish the necessary expenses of operation.

2. Operating Profit—If at the end of any year the commission shall find that the company has kept within the operating allowance, or shall not have exceeded same by more than 2½% of its amount, subject to the conditions imposed as to density of traffic being in the judgment of the commission reasonably observed, then the commission shall permit the company to take out of gross revenues, as a charge prior to all other charges except operating expenses and taxes, as hereinabove defined, a sum to be known as the operating profit, which shall be equivalent to ⅛ of 1%, on the total average capital value for that year, and such operating profit shall belong to the company.

In case the company shall have spent more than the operating allowance, plus the above percentage of 2½% during any year, then the excess over such allowance and percentage shall be known as the excess expenditure, and shall be taken from gross revenues up to an amount not exceeding ⅛ of 1% on the average capital value for such year, and the operating profit shall be reduced accordingly. And if the excess expenditure shall exceed ⅛ of 1% on the average capital value, then the company shall receive no operating profit, but on the contrary shall pay out of the guarantee fund the amount by which such excess expenditure exceeds the ⅛ of 1%, providing the company shall, during any such year, and in anticipation of such excess expenditure or immediately upon the close of such year, submit to the commission a detailed statement and explanation thereof, and if the commission shall find not later than 60 days after the close of such year, that the excess expenditure or any part thereof, was necessary and unavoidable, in the rendition of service as required by the commission, then the commission shall permit the company to take out of gross revenues the additional amount required to cover such excess expenditures, or such part thereof, and shall also award the company the full amount of the operating profit, less any part of such excess expenditures which may be found to have been unnecessary. But if such unnecessary part shall exceed the amount of the said profit, the balance shall be paid by the company out of the guarantee fund. The company, in determining the operating allowance for the ensuing year, shall take into consideration the excess expenditure incurred during the preceding year and found to be necessary as above provided. Any portion of the operating allowance which shall not be expended or needed for the expenses of the year, shall at the close of the year, with the approval of the commission, be returned to gross revenues to be disposed of as hereinafter provided.

3. Maintenance and Renewals Fund—The entire plant and property of the company used and necessary to provide the public transportation service, shall at all times be maintained at the highest practicable standard of operating efficiency. For the purpose of maintenance, renewals, replacements and substitutions, made necessary by wear and tear, age, obsolescence, inadequacy, accident or other cause, a sum shall be set aside for each revenue car mile, exclusive of car house and car yard miles, made by cars equipped with motors, and other sums, for each revenue car mile made by trailers and by freight cars, always exclusive of car house and car yard miles. Such sum shall be known as the maintenance allowance, and shall be placed in a fund to be known as the maintenance and renewals fund. Any items of property contained in the valuation, or added to the system since June 30, 1917, which shall become worn out or which for any other reason shall at any time be deemed no longer useful as a part of such system, shall be disposed of under the commission's direction, subject to the provision of any trust deed, upon the most advantageous terms obtainable, and the proceeds thereof shall be paid into said maintenance and renewals fund Out of said maintenance and renewals fund shall be paid from time to time the actual and necessary expenses of maintenance and renewals, and of replacements and substitutions as hereinafter provided, and any monies not needed for such purposes during any year shall remain in said fund and be held in reserve until required for such purposes, or for investment in betterments, additions and extensions as hereinafter provided. Whenever any portion of the plant is replaced or other property substituted therefor, the cost of such replacement or substitution up to the full reproduction cost of the unit or article so replaced or substituted for as fixed by the said valuation, shall be paid out of the maintenance and renewals fund, and any cost in excess of said reproduction cost shall be paid out of monies supplied by the company as hereinafter provided, and the amount thereof shall be added to capital value. In case the cost of any such replacement or substitution shall be less than such reproduction cost or actual cost, as the case may be, or in case any item of property included in said valuation or thereafter added to the plant shall become worn out or be abandoned or sold as hereinabove mentioned, and shall not be replaced or substituted for, then the difference in cost or the full amount of the reproduction cost or the actual cost, or the proceeds of the sale, as the case may be, shall except to the extent that capital value shall be reduced by the proceeds of the sale of land and buildings as hereinabove provided, be appropriated out of the maintenance and renewals fund from time to time with the approval of the commission, for the making of betterments, additions to and extensions of plant, as may be required, and the cost of such betterments, additions and extensions paid from such appropriations shall not be added to capital value.

If at the end of the first year of operation under the contract or at the end of any subsequent year, it shall appear to the satisfaction of the commission that the maintenance allowance herein fixed is insufficient, such allowance shall be increased for the ensuing year and from year to year as may be deemed necessary. If at the close of any year, the commission shall find that the maintenance allowance is excessive or that the maintenance and renewals fund is greater than prudent management of the tramways system required, then the commission may reduce such allowance to any extent which it may see fit, provided that the maintenance allowance shall never be so reduced as to cause a reduction in the maintenance and renewals fund, except temporarily, below $500,000, and in case such fund is, at the end of any year, to be reduced below such sum, then the commission shall forthwith increase the maintenance allowance in an amount sufficient to restore said fund to at least $500,000. Said fund shall be under the control of the commission, and no monies in it shall be paid out or loaned or invested except with the commission's approval. In case the monies in such fund are deposited in bank or invested, the interest thereon, or the revenues derived therefrom shall be added and become a part of said fund.

In case the city shall purchase or acquire the company's property at the termination of this contract, the maintenance and renewals fund, as then existing, shall become the property of the city, and the amount of such fund shall not be added to the purchase price, and any monies then due by the company to said fund, shall be deducted from the purchase price.

4. Return on Capital Value—The capital value of the tramways system is fixed at $36,286,295, said sum including all physical assets added to the system up to Dec. 31, 1919. As its usual return upon capital value so fixed, the company shall receive in quarterly payments out of gross revenues a sum equal to 6% of such capital value. From time to time thereafter, as money is needed for betterments, additions to and extensions of plant, required by this contract or approved by the commission, such money, except to the extent that monies for such purposes are payable at the time from the maintenance and renewals fund, as hereinabove provided, shall be supplied by the company, and the amounts so supplied and actually expended for such purposes under the supervision of the commission, plus net interest expenses during construction, be added to capital value, and the company shall receive out of gross revenues an annual return of 6% on such amount. For such purposes, however, the company shall be obliged to borrow temporarily from monies in the maintenance and renewals fund, except from monies already in that fund for the same purposes, and from the contingent reserve fund and the fare reduction fund, to the extent that in the judgment of the commission, the monies in all or any such fund, are available for loans, and upon monies so borrowed from such funds, the company shall pay into such funds, interest at the rate of 6% per annum. Monies so borrowed shall be reimbursed by the company, when and as ordered by the commission.

Upon all monies supplied for capital expenditures by the company, from other sources than the aforesaid funds, during the continuance of present world war, or within two years after its close, the company shall receive out of gross revenues an additional return of 1% per annum, provided such additional return shall not be paid for a period extending more than 5 years beyond the close of the war

As the capital hereinabove established at $36,286,295 does not include any working capital, it is agreed that any working capital required shall, as and when ordered by the commission, be furnished by the company. Upon such working capital so furnished, the company shall receive a return at the rate of 6% per annum. Should the commission so order, the company shall be obliged, for the purpose of creating or maintaining such working capital, to borrow from any or all the different funds, created by the present contract, in the same manner, and to the same extent, and under the same conditions as hereinabove established, for monies borrowed by the company from said funds for betterment, additions to and extensions of plant.

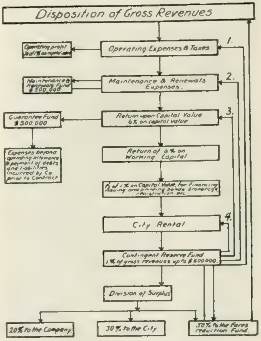
For the purpose of covering the expense to be incurred by the company, in procuring additional capital, the company shall, out of gross revenues, receive annually, $181,431.47, being equivalent to ½ of 1% of $36,286,295, provided said amount is expended solely for the following purposes, viz.: when issuing bonds or debenture stock for discounts, commissions, printing and engraving, exchange, legal and other expenses, incidental thereto; when issuing stock for printing, engraving, transfer and registration fees and listing on stock exchange. Any surplus over and above the said expenditure, and the interest or income therefrom, shall belong to the company, but shall be kept in a special account and shall not be distributed until the termination of this contract.

5. The city shall receive out of gross revenues, over and above all other amounts to which it may be entitled under this contract, or otherwise, $500,000 per annum, during the continuation of this contract, payable quarterly.

6. **Contingent Reserve Fund**—A sum equal to 1% of the gross revenues shall be paid annually into a contingent reserve fund, until such fund, with its accretions shall amount to $500,000, and thereafter no further payments shall be made to this fund, and the accretions thereof shall be paid into and become a part of the gross revenues; provided, that if said fund shall be diminished by any of the contingent payments hereinafter described, the accretions of the fund shall thereafter belong to it, and the payment of said 1% of the gross revenues into said fund, shall be resumed as soon as said percentage is available, and shall so continue until said fund is again restored to the full amount of $500,000. Said fund shall be used whenever it shall be necessary to make up any deficiency in the payments to be made under paragraphs 1 to 4 hereof, inclusive, in the order of priority herein established,—and allowance provided for in said paragraphs 1 to 4 inclusive, and in this paragraph shall be cumulative in the order herein established. Upon the termination of this contract, the company shall repay any monies borrowed from said fund, and not previously repaid, and the total amount then in said fund shall be distributed as follows:—to the city, 30%; to the company, 20%, and to the tolls reduction fund hereinafter established, 50%.

7. **Division of Surplus**—All the portion of the gross revenues remaining after the payment of the charges described in paragraphs 1 to 5 hereof, inclusive, shall constitute the divisible surplus, and shall at the end of each year be distributed as follows:—to the city, 30%; to the company, 20%, and to the tolls reduction fund, 50%. The portions distributed to the city and to the company shall belong to them and may be used or disposed of as they respectively see fit. The tolls reduction fund shall be held in trust for the patrons of the company for the reduction of tolls, and shall be administered by the commission as herein provided.

Fares Reduction—Whenever at the end of any year the amount in the tolls reduction fund shall exceed $1,000,000, the commission may, and whenever the amount in said fund shall exceed $3,500,000, the commission shall reduce the fares or tolls of the tramways system. For the purpose of effecting said reduction, an amount not exceeding 25% of the total amount in such fund, at the close of the year preceding the year when such reduction is to be made, shall be taken out of the tolls reduction fund, and added to gross revenues, and the commission shall thereupon reduce the tolls to an extent that in the aggregate for the year, is at least equal to the amount so taken out of the tolls reduction fund, but does not exceed such amount, plus 75% of the amount which during the last preceding year flowed from gross revenues into the divisible surplus. Thereafter, at the beginning of each year, an amount shall be taken from the tolls reduction fund and turned into gross revenues equal to the amount so taken from said fund at the time of the reduction of tolls; but when the total amount remaining in said tolls reduction fund at the end of any year is less than the amount taken annually from such fund for the increase of gross revenues as above provided, the appropriation from said fund to gross revenues shall for the time being be discontinued, but the tolls shall remain as previously reduced until it shall be necessary as hereinafter provided to increase them. If the tolls reduction fund, in spite of its depletion for such reduction in tolls shall again increase to an amount in excess of $2,500,000, the tolls shall be further reduced in the same manner as before.


Disposition of Gross Revenues
Operating profit ½ of 1% on capital value
Operating Expenses & Taxes
1.
Maintenance & Renewals Fund $500,000
Maintenance & Renewals Expenses.
2.
Guarantee Fund $500,000
Return upon Capital Value 6% on capital value
3.
Expenses beyond operating allowance & payment of debts and liabilities incurred by Co prior to Contract
Return of 6% on Working Capital
½ of 1% on Capital Value, for financing, issuing and printing bonds brokerage, registration etc.
City Rental
4.
Contingent Reserve Fund 1% of gross revenues up to $500,000.
Division of Surplus
20% to the Company.
30% to the City
50% to the Fares reduction Fund.

Principal Features of Montreal Tramways Co.'s Service at Cost Contract.

Insufficient Earnings—If in any year, the gross revenue shall be insufficient to provide for the payment of all sums payable under paragraphs 1 to 5, inclusive, and if the contingent reserve fund, is less than $300,000, the commission shall forthwith, from any monies in the tolls reduction fund, appropriate the amount necessary to bring the contingent reserve fund up to $500,000, all deficits in the payments provided for under paragraphs 1 to 4 hereof inclusive, being made up, or if sufficient monies therefor are not available in said tolls reduction fund, then the commission shall forthwith increase the tolls to the extent necessary to provide at least sufficient gross revenues to meet all the payments provided for under paragraphs 1 to 5 hereof, inclusive.

Fares Reduction Fund Property of the City—At the termination of this contract said tolls reduction fund shall be the property of the city, and any amounts borrowed by the company from said fund, and not previously repaid, shall forthwith, upon the demand of the city, be paid into said fund by the company, and in case of purchase by the city of the tramways system, any amounts then due from the company to said fund, shall be deducted from the purchase price.

Fares Fixed—In conformity with the provisions of the contract the Tramways Commission on June 24, 1918, set the rates of fare as follows:

(a) From midnight to 5 a.m., 15c.
(b) From 5 a.m. to midnight, 6c cash or 5 tickets for 25c.
(c) For school schildren from 5 to 16 years of age, on week days, and between 8 a.m. and 6 p.m., 7 tickets for 25c.
(d) Transfers shall be issued free to school children specified in clause (c), and to all passengers travelling on cars between 5 a.m. and 8 a.m. on week days only. At all other times a transfer shall be issued to any passenger paying his or her regular fare at a charge of 1c.

And the car mile allowance as follows:

Operating expenses and taxes, 22c per car mile for cars equipped with motors and 15c per car mile for trailers.

Maintenance and renewals, 7.9c per car mile for cars equipped with motors and 5.2c per car mile for trailers; for the first period of operation under the new contract.

This decision was appealed and the Quebec Public Utilities Commission rendered its decision on Sept. 29, 1918, fixing the rates as follows:

(a) Day tariff, 6c each or a ticket to be sold at the rate of 5 for 25c.
(b) School children, a ticket to be sold at the rate of 7 for 25c.
(c) Special day tariff of a ticket to be sold at the rate of 6 for 25c. to be good only between 6 and 8 a.m., and 5 and 7 p.m., on week days only.
(d) Night tariff, 15c cash.

Passengers paying fares shall be entitled to a transfer free of charge.

As the Quebec Public Utilities Commission did not fix any allowances per car mile for the expenses of operation as provided for in the contract, the Tramways Commission on Oct. 2, 1918, fixed these as follows:

Operating expenses and taxes, 20.1c per car mile for cars equipped with motors and 13.7c per car mile for trailers.

Maintenance and renewals, 7.33c per car mile for cars equipped with motors and 4.8c for trailers.

This gave an average allowance per car mile for:—

Operating expenses and taxes	19.98c
Maintenance and renewals	7.26c

The actual cost for the 12 months ended June 30, 1919, was:—

Operating expenses and taxes	21.74c
Maintenance and renewals	7.26c

As the company justified before the commission the over expenditures made during the year, the actual cost per car mile was allowed.

The company did not receive the full benefit of the increased rates of fare during the year, as they only became effective from Oct. 3, 1918. The average fare per revenue passenger increased from 4.1c to 4.8c after the new rates came into force.

For the year ended June 30, 1920, the Tramways Commission, by its decision, rendered Aug. 29, 1919, fixed the rates of fare as follows:

Uniform Tariff Territory.

(a) Day tariff—From 5 a.m. to midnight, 7c cash, or a ticket to be sold in series of 4 for 25c.

(b) Special day tariff. A ticket to be sold in series of 5 for 25c to be good only between 6 and 8 a.m., and 5 to 7 p.m. on week days only.

(c) The existing outside night tariff and school children's tariff remain in force.

The per car mile allowance being as follows:

Operating expenses and taxes, 21.[illegible]c per car mile for cars equipped with motors and 17.4c per car mile for trailers.

Maintenance and renewals, 8.54c per car mile for cars equipped with motors and 7.05c per car mile for trailers.

The above decision was appealed against by the city as being too high, and by the company as being too low. Experts from Bion J. Arnold's Chicago office, engaged by the city, were heard and they supported the company's figures. Arguments by counsel for both sides closed on Oct. 2, and judgment will be rendered in the near future, which I feel sure will not be more unfavorable to the company than to confirm the Tramways Commission decision of Aug. 29.

The foregoing paper was read before the American Electric Railway Association, at its convention in Atlantic City recently. Subsequent to its preparation the Quebec Public Utilities Commission gave judgment, on Oct. 14, somewhat modifying the Tramways Commission's decision. This judgment was given in full in Canadian Railway and Marine World for November, pgs. 606 to 608. It modified the Tramways Commission's decision as follows:—

"Day tariff: From 5 a.m. to midnight, 7c cash, or a ticket to be sold in a series of 5 for 30c, or a ticket to be sold in a series of 44 for $2.50, the former series to be purchasable either at the company's offices or such other places as it or the Tramways Commission may fix, or on the cars; the latter to be purchasable only at the company's offices or such places as it or the Tramways Commission may fix and alter from time to time."

Probably the most important point in the Quebec Public Utilities Commission's decision is the abolition of the special day tariff (workmen's tickets), fixed by the Tramways Commission.

The Quebec Public Utilities Commission also revised the Tramway Commission's estimate of expenditure for the fiscal year, from $10,757,303.13, to $11,005,629.24, by adding $248,326.11 for maintenance and renewals, as explained in the judgment.

The Question of Dominion or Provincial Jurisdiction Over the British Columbia Electric Railway.

As stated in Canadian Railway and Marine World for November, the B.C. Public Utilities Commissioner, on Oct. 14, suspended his enquiry into the question of fares on the B.C.E.R., his attention having been drawn to the Dominion Railway Act, 1919, sec. 6 of which is as follows:—

"'The provisions of this act shall, without limiting the effect of the last preceding section, extend and apply to

"'(a) Every railway company incorporated elsewhere than in Canada, and owning, controlling, operating or running trains or rolling stock upon or over any line or lines of railway in Canada either owned, controlled, leased or operated by such company or companies whether in either case such ownership, control or operation is acquired by purchase, lease, agreement or by any other means whatsoever;

"'(b) Every railway company operating or running trains from any point in the United States to any point in Canada;

"'(c) Every railway or portion thereof, whether constructed under the authority of the Parliament of Canada or not, now or hereafter owned, controlled, leased or operated by a company, wholly, or partly within the legislative authority of the Parliament of Canada, or by a company operating a railway wholly or partly within the legislative authority of the Parliament of Canada, whether such ownership, control, or first mentioned operation is acquired or exercised by purchase, lease, agreement or other means whatsoever, and whether acquired or exercised under authority of the Parliament of Canada, or of the legislature of any province, or otherwise, howsoever; and every railway or portion thereof, now or hereafter so owned, controlled, leased or operated shall be deemed and is hereby declared to be a work for the general advantage of Canada.'

On Nov. 7 the Minister of Justice introduced in the House of Commons, bill 41, an act to amend the Railway Act, 1919, as follows:

"1. Paragraph (c) of section 6 of the Railway Act, 1919, chapter 68 of the statutes of 1919, is hereby repealed."

The Minister of Justice, in introducing the bill, said:—"The whole purpose of this bill is to repeal subsec. (c) of sec. 6 of the Railway Act, as passed last session. That section provides, in effect, that any railway which is controlled or operated by a railway which is under the legislative authority of parliament, and any railway which controls or operates a railway which is under the legislative authority of parliament, shall be under the legislative authority of parliament, and all such railways are in general terms declared to be works for the general advantage of Canada. It has been found by experience that the clause overshot the mark at which it was aimed, and that it has produced the result that in certain instances tramways running in cities have come within the wide terms of that article, and have consequently been declared to be work for the general advantage of Canada, with the result that the fixing of their fares becomes a matter for the Board of Railway Commissioners and they are withdrawn from the control of provincial utilities boards and so forth, and in a large measure from municipal control. A special instance that brought attention to this was the case of the British Columbia Electric Ry. Co., which has been running a tramway in Vancouver and Victoria. The particular nature of the contract is not material, but the company does control and operate two very short roads, one of which was originally constructed by the C.P.R. and the other under a Dominion charter. That state of facts brings the tramways under the legislative authority of this parliament, and declares them to be works for the general advantage of Canada. There has been very strenuous objection on the part of the provincial authorities, as well as on the part of the municipal authorities of these cities. I think it is fairly obvious that it is undesirable that by an omnibus clause of that kind we should get tramways running in particular cities declared to be works for the general advantage of Canada and subject to the control of the Board of Railway Commissioners. Perhaps the wiser way, and probably even the only legal way, to make works which are purely local in their nature works for the general advantage of Canada, would be by specific declaration with regard to each work, although I do not want to commit myself absolutely on that proposition at the present time. This bill is to repeal that section, because it is considered that it was not contemplated to produce the results which it has produced, and which are open to serious objection. The section referred to was a new one in the revision of 1919. If my information is correct, what was principally in the mind of those who introduced it was the case of a regular steam railway in the Province of Quebec which had come to be operated in connection with the C.P.R., which it was considered highly desirable, and I think probably correctly so, to bring under the legislative authority of the Dominion and declared it to be a work for the general advantage of Canada. But, instead of proceeding by dealing with a particular railway, the method was taken of defining the whole class of railways as being for the general advantage of Canada, and subject to the legislative authority of Canada, with the result that in the net that was thrown out there were caught a good many fishes for which the fisherman was not looking at all."

The bill was then read a first time and was read a second time Nov. 8. On the motion to go into committee of the whole thereon, F. S. Cahill, M.P. for Pontiac, Ont., after calling attention to the discussion when the section proposed to be struck out, was originally passed, after a strong and persistent advocacy by labor interests, moved that the bill be sent to the railway committee for consideration of clauses suggested by the special railway committee.

The Minister of Justice agreed with much that Mr. Cahill had stated that the reason it was now proposed to repeal this section was that experience has shown that altogether too wide a provision was made when seeking to attain the particular end in view. A notable case that was brought up of the effect of the section as it stands was that the British Columbia Electric Ry., which is operating under lease two small lines of railway, one built by the C.P.R.—the Vancouver and Lulu Island Ry.—and the other built by the B.C.E.R., under the Dominion charter granted to the Vancouver, Fraser Valley and Southern Ry. By reason of the B.C.E.R. so operating those two lines, all the company's lines were withdrawn from British Columbia jurisdiction. This condition of affairs has given rise to very strenuous objection by the B.C. Government, and local authorities. It is also questionable whether it is, under the British North America Act, open to the Dominion Parliament, by general legislation of this kind, describing a class of works, to make every particular work come within the description of that class of work for the general advantage of Canada, without the slightest reference to whether as an actual matter of fact in each particular case it can at as [illegible] he suggested that that [illegible] work is a work for the general advantage of Canada. The remedy for the state of affairs outlined by Mr. Cahill, which had been provided, did not [illegible] the particular [illegible] to being under Dominion [illegible] a large class of works which it [illegible] safely be said, was not in contemplation at all at the time. The present condition called for a remedy.

The amendment was defeated, and the house then went into committee when H. B. Morphy, M.P. for North Perth, Ont., opposed the passing of the bill on the ground that while it was for the benefit of two local railways, it would wipe out of the statute a section which was inserted after a great deal of discussion, and he suggested that an amendment be inserted to the effect that the section should not apply to railways or tramways operated under a provincial charter, or otherwise of a local nature, not coming under the provisions of the Railway Act.

G. B. Nicholson, M.P. for Algoma East, Ont., also spoke in opposition to the bill, whereupon the Minister of Justice, after making some additional references, to the manner on which local railways and electric railways crossing Dominion chartered railways had been dealt with in the past, stated that he would not insist on the bill. Subsequently on his motion the committee rose without reporting; the effect being that the bill was killed.

Increases in Electric Railway Freight and Passenger Rates.

British Columbia Electric Railway—As stated in Canadian Railway and Marine World for November, the enquiry by the British Columbia Public Utilities Commissioner, into the question of whether fares on the company's Vancouver lines should remain at 6c, as authorized by the B.C. Legislature last session until such time as the commissioner should fix a rate, was suspended, owing to the question of jurisdiction having been raised, it being contended that the Railway Act passed by the Dominion Parliament at its first session this year, had transferred jurisdiction over the company from the Province of British Columbia. Following this the B.C.E.R. Co., and the Vancouver Power Co. filed several tariffs with the Board of Railway Commissioners at Ottawa and the board passed order 28,946, Oct. 28, approving, until further order, the company's standard tariffs of maximum tolls, to be charged between points on its lines, other than the Vancouver & Lulu Island and the Vancouver, Fraser Valley & Southern Railways, for which excepted lines standard tariffs had been approved by the board previously. The tariffs thus approved are standard maximum freight mileage tariff C.R.C. 146; standard passenger tariff, or maximum mileage tolls on interurban lines, C.R.C. 9; standard tariff of maximum tolls on street car lines (not including interurban lines), C.R.C. 8, and express tariff C.R.C., no. Ex. 1, and supplement 1, thereto of the B.C.E.R. Co. and the Vancouver Power Co. The principal tariffs are as follows:

B.C.E.R. CO. LTD., AND VANCOUVER POWER CO. LTD.—Standard maximum freight mileage tariff between all stations on the companies' lines (B.C.E.R., [illegible] C.R.C. 146)

[illegible] per 100 lb. governed by Canadian Freight Classification.

[illegible]	1	[illegible]	[illegible]	4	5	6	7	8	9	10
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12	11	9	10	10	7½
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12	11	9	10	10	7½
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12	11	10	11½	10	7½
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11	11½	10	11½	11½	7½
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	16½	14	11½	12½	12½	9
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17½	14	11½	14	12½	9
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17½	16½	14	14	14	10
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19	17½	14	15	15	11½
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19	14	15	16½	11½
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	20	15	16½	17½	12½
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21½	16½	17½	19	14
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21½	16½	17½	20	14
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	26½	[illegible]	17½	19	21½	15
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	27½	[illegible]	17½	19	22½	15
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	29	[illegible]	17½	20	21	16½
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	29	24	17½	20	24	16½
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	30	25	[illegible]	21½	25	16½
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	32½	25	20	21½	25	17½
[illegible]	[illegible]	66	47½	36½	32½	26½	20	22½	26½	17½
[illegible]	[illegible]	[illegible]	[illegible]	37½	32½	26½	20	22½	26½	17½

[illegible] rates for next greater distance.

B.C.E.R. CO. LTD., VANCOUVER POWER CO. LTD.—Standard passenger tariff of maximum mileage tolls to be charged between all stations on the company's [illegible] as specified below [illegible]. Between [illegible] Vancouver and municipality of New Westminster. Between municipality of Vancouver or municipality of New Westminster and points outside the said municipalities on the Central Park line, including Cedar Cottage and 10th Ave. New Westminster. Between points on the Central Park line outside of the municipalities of Vancouver and New Westminster. Between New Westminster station and Chilliwack station on the Vancouver Power Co.'s lines. Between Victoria station and Deep Bay station on the Saanich line, Vancouver Island. The maximum passenger fare between all stations will be 3c per mile or fraction thereof. In estimating the tolls to be charged, any amount not exceeding 2½c shall be waived, and above 2½c, and up to 5c shall be considered as 5c.

B.C.E.R. CO. LTD.—Standard tariff of maximum fares to be charged on the company's street car lines (not including interurban lines), B.C.E.R.

Vancouver—Between any two points both of which are within the municipality 23, C.R.C. 8. Cash fare, 6c per passenger.

Point Grey—Beween any two points on the Oak St. line, within the municipality; cash fare, 6c per passenger. Between any two points on all other lines within the municipality; cash fare, 6c per passenger.

South Vancouver—Between any two points both of which are within the municipality; cash fare, 6c per passenger.

Burnaby—Between Edmonds and New Westminster municipal boundary. Cash fare, 6c per passenger.

Hastings Road line—Cash fare, 5c per passenger.

New Westminster—Between any two points both of which are within the municipality; cash fare, 6c per passenger.

North Vancouver and district—Cash fare, 6c per passenger.

Victoria and surrounding municipalities—Cash fare, 5c per passenger.

Fraser Mills line—Cash fare, 6c per passenger between New Westminster municipal boundary and Fraser Mills.

Brantford and Hamilton Railway-Hamilton Radial Electric Railway — The Board of Railway Commissioners on Oct. 29, reserved decision in the application for an order directing these electric lines to refrain from charging increased fares for pupils attending business colleges in Hamilton, Ont. G. E. Waller, General Superintendent of Railways, Dominion Power and Transmission Co., owning the two lines, is reported to have stated that a line had to be drawn somewhere, and the company had decided to make a distinction between pupils attending schools under government supervision, and those in attendance at business colleges run as commercial enterprises. The company was, however, willing not to charge the increased rates to pupils under 18 years of age.

Fort William Electric Ry.—A press report of Nov. 8, stated that it was announced in Fort William, Ont., that application was about to be made to the Ontario Railway and Municipal Board, for permission to increase the fare on the electric railway within the city to 7c. Alderman G. Macdonald, chairman of the Public Utilities Committee, is reported as denying that the committee had then given the matter any consideration, and as stating that the deficit in the operation of the railway for the year was expected to be $50,000, and that it would not surprise him if fares had to be increased again.

Guelph Radial Ry.—A straight 5c fare was put in operation on this municipally owned railway, at the middle of October, except for children under 10, who are still sold 10 tickets for 25c.

Hamilton St. Ry.—The Hamilton, Ont., City Council's special street railway committee, has, according to a press report, asked the Hamilton St. Ry. to buy 10 new cars, and the company is reported to have said that it is not prepared to do so unless a straight 5c fare is permitted. The committee, at a later date, is reported to be considering this, and various other matters affecting the company, and expects to present a report early in Dec.

London St. Ry.—We are officially advised that Chief Justice Falconbridge did not give a written judgment on the application for quashing the bylaw passed by the London, Ont., City Council, authorizing the London St. Ry. to charge increased fares, but simply stated that the bylaw ought to be quashed and entered judgment accordingly.

As a result of the quashing of the bylaw, the company ceased collecting the increased fares and is now charging only the fares authorized by the original franchise. It subsequently gave notice to its employes that the old scale of wages would be reverted to from Nov. 1. Whether or not the men would go on strike was discussed, and after some negotiation, it was agreed that the increased rate of wages should be paid to Jan. 1.

Another question raised was as to the increased fares collected, and there are reports that actions will be taken against the city council to recover damages. The amount collected in excess of the original franchise fares is said to be about $30,000.

At a meeting of the city council, Nov. 17, it was agreed to take no action on the company appealing the case against the increased fare bylaw, and the clerk was authorized to secure information from the company respecting the service that will be given in return for increased fares so as to submit this in the form of a plebiscite to the electors.

Ottawa Electric Ry. — The Supreme Court of Canada heard arguments, Nov. 17 and 18, in the appeal of the Ottawa Elecric Ry. vs. the Nepean Tp. and others, against the Board of Railway Commissioners' refusal to approve an increased tariff of fares on the Britannia line. The company's application for approval of the tariff came before the board, Nov. 18, 1918, and the hearing of the case was concluded Dec. 2, 1918, judgment being reserved. The judgment, which was given by Sir Henry Drayton, then Chief Commissioner, was published in full in Canadian Railway and Marine World for March, 1919.

The company at once took steps to have the decision reviewed. The following questions were submitted to the court for decision:—Was the board, under the agreements with the city and Hintonburg, and the statutes, right in disallowing the tariff? Does the extension outside the city commence at Holland Ave. or the former westerly limit of Hintonburg? Had the board a right to consider the company's operations as a whole; or must it permit tariffs to be filed on a mileage basis covering services on the Britannia line without reference to the large part of the system covered by municipal agreements? The arguments were concluded Nov. 18, and the court reserved judgment.

Quebec Ry., Light and Power Co.—After having had the matter before it on several occasions, the Quebec City Council passed a bylaw, Nov. 15, authorizing amendments in the company's franchise to permit the charging of increased fares. The new sections in the agreement provide that a fare not in excess of 7c, with transfer privileges, be collected; infants in arms to be carried free; children less than 7 years of age to be charged 3c. Tickets are to be sold 4 for 25c and 17 for $1; children's half fare tickets at 10 for 25c; tickets for school children under 16 years of age, 10 for 25c. Tickets, for male and female employes, good between 6 and 8 a.m., and between 5 and 7 p.m. on all week days, are to be sold at 6 for 25c. These increases are to continue for five years.

It was reported, Nov. 17, that the new tariff will be put in operation within a few days thereafter and that the company would accept outstanding tickets for one month, when those remaining in the hands of the public will be redeemed at their original cost.

Saskatoon Municipal Ry.—Referring to the decision of the Saskatoon, Sask., City Council, to increase cash fares on the Municipal Ry., from 5c to 6c, and to sell tickets at certain rates as mentioned in Canadian Railway and Marine World for November, pg. 671, we are officially advised that there is no intention to increase fares to passengers who buy tickets. In order to popularize the buying of tickets, it has been decided to sell them in stores at 5 for 25c, and on the street cars at 6 for 35c, and to charge a cash fare of 6c. The previous fare was 5c straight, so that to the casual traveller on the lines, or to others who do not buy tickets, it means an increase of 1c.

Winnipeg Electric Ry.—In connection with the temporary increase of fares to 6c, granted by the Manitoba Public Utilities Commissioner, the city solicitor has filed a statement alleging the invalidity of the Public Utilities Act, in connection with the injunction proceedings. The company has filed its defence and also a counter claim, not naming any sum, for damages sustained through not being allowed to collect increased fares when so ordered by the Public Utilities Commissioner. The temporary injunction was granted Oct. 4, and was dissolved Oct. 8, so that the company's claim for damages covers the five days during which it was operative, and in respect of which the city promised to make good any loss sustained in the event of the company's contention being upheld. It was reported, Nov. 11 that the case was not likely to be heard before the new year. It is also reported that the Manitoba Government will take steps at the legislature's next session to make sure that the Public Utilities Act cannot be challenged.

It is reported that the valuator employed to make an appraisal of the company's property for the Public Utilities Commissioner has finished his work, his figures being approximately $20,000,000 against the $26,000,000 valuation placed upon the property by the company.

Proposals for Taking Over Electric Railways by Hydro Electric Power Commission of Ontario.

Dominion Power and Transmission Co.—Reports persist in recurring in Hamilton that negotiations are in progress between the Hydro Electric Power Commission of Ontario and the Dominion Power and Transmission Co., for taking over all that company's interests, and that an appraisal of its property has been made. It was reported Nov. 13 that arrangements for the conclusion of a bargain were approaching completion.

Guelph Radial Ry.—A report on this municipal railway, made by Hydro Electric Power Commission engineers, was presented at a meeting of the Guelph City Council, Nov. 3. It states that $150,000 will be required to put the line in thorough repair, and that under any system of separate operation there will probably be a loss of up to $17,000 a year, but that the line could be made to pay as a feeder to the commission's radial lines. The commission is prepared to take over the line for operation, but the city would have to assume all financial responsibility.

The Guelph Radial Ry. Co., on Nov. 27, received an offer from the Hydro Electric Power Commission of Ontario, to purchase the property, as of July 1, 1920, for $150,000.

Sandwich, Windsor and Amherstburg Ry.—The ratepayers of the City of Windsor, the Towns of Walkerville, Amherstburg, Ford City, Ojibway and Sandwich, and the Townships of Anderdon, Sandwich East and Sandwich West, will vote on Dec. 6, on bylaws and agreements between the various municipalities and the Hydro Electric Power Commission of Ontario, "for the construction, acquisition, equipment and operation of an electric railway under the Hydro Electric Railway Act of 1914, and amendments thereto." Schedule A, attached to the agreement, describes the route of the proposed electric railway as follows:—

Tecumseh-Ford Section—Leaving Tecumseh the line runs northerly along Lesperance Rd. to Riverside Drive, where it turns due west along private right of way to the end of Ottawa Ave., thence along that avenue to the easterly limits of Ford City.

Ford City Section—From the easterly limits of Ford City the line runs along Ottawa Ave., Strabane and Sandwich Sts., to the westerly limits of the municipality.

Walkerville Section—One line extends along Sandwich St. from the easterly to the westerly limits of the municipality. A second line extends along Ottawa St., between Lincoln and Walker Roads. A third line extends from the Essex Terminal Ry. tracks at Walker Rd., northerly to Wyandotte St., and west on Wyandotte St. to the municipal boundary between Walkerville and Windsor. A fourth line extends northerly from Wyandotte along Devonshire, Assumption and Victoria Roads to intersect the first line, above mentioned on Sandwich St.

Windsor City Section—One line extends along Sandwich St. from the boundary of the Town of Walkerville to Elm Ave., and then southerly on the said avenue to London St. A second line extends westerly from the Walkerville boundary on Wyandotte St. to Ouellette Ave. A third line extends southerly on Ouellette Ave., from Sandwich to the race track on Tecumseh Road. A fourth line extends westerly on London St. from Ouellette St. to the western boundary of the city. A fifth line extends southerly on Wellington Ave. from London St. to Tecumseh Road.

Sandwich Town Section—From the easterly boundary of the municipality the line extends westerly to the Springs loop near the Canadian Salt Co.'s plant at the west end of the municipality.

Sandwich-Amherstburg Section—From the Springs loop in Sandwich, the line extends along Bedford St. and Main St., Ojibway, to the River Rd. at Turkey Creek, and then due south along the River Rd. to the Town of Amherstburg, entering that town along Appsley and Richmond Sts.

Schedule B gives the amount of debentures to be issued in connection with the above mentioned lines as follows:

Sandwich East Tp	$ 260,685
Sandwich West Tp	251,570
Anderdon Tp	143,336
Ford City Town	64,582
Walkerville Town	200,940
Sandwich Town	262,173
Ojibway Town	44,315
Amherstburg Town	126,867
Windsor City	745,132
Total	$2,100,000

The agreement gives the commission power to acquire any existing electric lines, to form part of the system, and in that connection it is proposed to acquire the various lines owned and operated by the Sandwich, Windsor and Amherstburg Ry., the routes of which are described in Schedule A, quoted above.

Fort William Municipal Ry.-Port Ar-

thur Civic Ry.—In connection with the suggestion that a way out of the financial difficulties in which the Cities of Port Arthur and Fort William find themselves owing to continued deficits in operating their municipal railways, the two city councils decided recently to have the lines valued by the Hydro Electric Power Commission of Ontario with a view to their being taken over by the commission.

R. G. Sneath, B.A.Sc., of the commission's engineering staff, is reported to have arrived in Fort William, Nov. 20, to make a valuation of the Fort William Municipal Ry. He is reported to have said that he had not any instructions to make a similar valuation of the Port Arthur Civic Ry. as a request had not come from the council of that city.

Electric Railway Notes.

The Montreal and Southern Counties Ry. carried 2,355,236 passengers during the year ended June 30.

The Edmonton, Alta., Radial Ry., put in operation on Nov. 3, a new car schedule on its lines on the south side.

The Ottawa Electric Ry. put in force on Oct. 28, a new schedule on its Britannia line which gives a thorough car from Ottawa every 15 minutes.

The Winnipeg Electric Ry. will, according to a press report, put 8 large steel cars in operation. They are being built in the company's shops.

Winnipeg Electric Ry. employes are reported as contemplating the formation of a local street railwaymen's union and severing the present connection with the international union.

The Stone and Webster Co. of Boston, Mass., is stated to have reported to the Brooklyn Rapid Transit Co.'s receiver that the company will require a fare in excess of 8c in order to pay its operating expenses, and fixed charges, out of its income, before June 30, 1922.

The Brantford, Ont., Municipal Ry. Commission has bought from Preston Car and Coach Co., for its recently completed Terrace Hill line, 2 single truck, double end cars, similar to those already in use on the line. They have Westinghouse 101-B 2 motors, and extra heavy trucks.

The City of Montreal is reported to have entered suit against the Montreal Tramways Co. for $255,672, alleged to be due the city over and above sundry amounts due the company by the city. The amount is made up of charges for snow removal, repairs to pavements, etc.

The Regina, Sask., City Council, on Nov. 7, once more put off consideration of the bylaw to allow of the operation of one man cars on the Regina Municipal Ry. It was announced that a special meeting of the council would be called for Dec. 8, to finally decide the question.

The London and Port Stanley Ry., is, according to a press report, going to buy another electric locomotive for freight work. For this and other purposes, the London City Council is being asked to submit a bylaw to the ratepayers in Jan., 1920, to authorize the issue of $200,000 of debentures.

The Nova Scotia Tramways and Power Co. was reported, Nov. 20, to have ordered 24 new cars for its electric railway service in Halifax, N.S. The cars, it is stated, will be of the single truck type, fitted with air brakes and all modern safety devices. The cars are to be operated by one man, the entrance and exit being at the front.

Donat Matte, while a passenger on a Quebec Ry., Light and Power Co.'s car in Quebec City, Nov. 10, was expostulated with by the conductor for spitting on the floor. Matte assaulted the conductor, and was brought before the Recorder, Nov. 11, on charges of spitting on the car floor, creating a disturbance and with assault. He was fined $20 and costs for the assault and the spitting, and $5 and costs or 8 days imprisonment on the other charge.

The Montreal and Southern Counties Ry., which sometime ago curtailed the service on its line from Montreal, announced a further curtailment to take effect, Nov. 16. Residents along the line protested, and it was announced, Nov. 12, that the proposed reduced schedule of cars would be held in abeyance for further consideration. A press report states that the company will put on some additional trains, so as to bring the schedule as near normal as the traffic warrants.

The Fort William Electric Ry., as a result of a fire at its car barns, Nov. 13, was left with only 5 serviceable cars out of 23 to carry on its service. The Port Arthur Civic Ry. lent 7 cars to Fort William to augment the service. Of the 18 cars damaged by the fire only 2 are repairable, and these are being again put in order. In order to provide the cars requisite, it is reported that a number of the summer cars will be converted into winter cars, and some additional second hand cars purchased.

Stoney Creek, Ont., residents are reported to have asked the Hamilton, Grimsby and Beamsville Electric Ry. to run a car into Hamilton, at an earlier hour than at present. G. E. Waller, Grand Superintendent of Railways, is reported to have stated that such a service would not pay, but if it is desired, and the Saltfleet Township Council will guarantee the actual running expenses of the car, the company will put one on, and that if the traffic develops and pays expenses, the company will continue to operate the car.

The Fort William, Ont., City Council passed a resolution, Oct. 28, calling for a joint meeting of the two inter city committees to take the preliminary steps necessary for submitting to the ratepayers at the municipal elections in Jan., 1920, the question as to whether the two cities, Fort William and Port Arthur, shall unite and be governed by one mayor and one council. The amalgamation of the two cities might bring about a solution of many of the difficulties in connection with their city car lines, and the interurban connecting line, which have at present to be faced.

The Ottawa South Municipal Association on Nov. 13, discussed the car service given that district by the Ottawa Electric Ry., and concluded that there are three solutions of the problem: 1. To buy the line; 2. To extend the system, and 3, to introduce the service at cost system. F. D. Burpee, Superintendent, O.E.R., informed the meeting that with its franchise expiring in 4 years, the company had to give careful considerations to all demands for increased service. The company could not see its way to buy the 15 or 20 additional cars suggested. If 20 additional cars were bought, a new barn would be required for housing them, and additional power would be required for their operation.

Mainly About Electric Railway People.

R. R. Knox, who entered the Winnipeg Electric Ry.'s service in 1893, and had been Traffic Superintendent for 21 years, has been appointed Assistant to the General Manager, and is attached to the Vice President and General Manager's office for special assignments. He had been a member of the Winnipeg School Board since 1908, and was chairman in 1916-1917. He takes an active interest in sports and is President of the St. John's Curling and Lawn Bowling Association.

Alex. McDonald, heretofore in Montreal Tramways Co.'s service, has been appointed Traffic Superintendent, Winnipeg Electric Ry., vice R. R. Knox, appointed Assistant to General Manager.

Lieut.-Col. C. W. McLean, D.S.O., M.P. for Brigg, Eng., who has been appointed a parliamentary secretary to one of the Cabinet Ministers in England, is a son of Brig.-Gen. H. H. McLean, M.P., and formerly President, St. John Ry., St. John, N.B.

W. H. Moore, General Manager, Toronto & York Radial Ry., who received an honorary degree from Laval University a short time ago, addressed the Montreal Young Men's Canadian Club, Nov. 20, urging a better understanding between English and French speaking Canadians.

Sir Alfred Stanley, M.P. for Ashton-under-Lyne, Eng., who resigned the Presidency of the British Board of Trade a few months ago, and who was formerly an electric railway official in the United States, will, it is said, resign his seat in the House of Commons and be offered a peerage.

Ottawa Railway Terminals—N. Cauchon Chairman, Ottawa Town Planning Society, is advocating the electrification of all railway terminals in Ottawa. The electrification system, he says, may not be an immediate possibility, but the moving of the shunting yards outside the city should be done as soon as the government takes over the G.T.R. These yards should be constructed 2 or 3 miles outside the city. A system of freight distribution lines throughout the city would supply the merchants, while the bulk of the heavy work could be done in the outside yards.

Compressed Air for Railway Operation—A press report states that an invention has been submitted to the Italian State Railways for their operation by compressed air. The invention consists of a new method of compressing air by which big central tanks may store enormous power to be distributed to stations along the line by strong pipes. Isambard Brunel, who designed and constructed the Great Western Ry. in England, carried out plans for the operation of the South Devon Ry. by atmospheric pressure in 1844. The system was a failure and was abandoned after a year's trial, the great tower station at Exeter for compressing air remaining until recent years as a monument of an experiment which has not been successful.

The Hydro Electric Power Commission of Ontario's Electric Railway Projects.

While the present activities of the Hydro Electric Power Commission of Ontario are being more particularly directed to the promotion of the Toronto-Whitby-Bowmanville line, and the Hamilton-Elmira-Guelph line, the other projects have not been lost sight of, and preparations for construction work are being pushed forward. The full list of lines projected and centering on Toronto is a formidable one, and when laid out on a map, show that a very large area will be served by them. The lines include, one from Toronto, passing through Guelph, Kitchener and Stratford to London, the bylaws for which were voted on by the municipalities in Jan., 1916, a line from Port Credit, on the first mentioned line to Hamilton and St. Catharines, which was voted on in Jan., 1917, the revote in Hamilton and a couple of other municipalities being taken during this year; a line between Welland and Bridgeburg, on which the votes were taken in Jan., 1917; lines to Stouffville, Port Perry and Whitby, which were voted on in Oct., 1914, the Toronto-Whitby-Bowmanville line, on which some municipalities voted during November, and the Hamilton-Elmira-Guelph line, which will be voted on at the municipal elections in Jan., 1920.

In addition to these projects, which have taken definite shape, reports have been prepared on a line between St. Catharines, Niagara and Welland, which will be issued at an early date. A line has also been surveyed from London to connect with the lines in the Windsor Section. Numerous other surveys have been made of routes for probable lines, but none of these have yet advanced beyond the project stage.

Toronto Eastern Ry. and Connections—In connection with the project for the acquisition of the Toronto Eastern Ry., which is a present practically completed from Bowmanville to Pickering, Ont., and the building of such additional mileage as will give a continuous line from Toronto to Bowmanville, a bylaw will be submitted to Toronto ratepayers at the municipal elections, Jan. 1, to authorize the issue of debentures for $4,328,668 as the city's share of the projected expenditure. Pickering Tp. voted previously in favor of the project and the following municipalities voted approximately during November as follows:

	For	Against
Bowmanville Town	301	9
Oshawa Town	474	97
Scarboro Tp.	464	89
Whitby Town	347	47
Whitby East Tp.	301	44
Whitby West Tp.	158	22

The vote in Darlington Tp. will be taken Dec. 18, and it is expected that the vote in York Tp. will also be fixed for an early date.

In the course of the campaign in connection with the submission of bylaws for the issue of debentures to acquire the Toronto Eastern Ry. and to complete it to various municipalities, Sir Adam Beck is reported to have stated at Brookline, Nov. 11, that the construction and operation of electric railways would enable the commission to gradually reduce the cost of power; to an estimated extent of from $5 to $17 a horse power. Referring to matters connected with the acquisition of certain G.T.R. branch lines for electrification, Sir Adam is reported to have said these might be leased for a long term, probably 99 or 999 years; if a satisfactory lease could be obtained he saw no reason for the commission buying the lines outright. A press report also mentions the probability that some of the Canadian Northern Ry. lines might also be taken over by the Commission and electrified.

In connection with both of these matters, an Ottawa report states that the Dominion Government is quite ready to make a deal as soon as the commission is prepared to talk business on a fair basis. Where the proposed electric lines parallel existing lines owned by the Dominion Government, there would be a disposition to turn the government lines over to the commission at a fair valuation, conditional on the Canadian National Rys. getting the through traffic which might originate on them.

Under the agreement beween the Toronto City Council and commission, the city is to provide a right of way into the city. The entrance is planned over waterfront lands, which are not owned by the City of Toronto, but by the Toronto Harbor Commission. A press report states that the value of this right of way is over $6,000,000. Sir Adam Beck is reported to have said, Nov. 13, that the eastern entrance to Toronto will be from the north, and that the route will be southward, with a terminal on property owned by the Harbor Commission at the foot of Yonge St. The Hydro Electric Power Commission, Sir Adam is reported to have said, proposed to acquire either in whole or in part, the Toronto and York Radial Ry.'s Metropolitan Division, divert it from Yonge St., and carry it down east of Yonge St., to a junction with the entrance of the line from the east.

Hamilton-Elmira-Guelph Line—The report presented Nov. 6, in Galt, at a meeting of repprésentatives of the 17 municipalities interested in the construction of the Hamilton-Elmira-Guelph line, by F. A. Gaby, the commission's Chief Engineer, gave the following particulars as to route, cost, distribution of cost among the several municipalities and estimated receipts:

Estimated Receipts and Expenditure.

Passenger fares	$954,303
Freight and miscellaneous	16,944
Total	$971,247
Operating expenses	$416,342
Maintenance expenses	142,028
	558,370
Interest charges	336,533
	$894,903
Estimated net profit	76,344
	$971,247

Hamilton-Galt-Section — Commencing in Hamilton at a point on the Toronto-Hamilton-Niagara line, 0.75 of a mile west of the terminal at James St., the route extends westerly across Cootes Paradise, along the south side of the marsh and through Dundas Valley to Copetown; crossing the G.T.R. near Copetown the line continues northwesterly to the south end of Galt, entering the city along the Grand River.

Galt-Kitchener Section—Leaving Galt the line follows the general direction of the Grand River and Schneider's Creek into Kitchener.

Kitchener-Elmira Section—From Kitchener the line extends in practically a straight line through Waterloo to Elmira, crossing the line between Waterloo and Woolwich Tp., near Heidelberg station.

Preston-Guelph Section—From a junction located on the Galt-Kitchener section the line will extend through Preston and Hespeler and follow the general direction of the Speed River into the center of the City of Guelph. A spur from a point in this line between Hespeler and Guelph to Puslinch Lake, a distance of nearly 3 miles, will be built at a cost of $95,000.

The estimated cost of building the line and providing rolling stock is $[illegible], which is appropriated among the different municipalities as follows:

Tp. of Ancaster	$[illegible]
Tp. of W. Flamboro	[illegible]
Tp. of Beverly	[illegible]
Tp. of N. Dumfries	[illegible]
Tp. of Waterloo	[illegible]
Tp. of Woolwich	[illegible]
Tp. of Puslinch	[illegible]
Tp. of Guelph	[illegible]
Village of Elmira	[illegible]
Town of Dundas	[illegible]
Town of Waterloo	[illegible]
Town of Preston	[illegible]
Town of Hespeler	[illegible]
City of Hamilton	[illegible]
City of Galt	[illegible]
City of Kitchener	[illegible]
City of Guelph	[illegible]

The following particulars as to gradients, etc., on the projected line were given out in Hamilton, Nov. 22, by the city officials:

Commencing at the proposed Hamilton terminal, the line will extend westerly, south of the Desjardins canal, on a maximum 0.5 grade to Dundas and rise on a 1.8 compensated grade to Copetown, thence northwesterly, via Rockton and Sheffield, to Galt. Provision is made for private right of way, 100 ft. wide, with heavy construction throughout. It is the intention to use the large interurban terminal on James St. North, in Hamilton, that has already been projected for the Toronto-Hamilton-St. Catharines radial line, thus allowing convenient and desirable transfer arrangements at such a point for passengers going in both directions.

The ratepayers of the 17 municipalities named above, will vote at the January elections on bylaws authorizing the issuing of debentures for the amounts placed after their names for the construction and equipment of the line.

London St. Ry. Sale Negotiations—The London, Ont., City Council has been giving considerable attention, either directly or through its [illegible] committee, during the last month to the question of the purchase of the London St. Ry.'s franchise. It is reported that the company has offered to sell out at par, and it is stated that the city will not consider this. It was reported Nov. 14 that a valuation of the property was to be made by Hydro Electric Power Commission of Ontario engineers and that it is not therefore likely that a bylaw to purchase can be prepared so that the electors can vote on it at the municipal elections Jan. 1, 1920.

The Montreal Tramways Co. started, Nov. 1, operating [illegible] cars on the Glen line, running from Westmount station down to James St. It is reported that [illegible] cars will be put in operation on other lines in the city.

The Toronto Ry. has, after somewhat protracted negotiations, agreed to provide special badges for [illegible] to enable them to ride free on the cars.

Electric Railway Projects, Construction, Betterments, Etc.

Brantford Municipal Ry.—We are officially advised that the Terrace Hill line at Brantford, Ont., which has been completed and put in operation recently, serves a portion of the city that previously had no service, and also gives connection with a number of factories. It commences at the corner of Colborne St., runs up Murray St. to Elgin St., along Elgin St. to West St., along West St. to Dundas St., and along that street to St. Paul Ave., a distance of 10,400 ft. It is the Brantford Municipal Ry. Commission's intention as soon as the subway under the G.T.R. tracks at St. Paul Ave. is opened up, to continue the line down St. Paul Ave. to meet Brant Ave. The line is single track, with turnouts; laid with 80 lb. A.S.C.E. rails, 60 ft. lengths; on a ballast foundation; cedar ties, and gas weld bonds. The overhead work consists of 4% trolley wire carried on cedar poles.

Approximately 3,000 ft. of new track has been laid in West Brantford, but this will not be put into operation until a new bridge has been erected. (Nov., pg. 612).

Calgary Municipal Ry.—Commissioner Graves is reported to have stated recently that the proposed change of the Ogden line was undecided. It is proposed to take the line from the Sewer Pipe Co.'s plant straight across the prairie to a little east of the Canadian Malting Co. plant and from there it would parallel the C.P.R. to the bridge, and follow the same route as at present for the rest of the way.

Residents of Tuxedo district waited on the city commissioners, Oct. 31, to ask that the Tuxedo line be extended northeast to Fortieth Ave., thence west to Centre St., and to go back to the city that way. Commissioner Graves pointed out that this would necessitate the construction of 2 miles of new track, and Commissioner Samis suggested that rather than go to the expense of extending and maintaining the public utilities, the city should provide a house moving outfit and move the houses in the suburbs closer in. The Tuxedo ratepayers stated that if the extension asked for could not be granted, they would prefer to have the line left as at present, rather than that a suggested alteration should be made. (Nov., pg. 612).

Cape Breton Electric Co.—C. C. Curtis, General Manager, met a committee of the Sydney, N.S., City Council, recently, and informed it, that in view of the present situation of the tramway industry, and the Cape Breton Electric Co. in particular, it was impossible to make any extensions of lines in Sydney at present. He stated that the extension on Victoria Road, which had been asked for in particular, would be a convenience. Alderman McLeod suggested that a loop from the Dominion St. line would give the necessary accommodation. (Feb., pg. [illegible]).

Fort William Electric Ry.—The car barns at Fort William, Ont., valued at $85,000, were destroyed by a fire of unknown origin Nov. 13. The city council has decided to restore the damaged buildings at once. About 100 ft. of brick wall will have to be torn down and rebuilt; new steel girders put in to replace those twisted by the heat, a new roof will have to be put on, and all the internal wood work replaced. (Nov., pg. 612).

Grand River Ry.—The Board of Railway Commissioners has been asked for approval of a diversion of the company's line through Waterloo Tp., and the City of Kitchener, Ont. (Oct., pg. 553).

Grand River Ry.—In connection with recent press reports that the company proposed to abandon street operation in Galt, Ont., we are advised that the company's franchise expires in 1921, and that a renewal of it is not being pressed for. The company does not operate a street railway service in Galt in the ordinary sense of the term, and it is considered that the public can be better served by a line on private right of way than by one on the public street. The city has asked certain terms for a renewal of the franchise for 25 years. The matter is under consideration and no definite decision has been reached. (Oct., pg. 553).

Levis County Ry.—The Quebec Public Utilities Commission heard a complaint of the municipality of St. Romuald against the company recently. It is stated that the track level was to be changed in certain places, particularly in front of the St. Romuald city hall, and the municipality claims that the work has not been completed. One of the questions at issue was as to whether the company or the municipality was to pay for the work. The commissioners inspected the track in question, Oct. 29. (Nov., pg. 612).

London and Port Stanley Ry.—The commissioners are reported to have decided at a meeting Nov. 17, to ask the London City Council for authority to spend $218,000 on permanent improvements at London, St. Thomas and Port Stanley as follows:—$95,000 for an electric locomotive and 3 new cars; $16,500 for new car barn at London, $9,500 for scales for weighing cars and $7,000 for additions to shops, the balance being for general betterment work. Sir Adam Beck explained that the money may not all be spent next year, but that it is necessary to have the permission of the people to spend it. At a meeting of the city council in the evening the commissioner's request was referred to no. 1 committee for consideration.

Montreal and Southern Counties Ry.—We are officially advised that the following works are being done: Renewal of one mile of track on Victoria Ave., Montreal South, and at Montreal terminals; construction of loop line and connections with Montreal Tramways Co. at corner of Youville and McGill, and Common and McGill Sts. (May, 1918, pg. 211).

Montreal Tramways Co.—A press report states that an extension of the company's lines through Beaumont, Bremner and Ball Sts., in the Park Ave. district, is being asked for, and that the city commissioners are urging the Montreal Tramways Commission to order the company to start the work next spring. (Sept., pg. 501).

Niagara, St. Catharines and Toronto Ry.—D. B. Hanna, President Canadian National Rys., and E. W. Oliver, Superintendent, Niagara, St. Catharines and Toronto Ry., met the St. Catharines, Ont., City Council, Oct. 29, to discuss a renewal of the company's franchises. Mr. Hanna told the council that part of the local development proposed included the building of a new station on St. Paul St. W., at an estimated cost of $50,000 and the building of a line along Carlton St. to connect the Lake St. line with Ontario St.

In reply to a question as to the probability of the present lines becoming part of the hydro electric railway system being organized by the Hydro Electric Power Commission of Ontario. Mr. Hanna stated that the whole question of the H.E.P.C.O. taking over electric lines would be dealt with at one time at a later date. At present the Canadian National Rys. board was simply concerned with getting local franchises renewed so that they oculd proceed with the development of the system on its own account.

An extension of the franchises to 1937 is asked. A further conference on the matter will be held. (June, pg. 324).

Nova Scotia Tramways and Power Co.—The Halifax, N.S., City Council agreed, Nov. 6, to the company laying a temporary track across the common, in connection with the extension of the line between Gottingen and Windsor Sts. This will enable the line to be put in operation this year. The laying of a concrete bed for the tracks, and the paving of the roadway will be stone later. (Nov., pg. 612).

Ottawa Electric Ry.—F. D. Burpee, Superintendent, waited on the Ottawa Board of Control recently, and asked permission to lay a second track on Bell Ave., from Raymond St. to the terminus at Ernest St. The matter was referred to the Works Commissioner for investigation and report. (Nov., pg. 612).

Quebec Ry., Light and Power Co.—We are officially advised that the company has under construction a line in Limoilu Ward, from 3rd Ave. along 10th St., to the Canadian Northern Ry. tracks, on Beauport Road, about 1,400 ft. The route was described in Canadian Railway and Marine World for June, pg. 324. (July, pg. 392).

In connection wtih the increase of fares granted by the Quebec City Council, Nov. 15, referred to elsewhere in this issue, the agreement provides for an extension of the car service in Belvedere Ward; the extension of tracks on Beauport Road, the operation of a line from Stadacona to the line on Dorchester St., over the Lavigueur bridge; a direct line from Domaine Lariet to Crown St.; a line from Lamontagne Ave., to Commissioners St. and a subway under the Canadian Northern Ry., tracks at Beauport St. This latter work is to be done under the Board of Railway Commissioners' supervision and the Q.,R.L.& P. Co. is to pay one-third of the cost.

Saskatoon Municipal Ry.—A press report states that the Saskatoon, Sask., City Council has decided to extend the Twentieth St., line to the north side of Avenue H., at an estimated cost of $1,818. (April, pg. 208).

Sherbrooke Ry. and Power Co.—We are officially advised that under its new agreement with the Sherbrooke, Que., City Council, the company has built a second track on its line from Strathcona Square along Wellington St. to King St., and for 200 ft. east on King St. An extension of the lines in the West Ward, provided for in the agreement, was started Sept. 15, and the work is expected to be completed in June, 1920. (Nov., pg. 612).

Toronto Civic Ry.—The Toronto board of control has decided to recommend that the city council apply to the Ontario Legislature for authority to issue $160,000 of debentures for building of a second track on the West Bloor St. line from Quebec Ave. to Runnymede Rd., without seeking the approval of the ratepayers thereof.

Toronto Ry.—The Ontario Railway and Municipal Board has directed that the company commence the construction of the long projected car line on Pape Ave., not later than April 15, 1920, and complete it by July 15.

Waterloo-Wellington Ry.—A press report of Nov. 18, stated that an offer had been submitted to W. H. Brenthaupt, President, Waterloo-Wellington Ry., to the Mayor of Guelph, Ont., for the building of a line from Kitchener to Guelph, passing through Bridgeport, Bloomingdale, New Germany, and Marden, and entering Guelph over the Elora Road, 15.5 mile. The estimated cost of the line is $280,000, and it is suggested that the cities of Kitchener and Guelph should each guarantee bonds for $140,000.

The Waterloo-Wellington Ry. was originally the Berlin and Bridgeport Ry., a title which was changed in 1912 to the Berlin and Northern Ry., and again in 1918 to the Waterloo-Wellington Ry. The company has 3.5 miles of line from Kitchener to Bridgeport, Ont. It has power to extend its line from Bridgeport to Elora and Fergus. Negotiations were in progress recently with the City of Kitchener for the sale of the line. (Oct., pg. 533).

Winnipeg to Rice Lake, Man.—A press report states that an electric power line will be built from Winniueg to the Rice Lake mining district, to supply power to the mines, and that possibly an electric railway will be built in connection. The Bruce Consolidated Mining Co. is reported to be interested.

Electric Railway Finance Meetings, Etc.

Cape Breton Electric Co.—

	Aug., 1919	Aug., 1918	12 mons. to Aug. 31, 1919	12 mons. to Aug. 31, 1918
Gross	$50,926.78	$44,716.17	$566,918.04	$495,112.55
Expenses	38,022.50	33,745.61	436,124.19	356,036.62
Net	12,904.28	10,970.56	130,793.85	139,075.93

Hamilton St. Ry.—The Hamilton, Ont., City Treasurer received $19,030.36, Nov. 11, as the city's percentage on the company's receipts for the quarter ended Sept. 30. The percentage for the corresponding quarter of 1918 was $17,810.83. The receipts on which the percentage is calculated, were, for the three months ended Sept. 30, $221,880.04.

The Nova Scotia Tramways and Power Co., has applied to the Nova Scotia Public Utilities Commission for power to issue new securities for $440,000, the proceeds to be used, according to a press report, to pay for Dartmouth Electric Light and Power Co.'s property, $104,586; to defray engineering expenses, $280,147, and legal expenses, $56,217.

Regina Municipal Ry.—City Commissioner Thornton, in a report on the financial condition of the civic public utilities, recently stated, with reference to the street railway department, that he believed that by the end of the year the financial showing would be well within the estimates, though at the time, the deficit was higher than the proper proportion of the year's estimate. During the previous two weeks the earnings had been sufficient to provide for all expenses, including overhead charges.

The deficit on the operation of the street railway department for the nine months, ended Sept. 30, according to the city auditor's report, was $25,753.92.

St. Thomas Street Ry. (Municipal)—

	Oct., 1919
Receipts	$1,707.53
Operating expenses	2,050.74
Power	312.76
Deficit	655.97

Toronto Civic Ry.—	Oct., 1919	Oct., 1918
Revenue	$11,374.79	$25,313.30
Passengers carried	2,457,091	1,497,595

Regina Municipal Railway's Financial Position.

The Regina, Sask,, City Commissioners, H. Black and L. A. Thornton, reported recently on the city finances for the 10 months ended Oct. 31. Referring to the municipal railway, they said:

"The financial status of this utility shows a steady improvement in spite of greatly increased opperation costs as regards both labor and material. The utility will finish the year within its estimate, which provided for a deficit of $27,900. The deficits for the years 1914-15-16-17 and 1918, were $95,752.42, $109,755, $76,145.03, $63,912.19 and $67,407.21 respectively. With the end of the war and the population on the increase traffic conditions will soon demand better service on some lines which will call for more cars. The following table indicates concisely the improvement in the operating statements as compared with former years. The figures for 1916, 1917 and 1918 are actual and for 1919 are based on the actual results for 10 months increased proportionately to cover the whole year:

	1919	1918	1917	1916
"Revenue	$323,546.00	$248,637.76	[illegible]	[illegible]
"Expenditures	253,546.00	218,459.09	[illegible]	[illegible]
"Operations surplus	70,000.00	30,178.67	32,154.47	[illegible]
"Fixed charges	97,911.00	97,585.88	96,066.66	[illegible]
"Deficit	27,900.00	67,407.21	63,912.19	76,145.03

The interim balance sheet signed by the city auditors, and accompanying the commissioners' report, gave the following figures:—

Revenue.	
Fares, advertising, etc	$258,362.42
Balance net deficit	26,985.89
	$285,348.31
Expenditures.	
Operating expenses	$203,755.61
Fixed charges	81,592.70
	$285,348.31

The New Brunswick Power Co. and the City of St. John.

Under an act passed by the New Brunswick Legislature in 1918, a commission was appointed by the government to investigate matters relating to the New Brunswick Power Co., owning the electric railway, etc., in St. John. The commission decided, among other things, that the original cost of the company's properties used, Jan. 1, 1919, in railway, gas, electric light, and power service, was $2,800,000. The correctness of this finding having been questioned, an act was passed at the legislature's last session referring the matter to the N.B. Court of Appeal, to determine whether or not the commissioner's finding was justified by the evidence before them, and if not, then to determine what amount should have been found as the original cost of the property. The case was first on the list for the court's sittings, which opened in Fredericton, Nov. 11, but by consent of counsel was postponed.

Electric Ry. Employes' Wages, Working Conditions, Etc.

British Columbia Electric Ry. — The Board of Conciliation, appointed Sept. 29 to deal with wages, etc., of employes, represented in the Vancouver, New Westminster and Victoria divisions of the Amalgamated Association of Street Railway Employes of America, filed a unanimous report, Oct. 25, signed by H. A. Stone, Chairman; T. W. Fletcher, representing the company and T. Coughlin, representing the men. The report is divided into three parts: 1, Wages; 2, Cost of living; 3, Working conditions. The award fixes the wages of conductors and motormen, and other employes engaged in the operation of cars as follows, per hour:

City lines.	New rate	Old rate
First 6 months	[illegible]	[illegible]
Second 6 months	[illegible]	[illegible]
Third 6 months	[illegible]	[illegible]
Thereafter	[illegible]	[illegible]
Interurban lines.		
First 6 months	[illegible]	[illegible]
Second 6 months	[illegible]	[illegible]
Third 6 months	[illegible]	[illegible]
Thereafter	[illegible]	[illegible]
Freight.		New rate
First 6 months		[illegible]
Second 6 months		[illegible]
Third 6 months		[illegible]
Thereafter		[illegible]
Passenger brakemen.		
First 6 months		[illegible]
Second 6 months		[illegible]
Third 6 months		[illegible]
Thereafter		[illegible]
Brakemen, freight		[illegible]
Trolleymen		[illegible]

The increases in the other departments very from 3c to 7c an hour The board considered the position of the men employed on the Sandwich Division, and those of the 16th St. yards as outside their jurisdiction. The award has been accepted by the company and the employes.

London St. Ry.—See under "Increases in Electric Railway Freight and Passenger Rates."

Winnipeg Electric Ry.—We are officially advised that the company informed its employes, Oct. 22, that it was prepared to accept the Mathers' award and pay the rate of wages therein specified as long as it is permitted to collect the increased fares authorized by the Public Utilities Commissioner's temporary order. The arrears of increased pay from June 1 to the date of the award which are said to have amounted to about $60,000, are reported to have been paid on Nov. 12.

The Saskatoon, Sask., Municipal Ry., has, we are officially advised, effected an exchange with the Calgary, Alta., Municipal Ry. of 6 double truck cars for 7 single track cars. From three of the double truck cars two motors and one controller were removed. The single track cars are to be repainted, both inside and out, and are to be forwarded to Saskatoon as soon as completed, ready for running, and the double track cars are to be sent to Calgary in their present condition. Both sets of cars were purchased by the respective cities in 1913. The reason Saskatoon is getting rid of its double truck cars is due to the fact that they cannot be operated over the steel traffic bridge across the Saskatchewan River, that bridge not being capable of carrying such a load.

Marine Department

Canadian Government Merchant Marine, Ltd., Shipbuilding, Operation, Etc.

Orders for Steamships—The acting Minister of Marine, Hon. A. K. Maclean, gave the following information in the House of Commons, Nov. 3, in answer to an enquiry by J. H. Sinclair, M.P. for Antigonish and Guysborough, N.S. Fifty-three steel cargo steamships had then been ordered by the Marine Department for Canadian Government Merchant Marine Department for Canadian Government Merchant Marine Ltd.; 13 had been delivered and were in service, 8 more had been launched and would be in service in a few weeks thereafter. The last contract then given was on Sept. 30, to Canadian Vickers Ltd., for 33,400 d.w. tons. (Editor's note, 4 ships of approximately 8,350 d.w. tons each) at $170 a ton. They are to be delivered June 15, July 31, Oct. 15, and Nov. 1, 1920, respectively.

Following are particulars of orders for steamships for which authority has been given by order in council in addition to those referred to by Canadian Railway and Marine World in previous issues:—

Marine Department contracts 50 to 53, both inclusive, dated Sept. 30; four steel cargo steamships; builder, Canadian Vickers Ltd., Montreal; builder's yard nos. 77 to 80, both inclusive; approximately 8,350 d.w. long tons each, at $170 a ton, approximate launching dates May, June, Sept., and Oct., 1920, approximate delivery dates, June, Aug., Oct., and Nov., 1920. The keels for builder's yard nos. 77 and 78, will be laid before the end of December, and for builder's yard nos. 79 and 80, next spring.

One steel cargo steamship; builder, Midland Shipbuilding Co., Midland, Ont., approximately 3,950 long d.w. tons, at $180 a ton.

Two steel cargo steamships; builder, Wallace Shipyards Ltd., North Vancouver, B.C., approximately 8,350 d.w. long tons each, at $167.50 a ton.

The foregoing are all the orders which had been officially announced as decided on up to Nov. 21, but it is probable that some more orders will be placed in the near future, which in addition to the 56 already ordered, will bring the total up to 60 or more.

The Nova Scotia Steel and Co., New Glasgow, N.S., which is building 2 steel cargo steamships of approximately 2,800 d.w. tons each for Canadian Government Merchant Marine Ltd., has been negotiating for approximately 5,100 d.w. tons.

Deputations from Collingwood and Kingston interviewed the Minister of Marine recently to urge the giving of further orders for steel cargo steamships to Collingwood Shipbuilding Co., which has plants at both those places. A member of the deputation expressed the opinion after the interview that orders would probably be secured for 2 more ships.

J. J. Coughlan, of J. Coughlan and Sons, Vancouver, B.C., has been in Ottawa for some little time with a view to obtain orders for 2 steel cargo steamships of approximately 8,100 d.w. tons each, in addition to the 4 of that size which they are already building for Canadian Government Merchant Marine Ltd.

Harbour Marine Co., Victoria, B.C., which has orders for 2 steel cargo steamships for Canadian Government Merchant Marine Ltd., is endeavoring to obtain orders for 2 more.

A Victoria, B.C., press dispatch of Nov. 6 said it was reported there that the Dominion Government planned to give contracts to British Columbia shipyards for building 50 wooden schooners. We are officially advised from Ottawa that the government has never given any contracts for wooden schooners, and that its programme does not include any for the future.

Oil Fuel—The question of equipping the 4 steel cargo steamships of approximately 8,350 d.w. tons each, which were ordered by the Marine Department from Canadian Vickers Ltd., for Canadian Government Merchant Marine Ltd., on Sept. 30, to use fuel oil instead of coal, is being considered by the Marine Department.

Keels Laid—Since Canadian Railway and Marine World for November was published, we have been advised of the laying of the following keels for steel cargo steamships for Canadian Government Merchant Marine Ltd.

S.s. Canadian Farmer, Marine Department contract 46; builder's yard no. 65; approximately 3,950 d.w. tons; Collingwood Shipbuilding Co., Collingwood, Ont.; Sept. 3, 1919.

S.s. Canadian Observer; Marine Department contract 47; builder's yard no. 66; approximately 3,950 d.w. tons; Collingwood Shipbuilding Co., Collingwood, Ont.; Sept. 12, 1919.

S.s. Canadian Thrasher; Marine Department contract 43; builder's yard no. 2; approximately 8,100 d.w. tons; Prince Rupert Drydock & Engineering Co., Prince Rupert, B.C., Oct. 20.

S.s. Canadian Forester, Marine Department contract 16; builder's yard no. 8; approximately 5,100 d.w. tons; Tidewater Shipbuilders Ltd., Three Rivers, Que., Nov. 1.

Marine Department contracts 48 and 49; builder's yard nos. 10 and 11; two ships of approximately 3,500 d.w. tons each; Dominion Shipbuilding Co., Toronto, Nov. 8.

S.s. Canadian Prospector; Marine Department contract 37; builder's yard no. 14; approximately 8,100 d.w. tons; J. Coughlan & Sons, Vancouver, B.C., in September.

Names of Steamships—Since the last list of names chosen by the Marine Department for steel cargo steamships for Canadian Government Merchant Marine Ltd., was published in Canadian Railway and Marine World, we have been advised of the following additional ones.

Canadian Artificer; Marine Department contract 48; builder's yard no. 10; approximately 3,500 d.w. tons; Dominion Shipbuilding Co., Toronto.

Canadian Engineer; Marine Department contract 49; builder's yard no. 11; approximately 3,500 d.w. tons; Dominion Shipbuilding Co., Toronto.

Canadian Victor; Marine Department contract 50; builder's yard no. 77; approximately 8,350 d.w. tons; Canadian Vickers Ltd.

Canadian Conqueror; Marine Department contract 51; builder's yard no. 78; approximately 8,350 d.w. tons; Canadian Vickers Ltd., Montreal.

Canadian Commander; Marine Department contract 52; builder's yard no. 79; approximately 8,350 d.w. tons; Canadian Vickers Ltd.

Canadian Leader; Marine Department contract 53; builder's yard no. 80; approximately 8,350 tons; Canadian Vickers Ltd.

Launchings of Steamships—Since Canadian Railway & Marine World for November was issued we have been advised of the following launchings:

S.s. Canadian Gunner; Marine Department contract 12; builder's yard no. 64; approximately 3,750 d.w. tons; Collingwood Shipbuilding Co., Collingwood, Ont.; Oct. 4.

S.s. Canadian Rancher, Marine Department contract 14; builder's yard no. 6; approximately 5,100 d.w. tons; Tidewater Shipbuilders Ltd., Three Rivers, Que.; Nov. 1.

S.s. Canadian Spinner; Marine Department contract 27; builder's yard no. 71; approximately 8,350 d.w. tons; Canadian Vickers Ltd., Montreal, Nov. 8, 1919.

S.s. Canadian Planter; Marine Department contract 28; builder's yard no. 72; approximately 8,100 d.w. tons; Canadian Vickers Ltd., Montreal; Nov. 22.

Delivery of Steamships—In addition to the steamships mentioned in Canadian Railway and Marine World previously, the following have been delivered to the Marine Department by the builders, and were transferred to Canadian Government Merchant Marine Ltd., for operation, on the dates mentioned.

Oct. 29, s.s. Canadian Adventurer; Marine Department contract 19a; builder's yard no. 41; approximately 3,400 d.w. tons; Port Arthur Shipbuilding Co. She sailed from Montreal, Nov. 14, with general cargo for St. John's, Nfld.

Nov. 6, s.s. Canadian Gunner; Marine Department contract 12; builder's yard no. 64; approximately 3,750 d.w. tons; Collingwood Shipbuilding Co. She was loaded at Montreal for Trinidad and Demerara.

Nov. 15, s.s. Canadian Aviator; Marine Department contract 6; builder's yard no. 101; approximately 5,100 d.w. tons; Wallace Shipyards Ltd., North Vancouver, B.C., builders. She was loaded with a cargo of lumber for the United Kingdom.

Nov. 18, s.s. Canadian Sower, Marine Department contract 20A; builder's yard no. 42; approximately 3,400 d.w. tons; Port Arthur Shipbuilding Co., Port Arthur Shipbuilding Co., Port Arthur, Ont., builders.

Officials Appointed—J. W. Corbett has been appointed Purchasing Agent, C.G. M.M., at Montreal.

J. P. Doherty has been appointed Port Agent, C.G.M.M., at St. John, N.B. He was for some years with the Allan Steamship Co., then with Canadian Pacific Ocean Services Ltd., and during the last year with the C.P.R.

Alex. Hector has been appointed Port Agent, C.G.M.M., at Halifax, N.S. He was formerly in the Intercolonial Ry. Service, then with the Halifax & Southwestern Ry., and when that company's office was closed in Halifax, he was transferred to the Canadian National Rys.

Officers of Steamships—The following officers, appointed by Canadian Government Merchant Marine Ltd., in addition to those mentioned in Canadian Railway and Marine World for October. The first column contains the name of the vessel, the second that of the captain, and the third, that of the chief engineer:

Canadian Ranger	Wm. Bradley	R. Blair

Operating Results—An Ottawa press dispatch credited the Minister of Marine with having stated, to a Collingwood, Ont., deputation, which waited on him on Nov. 7 to secure further orders for steel cargo steamships for the Collingwood Shipbuilding Co., that the business done by the ships built for, owned by, and operated by the government, through Canadian Government Merchant Marine Ltd., under the Canadian National Rys. management, was so remunerative that the net profit from their operation during their first year, would repay their cost price, that if the government desired to dispose of them it could do so at a profit, that all the ships built for the government on the Great Lakes, and placed in ocean service, had been booked for full cargoes until June next, and that if the government had not possessed a number of ships to carry products to foreign countries, Canadian trade would have been seriously hampered during this year. We are officially advised that Mr. Ballantyne did no state that the ships would repay their cost out of the first year's operation, but that what he did say was that during war time this could easily have been done and that they are doing very well at the present lower rates.

Offers for Steamships—The Gulf of St. Lawrence Shipping Co., Quebec, Que., made an offer to the Marine Department for the 2 steel cargo steamships of approximately 2,800 d.w. tons each, which are being built by Nova Scotia Steel Co., but it was declined.

The British American Shipbuilding Co., Welland, Ont., is building 2 steel cargo steamships, of approximately 4,350 d.w. tons, under orders from the Marine Department, for Canadian Government Merchant Marine Ltd., viz.: Canadian Otter and Canadian Squatter; Marine Department contracts 44 and 45; builder's yard nos. 4 and 5. The keel for s.s. Canadian Otter was laid Mar. 29, and the keel for s.s. Canadian Squatter was laid July 14. It is expected that the former will be launched early in 1920.

Canadian Vickers Ltd., Montreal, launched the s.s. Canadian Spinner; Marine Department contract 27; builder's yard no. 71; approximately 8,350 d.w. tons; on Nov. 8, the christening being performed by Mrs. Alex. Johnston, wife of the Deputy Minister of Marine, during which music was rendered by the company's employes' orchestra. This is the seventh steamship built by the company for Canadian Government Merchant Marine Ltd. The chief details are: length, 400 ft.; breadth, moulded, 52 ft.; depth, moulded, 31 ft.; i.h.p., 3,000.

On Sept. 30 the Marine Department gave Canadian Vickers Ltd., contracts for 4 more steel cargo steamships of approximately 8,350 d.w. long tons each, at $170 a ton; Marine Department contracts 50 to 53, both inclusive; builder's yard nos. 77 to 80, both inclusive. We are advised that the keels for ships, builder's yard nos. 77 and 78 will be laid before the end of December and for ship builder's yard nos. 79 and 80, next spring.

Canadian Vickers Ltd. launched the s.s. Canadian Planter; Marine Department contract 28; builder's yard no. 72; approximately 8,100 d.w. tons; Nov. 22; the christening being performed by Mrs. W. J. Alderson, wife of Lloyd's Surveyor for the Port of Montreal.

Collingwood Shipbuilding Co., Collingwood, Ont., launched the s.s. Canadian Gunner; Marine Department contract 12; builder's yard no. 64; approximately 3,750 d.w. tons; Oct. 4 and delivered her to the Marine Department, Dec. 6, when she was transferred to Canadian Government Merchant Marine Ltd.

Details of the Different Types of Steamships for Canadian Government Merchant Marine Ltd.

The following are comparative details of the seven different types of steamships being built for Canadian Government Merchant Marine Ltd.:

	2,800 ton.	3,400 ton.	3,750 ton.	4,300 ton.	5,100 ton.	8,100 ton.	10,500 ton
Length, overall	280 ft.	260 ft.	260½ ft.	333 ft. 7 ins.	344 ft.	413 ft. 1 in.	415 ft.
Length, bet. perpendiculars	270 ft.	251 ft.	251 ft.	320 ft.	331 ft.	400 ft.	430 ft.
Breadth, moulded	38 ft.	43½ ft.	43½ ft.	44 ft.	46½ ft.	52 ft.	56 ft.
Depth, moulded	20½ ft.	23 ft.	26 ft.	25 ft.	25½ ft.	31 ft.	38 ft.
Draft, loaded	17¼ ft.	20 ft.	22 ft. 2 in.	21 ft. 2 ins.	21 ft. 8 ins.	25 ft. 1 in.	29 ft.
Type	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	Lake, s.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	S.d., p.b. & f'c's'le	2d., p.b. & f'c's'le	3d., p. & f'c's'le
Engines—Type	Tri-compound	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion
Cylinders, diar.	17½ x 28¾ x 47 ins.	20½ x 34 x 56 ins.	18 x 30 x 50 ins.	25 x 41 x 67 ins.	25 x 41 x 68 ins.	27 x 44 x 73 ins.	29½ x 50 x 80 ins.
Stroke	33 ins.	40 ins.	36 ins.	45 ins.	45 ins.	48 ins.	54 ins.
Ind. h.p.	875	1,300	1,200	1,800	2,500	3,000	4,000
Boilers—Type	Single ended	Single ended	Single ended	Single ended	Single ended	Single ended.	Single ended
No.	2	2	2	2	3	3	4
Diar. and length	12¾ x 10¾ ft.	15 x 11 ft.	14 x 10¾ ft.	15½ x 11½ ft.	14 x 11½ ft.	15½ x 11½ ft.	15½ x 11¾ ft.
Working pressure	185 lbs.	190 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.
Furnaces—No.	2	6	6	6	9	9	12
Grate surface	80 sq. ft.	135 sq. ft.	100 sq. ft.	132 sq. ft.	156 sq. ft.	198 sq. ft.	270
Heating surface	3,000 sq. ft.	4,670 sq. ft.	3,900 sq. ft.	5,162 sq. ft.	7,275 sq. ft.	7,743 sq. ft.	10,[illegible]00 sq. ft.
Speed	8½ knots	9 knots	9 knots	11 knots	11 knots	11 knots	12 knots
Classification	Lloyd's	Lloyd's	Brit. Corp.	Lloyd's	Lloyd's	Lloyd's	Lloyd's

The company laid keels as follows for the 2 steel cargo steamships of approximately 3,750 tons each, ordered from it by the Marine Department Sept. 11, for Canadian Government Merchant Marine.

S.s. Canadian Farmer, Marine Department contract 46; builder's yard no. 65; Sept. 3.

S.s. Canadian Observer; Marine Department contract 47; builder's yard no. 66; Sept. 12.

J. Coughlan & Sons, Vancouver, B.C., who have contracts from the Marine Department for 4 steel cargo steamships of approximately 8,100 d.w. tons each, for Canadian Government Merchant Marine Ltd., laid the keel of the fourth one, s.s. Canadian Prospector, Marine Department contract 37; yard no. 14, in September.

Dominion Shipbuilding Co., Toronto, laid keels on Nov. 8 for 2 steel cargo steamships, for Canadian Government Merchant Marine; Marine Department contract 48 and 49; builder's yard nos. 10 and 11; each 3,500 d.w. tons.

Port Arthur Shipbuilding Co., Port Arthur, Ont., delivered the s.s. Canadian Adventurer; Marine Department contract 19a; builder's yard no. 41; approximately 3,400 d.w. tons; to the Marine Department, Oct. 29, and she was transferred to Canadian Government Merchant Marine Ltd., for operation.

The company delivered the s.s. Canadian Sower; Marine Department contract 20A; builder's yard no. 42; approximately 3,400 d.w. tons, to the Marine Deppartment, Nov. 18, for transfer to Canadian Government Merchant Marine Ltd.

The Prince Rupert Drydock & Engineering Co., Prince Rupert, B.C., has contracts from the Marine Department for building 2 steel cargo steamships of approximately 8,100 d.w. tons each, for Canadian Government Merchant Marine Ltd. As stated previously in Canadian Railway and Marine World, the keel for one of these, s.s. Canadian Reaper; Marine Department contract 42; builder's yard no. 1; was laid Sept. 27, 1919. The keel for the other one, s.s. Canadian Thrasher; Marine Department contract 43; builder's yard no. 2; was laid Oct. 30.

Tidewater Shipbuilders Ltd., Three Rivers, Que., has contracts from the Marine Department for 4 steel cargo steamships, of approximately 5,100 d.w. tons each, for Canadian Government Merchant Marine Ltd. The keel for the s.s. Canadian Settler; Marine Department contract 13; builder's yard no. 5; was laid Jan. 8, and she was launched Sept. 20. The keel for the s.s. Canadian Rancher; Marine Department contract 14; builder's yard no. 6; was laid Jan. 10, and she was launched Nov. 1. The keel for the s.s. Canadian Fisher; Marine Department contract 15; builder's yard no. 7, was laid Sept. 20; and the keel for the s.s. Canadian Forester, Marine Department contract 16; builder's yard no. 8; was laid Nov. 1.

Wallace Shipyards Ltd., North Vancouver, B.C., delivered the s.s. Canadian Aviator; Marine Department contract 6; builder's yard no. 101, approximately 5,100 d.w. tons, to the Marine Department, Nov. 15, and she was immediately transferred to Canadian Government Merchant Marine Ltd., and loaded with lumber for the United Kingdom.

Orders for Steel Cargo Steamships for Canadian Government Merchant Marine Ltd.

The following is a complete list of steel cargo steamships which the Dominion Marine Department has been authorized, by order in council, to place orders for, and which orders are to be carried out.

The figures given in the column headed "Long tons d.w." and which are preceded by an asterisk (*) show the total deadweight capacities as determined after the ships have been completed. The other figures in that column, not preceded by an asterisk, show the approximate total deadweights, subject to modification as they may vary above or below the figures given and as may be ascertained after the ships are completed, and of course, the total prices will vary accordingly.

The following contractions are used in the column giving the type of the vessels to be built: s.d., single deck; 2.d., two deck; 3.d., three deck; lake, lake type; p. poop; b., bridge; f'c's'le, forecastle.

Contract	Contract date	Name	Builder	Yard no.	Long tons d.w.	Price per ton d.w.	Total price	Type	Classification	Speed knots	Keel laid	Launched	Delivered
1	Mar. 4, 1918	Canadian Voyageur	Canadian Vickers Ltd.	66	*4,575	$207.	$ 947,025	S.d., p., b. and f'c's'le	Lloyd's	11	June 11, 1918	Nov. 23, 1918	Feb. 22, 1919
2	May 22, 1918	Canadian Pioneer	" "	67	*8,408	180.	1,513,440	2.d., p., b and f'c's'le	"	11	July 17, 1918	Dec. 3, 1918	May 9, 1919
3	May 18, 1918	Canadian Warrior	Collingwood Shipbuilding Co.	61	*3,995	205.	818,975	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	Not stated	Dec. 21, 1918	Apr. 26, 1919
4	Mar. 15, 1918	Canadian Volunteer	Wallace Shipyards Ltd.	100	*4,530	207.	937,710	S.d., p., b. and f'c's'le	Lloyd's	11	Oct. 1, 1918	Apr. 5, 1919	June 19, 1919
5	Nov. 25, 1918	Canadian Trooper	" "	106	4,300	217.	933,100	S.d., p., b. and f'c's'le	"	11	Nov. 15, 1918	May 31, 1919	Aug. 7, 1919
6	Nov. 25, 1918	Canadian Aviator	" "	101	5,100	210.	1,071,000	S.d., p., b. and f'c's'le	"	11	Apr. 5, 1919	Oct. 9, 1919	Nov. 15, 1919
7	Nov. 25, 1918	Canadian Raider	" "	102	5,100	210.	1,071,000	S.d., p., b. and f'c's'le	"	11	May 31, 1919		
10	July 5, 1918	Canadian Recruit	Collingwood Shipbuilding Co.	62	*3,964	205.	812,620	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	June 3, 1918	May 3, 1919	June 7, 1919
11	Oct. 17, 1918	Canadian Signaller	" " "	63	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	Jan. 16, 1919	June 28, 1919	Aug. 30, 1919
12	Oct. 17, 1918	Canadian Gunner	" " "	64	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	Feb. 10, 1919	Oct. 1, 1919	Nov. 6, 1919
13	Aug. 9, 1918	Canadian Settler	Tidewater Shipbuilders Ltd.	5	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	Lloyd's	11	Jan. 8, 1919	Sept. 20, 1919	
14	Aug. 9, 1918	Canadian Rancher	" " "	6	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Jan. 10, 1919	Nov. 1, 1919	
15	Jan. 24, 1919	Canadian Fisher	" " "	7	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Sept. 20, 1919		
16	Jan. 24, 1919	Canadian Forester	" " "	8	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Nov. 1, 1919		
17	Sept. 4, 1918	Canadian Trapper	Davie Shipbuilding & Repairing Co.	459	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Mar. 11, 1919	Oct. 9, 1919	
18	Sept. 4, 1918	Canadian Hunter	" " " "	460	5,100	200.	1,020,000	S.d., p., b. and f'c's'le	"	11	Mar. 28, 1919		
19	Sept. 4, 1918	Canadian Trader	Port Arthur Shipbuilding Co.	39	*3,341	205.	684,905	Lake, s.d., p., b. and f'c's'le	"	9	Dec. 9, 1918	May 5, 1919	July 18, 1919
19a	Mar. 1, 1919	Canadian Adventurer	" " "	41	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Mar. 31, 1919	Sept. 8, 1919	Oct. 29, 1919
20	Sept. 4, 1918	Canadian Sailor	" " "	40	*3,357	205.	688,185	Lake, s.d., p., b. and f'c's'le	"	9	Dec. 10, 1918	May 31, 1919	Aug. 7, 1919
20a	Mar. 1, 1919	Canadian Sower	" " "	42	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Mar. 31, 1919	Oct. 9, 1919	Nov. 18, 1919
21	Sept. 13, 1918	Canadian Mariner	Halifax Shipyards, Ltd.	1	8,100	195.	1,579,500	2.d., p., b and f'c's'le	"	10	Feb. 21, 1919		
22	Sept. 13, 1918	Canadian Explorer	" " "	2	8,100	195.	1,579,500	2.d., p., b and f'c's'le	"	10	Mar. 15, 1919		
23	Oct. 11, 1918	Canadian Navigator	Canadian Vickers Ltd.	73	4,300	215.	924,500	S.d., p., b. and f'c's'le	"	11	Jan. 22 1919	Oct. 18, 1919	
24	Oct. 11, 1918	Canadian Ranger	" " "	68	*8,382	188.	1,575,816	2.d., p., b and f'c's'le	"	11	Aug. 26, 1918	Apr. 19, 1919	May 23, 1919
25	Oct. 11, 1918	Canadian Seigneur	" " "	69	*8,391	188.	1,577,508	2.d., p., b and f'c's'le	"	11	Nov. 30, 1918	May 7, 1919	Aug. 14, 1919
26	Oct. 11, 1918	Canadian Miller	" " "	70	8,100	188.	1,522,800	2.d., p., b and f'c's'le	"	11	Dec. 2, 1918	Aug. 16, 1919	Sept. 24, 1919
27	Oct. 11, 1918	Canadian Spinner	" " "	71	8,350	188.	1,569,800	2.d., p., b and f'c's'le	"	11	Apr. 23, 1919	Nov. 8, 1919	
28	Oct. 11, 1918	Canadian Planter	" " "	72	8,100	188.	1,522,800	2.d., p., b and f'c's'le	"	11	May 10, 1919	Nov. 22, 1919	
29	Jan. 24, 1919	Canadian Armourer	Harbour Marine Co.	1	8,100	198.	1,603,800	2.d., p., b and f'c's'le	"	11	July 14, 1919		
30	Jan. 24, 1919	Canadian Composer	" " "	2	8,100	198.	1,603,800	2.d., p., b and f'c's'le	"	11	Aug. 9, 1919		
31	Dec. 11, 1918	Canadian Beaver	Collingwood Shipbuilding Co.	15	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	Apr. 7, 1919		
32	Mar. 1, 1919	Canadian Runner	Port Arthur Shipbuilding Co.	43	4,300	215.	935,250	S.d., p., b. and f'c's'le	Lloyd's	10½	Aug. 29, 1919		
33	Mar. 1, 1919	Canadian Carrier	" " "	44	4,300	215.	935,250	S.d., p., b. and f'c's'le	"	10½	Aug. 29, 1919		
34	Nov. 22, 1918	Canadian Importer	J. Coughlan & Sons	11	8,100	198.	1,603,800	2.d., p., b and f'c's'le	"	11	Apr. 26, 1919		
35	Nov. 22, 1918	Canadian Exporter	" "	12	8,100	198.	1,603,800	2.d., p., b and f'c's'le	"	11	May 3, 1919		
36	Nov. 22, 1918	Canadian Inventor	" "	13	8,100	198.	1,603,800	2.d., p., b and f'c's'le	"	11	July 24, 1919		
37	Nov. 22, 1918	Canadian Prospector	" "	14	8,100	198.	1,603,800	2.d., p., b and f'c's'le	"	11	Sept., 1919		
38	Dec. 10, 1918	Canadian Cruiser	Halifax Shipyards Ltd.	3	10,500	197½	2,073,750	3.d, p., and f'c's'le	"	12	Oct. 2, 1919		
39	Dec. 10, 1918	Canadian Constructor	" " "	4	10,500	197½	2,073,750	3.d. p., and f'c's'le	"	12	Oct. 6, 1919		
40	Mar. 31, 1919	Canadian Sealer	Nova Scotia Steel & Coal Co.	5	2,800	210.	588,000	S.d., p., b. and f'c's'le	"	8½	Mar. 27, 1919	Oct. 2, 1919	
41	Mar. 31, 1919	Canadian Miner	" " " " "	6	2,800	210.	588,000	S.d., p., b. and f'c's'le	"	8½	Mar. 31, 1919		
42	Feb. 21, 1919	Canadian Reaper	Prince Rupert Dry Dock and Engineering Co.	1	8,100	198.	1,603,800	2.d., p., b and f'c's'le	"	11	Sept. 27, 1919		
43	Feb. 21, 1919	Canadian Thrasher	" "	2	8,100	198.	1,603,800	2.d., p., b and f'c's'le	"	11	Oct. 30, 1919		
44	Jan. 23, 1919	Canadian Otter	British American Shipbuilding Co.	4	4,350	215.	935,250	S.d., p., b. and f'c's'le	Bri. Corp.	10	Mar. 29, 1919		
45	Jan. 23, 1919	Canadian Squatter	" " "	5	4,350	215.	935,250	S.d., p., b. and f'c's'le	"	10	July 14, 1919		
46	Sept. 11, 1919	Canadian Farmer	Collingwood Shipbuilding Co.	65	3,950	180.	711,000	Lake, s.d., p. b., and f'c's'le	Lloyd's	11	Sept. 3, 1919		
47	Sept. 11, 1919	Canadian Observer	" " "	66	3,950	180.	711,000	Lake, s.d., p., b. and f'c's'le	"	11	Sept. 12, 1919		
48	Sept. 2, 1919	Canadian Artificer	Dominion Shipbuilding Co.	10	3,500	180.	630,000	Lake, s.d., p., b. and f'c's'le	"	11	Nov. 8, 1919		
49	Sept. 2, 1919	Canadian Engineer	" " "	11	3,500	180.	630,000	Lake, s.d., p., b. and f'c's'le	"	11	Nov. 8, 1919		
50	Sept. 18, 1919	Canadian Victor	Canadian Vickers Ltd.	77	8,350	170.	1,419,500	2.d. p., b. and f'c's'le	Lloyd's	11			
51	Sept. 18, 1919	Canadian Conqueror	" " "	78	8,350	170.	1,419,500	2.d. p., b. and f'c's'le	"	11			
52	Sept. 18, 1919	Canadian Commander	" " "	79	8,350	170.	1,419,500	2.d. p., b. and f'c's'le	"	11			
53	Sept. 18, 1919	Canadian Leader	" " "	80	8,350	170.	1,419,500	2.d. p., b. and f'c's'le	"	11			
—			Midland Shipbuilding Co.		3,950	180.	711,000	Lake, s.d., p., b. and f'c's'le	Lloyd's	11			
—			Wallace Shipyards Ltd.	107	8,350	167.50	1,398,625	2.d. p., b. and f'c's'le	"	11			
—			" " "	108	8,350	167.50	1,398,625	2.d. p., b. and f'c's'le	"	11			
					334,793		$64,944,584						

General Shipbuilding Matters Throughout Canada.

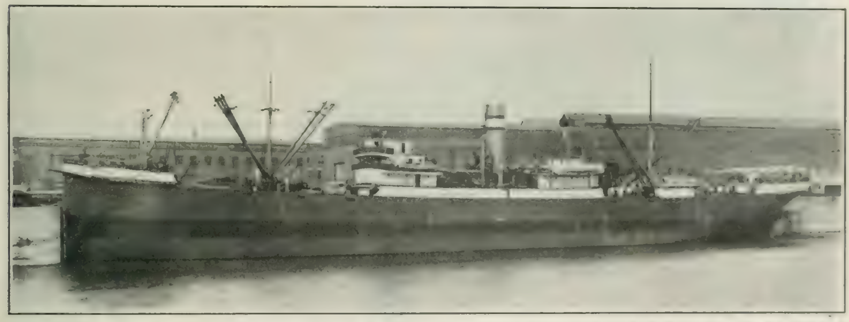
Steamships for French Government—Ottawa press dispatches of Nov. 19 stated that the French Government, being badly in want of ships for its colonial and Mediterranean trade, and to build up its commerce generally, had tried unsuccessfully to buy the steel cargo steamships being built for the Dominion Government, to be operated by Canadian Government Merchant Marine Ltd., and that it is prepared to order 121 steel cargo steamships, of various sizes, to be built in Canada, at $170 a d.w. long ton; also that in this connection it has arranged with New York financiers for a credit of $180,000,000.

Bridgewater Shipping Co., Bridgewater, N.S., launched the trawler Versailles, Nov. 11; armistice day; the name being chosen from the place where the armistice was signed. Her dimensions are: length, overall, 136 ft.; beam, 26 ft.; depth of hold, 11 ft. This is the fourth similar ship launched at this yard this year.

Canadian Allis-Chalmers Ltd., Bridgeburg, Ont., is building 2 steel steamships of approximately 2,500 d.w. tons each, of a similar type of those built recently for the British Government, under orders from the Imperial Munitions Board. It is expected that they will be completed about the reopening of navigation next year. Negotiations for their sale are in progress.

Canadian Car and Foundry Co., Fort William, Ont.—The s.s. E. D. Kingsley built at this yard for the Kingsley Navigation Co., Vancouver, B.C., sailed from Fort William Nov. 20, with a cargo of barley for Montreal.

Canadian Vickers Ltd., Montreal—The s.s. Alsace, illustrated on this page, has been built and equipped complete, by this company, for Cie. Francaise d'Armement d'Importation de Nitrate de Soude, Paris, France. She is of the single screw cargo type, with 2 decks, poop, bridge and forecastle, straight stem and elliptical stern. There are 4 cargo holds and 6 watertight compartments. She is rigged with 2 masts, with special double system of derricks and an arrangement of winches for the expeditious handling of nitrate cargoes. She was built under Lloyd's 100 A1 classification, and is of the following dimensions: length, b.p., 400 ft.; breadth, moulded, 52 ft.; depth, moulded, 31 ft.; 8,400 d.w. tons. The propelling machinery consists of triple expansion, surface condensing engine, placed about amidships with cylinders 25, 41 and 68 in. diar., by 45 ins. stroke, and steam is supplied by 3 single ended Scotch boilers, each 10½ ft. long by 15½ ft. diar., working under natural draft. Her speed is 11 knots an hour at sea under load. She is equipped with the contraflo condensing and feed heating system, to ensure maximum economy in fuel consumption. The auxiliary machinery consists of a pair of feed pumps, general service pump, ballast pump and circulating pump, all made in Canada.



Steamship Alsace, 8,400 d.w. tons, built for Compagnie Francaise d' Armement d' Importation de Nitrate de Soude, Paris, France, by Canadian Vickers Ltd.

Cholberg Ship Co., Victoria, B.C.—The third 4 masted schooner built by this company for the Porsgrund Damp and Seil Co., Porsgrund, Norway, was launched Oct. 25, and named Vancouver.

J. Coughlan and Sons, Vancouver, B.C.—It is reported that this company is arranging to build a number of steamships on yard account unless the Dominion Government places further orders for steamships for Canadian Government Merchant Marine, Ltd., and that they will be of approximately 8,800 d.w. tons. A concrete dry dock is also planned for Burrard Inlet at an approximate cost of $3,658,000, to be 700 ft. long, 100 ft. wide at entrance, 32 ft. depth of water over sill at ordinary spring tide, and to accommodate any vessel which can pass through the Panama Canal. It is said a ship repairing plant will be built in connection with the graving dock and also a marine railway capable of handling vessels up to 9,000 d.w. tons.

Dominion Shipbuilding Co., Toronto, during this year, built and delivered 8 steel steamships of the single deck type, with poop, bridge and forecastle, and approximate capacity, including bunkers, of 3,550 tons each. Six of these ships were completed and delivered during the last six months, or at the rate of one a month. The company has under contract for 1920 delivery, 8 ships of a similar type, 2 of which are for Canadian Government Merchant Marine, Ltd., the balance being for private account. Two of the steamships built by this company during this year, viz.: s.s. Hessa and s.s. Skolma, are illustrated in this issue. Full descriptions of these vessels have appeared in previous issues.

Foundation Co., Victoria, B.C.—The contract for building 20 wooden steamships of approximately 3,000 d.w. tons each for the French Government was completed during October, with the launch of the last hull named Nouvelle Ecosse. The contract was entered into in Nov., 1918, and called for ships of the following dimensions: length, overall, 293 ft.; length, b.p., 276 ft.; beam, extreme, 47½ ft.; beam, moulded, 46½ ft.; depth, moulded, 23½ ft.; draft, 21¾ ft.; d.w. capacity, 3,000 tons; displacement, 5,655.5. The ships are of the single deck cargo type, with hulls of pine, hold beams, wood deck houses and rails. They have the cruiser stern, with long poop deck aft, and raised forecastle forward. There are 5 hatches, 4 watertight bulkheads, 1 bunker bulkhead non-watertight, and 1 screen bulkhead. Feed water tanks of full capacity are located aft of the engine room. Accommodation for officers is provided in deckhouse on poop deck and the crew are accommodated in the forecastle. There are 8 cargo winches, one of which is a warping winch, and the windlass of the forecastle head is for handling anchors and is also arranged for warping. The propelling machinery consists of two 550 h.p. vertical inverted, direct acting, 3 crank triple expansion marine engines, supplied with steam by 2 Scotch boilers, with a heating surface of approximately 3,500 sq. ft. for a working pressure of 225 lb. a sq. in. The ships are also equipped with electric lighting plant, and pumping and auxiliary machinery, all according to Bureau Veritas classification. A full description of these ships was given in Canadian Railway and Marine World for Dec., 1918.

Halifax Shipyards Ltd., Halifax, N.S.—As stated in Canadian Railway and Marine World for November, J. F. Paige, General Manager, Port Arthur Shipbuilding Co., Port Arthur, Ont., has resigned to enter the Halifax Shipyards' service as Operating Manager. He will have charge [illegible] the company's operating departments, including new construction and [illegible] E. McLurg continues as General Manager.

R. H. Howes Construction Co., Meteghan River N.S., launched the s.s. Granville III., at the end of October, for the Valley Steamship Co., to replace the s.s. Granville, which was sold recently to D. Owen and others for an expedition to Labrador. The keel of the new vessel was laid in August, and her machinery was installed when she was on the stocks, so that she was launched practically complete, the boiler alone remaining to be placed.

Steel Cargo Steamship Skolma, 3,550 d.w. tons, built by Dominion Shipbuilding Co., Toronto.

Steel Cargo Steamship Hessa, 3,550 d.w. tons, built by Dominion Shipbuilding Co., Toronto.

J. W. Kirkpatrick, Eatonville, N.S., launched the tern schooner J. L. Ralston, Oct. 30. She has been classed for 12 years with Bureau Veritas, and is 462 tons register.

E. LeBlanc and Co., Wedgeport, N.S., launched a 146 ton schooner early in November, which was named W. L. Mackenzie King. Her dimensions are, length, over all, 127 ft.; breadth, 25.2 ft.; depth, 11.6 ft. She was launched fully rigged and ready for sea, and loaded cargo at Yarmouth for the West Indies.

The Wm. Lyall Shipbuilding Co. Ltd., North Vancouver, B.C., is offering for sale its plant and equipment, including machine shop tools, joiners tools, derricks, hoists, boilers, engines, compressors, motors, etc. The yard consists of 6 shipbuilding ways, and was originally operated by Wallace Shipyards, Ltd. The Lyall Co. commenced operation there July 1, 1917, and built several wooden steamship hulls for the British Government, under orders from the Imperial Munitions Board, and later built auxiliary power schooners on its own account and some wooden steamship hulls for the French Government.

Polson Iron Works, Ltd., Toronto—On account of the completion of shipbuilding work, in hand at the time this company went into liquidation, the works were closed down, Oct. 29. Negotiations are being proceeded with for the disposal of the property by private sale, and we are advised that if they are not consummated, the assets will be advertised for sale under a court order.

Port Arthur Shipbuilding Co., Port Arthur—John H. Smith has been appointed General Manager, succeeding J. F. Paige, resigned to enter Halifax Shipyards Ltd. service. Mr. Smith was formerly General Superintendent, and later General Manager, of Western Drydock & Shipbuilding Co. at Port Arthur, being General Manager when the lake freight steamship, W. Grant Morden, and the lake passenger steamship, Noronic, were built by that company. He resigned soon after these ships were complete, and went into partnership with his brother, Allan A. Smith, as Smith Bros., marine architects, surveyors and appraisers, Cleveland, Ohio.

St. John, N.B.—It is reported from St. John, N.B., that a British shipbuilding firm will establish a large shipbuilding and repairing plant in the vicinity of the drydock now under construction at Courtenay Bay, St. John. The Courtenay Bay improvement work, and the construction of a drydock there are being carried out by the St. John Drydock and Shipbuilding Co., and it was announced some time ago that that firm intended laying out shipbuilding and repairing yards there.

St. Lawrence Dock and Shipbuilding Co. Ltd., has been incorporated under the Dominion Companies' Act with $100,000 authorized capital and office at Levis, Que., to buy in whole or in part the shipbuilding and repairing businesses carried on there by the National Shipbuilding Co. Ltd., and by W. H. Hutchinson, Goderich, Ont., and C. A. Chauveau, Quebec, Que. The incorporators are: W. H. Hutchinson, Goderich, Ont., C. A. Chauveau, A. Marshand and A. Rivard, Quebec, Que., and C. H. Carrier, Bienville, Que. The company is said to have secured several shipbuilding orders.

Shelburne Shipbuilders Ltd., Shelburne, S., launched the tern schooner Donald II at the end of October, for W. and T.

Hollett, Burin, Nfld. She is 230 tons register and has been classed for 12 years in Bureau Veritas.

Vancouver, B.C.—An unconfirmed Vancouver press dispatch says:—It is understood that David Rodgers, formerly Superintendent of the Skinner & Eddy shipbuilding plant at Seattle, will manage a large ship construction undertaking here. He is now on his way to Europe to obtain orders for ships. He is supported by $12,000,000 of United States capital, and his company already has a number of contracts closed, but wishes to have an assurance of two or three years work before they actually commence operations. Their plant will be located on a 160-acre plot on the north shore of Burrard Inlet, opposite the second narrows.

Yarrows Limited, Victoria, B.C.—The steel ferry, which this company is building for the British Columbia Government, as mentioned in our last issue, will be of the double ended type, arranged for carrying automobiles and farm produce on deck. The dimensions of the hull will be: length, 90 ft.; beam, 26 ft.; depth, 5 ft. The propelling machinery will consist of two 80 h.p. 6 cylinder, 4 cycle internal combustion engines, and the ferry will be equipped with 2 propellers at each end, connected to the engines by clutches, the engines being arranged to drive the ferry in either direction with the forward propellers idle. The ferry will be completely equipped by the builders, except for the engines, which will be installed at New Westminster.

Canadian Hydrographic Officers' War Services.

G. J. Desbarats, C.M.G., Deputy Minister of Naval Service, has authorized the publication of the following information prepared by W. J. Stewart, Chief Hydrographer of the department, in connection with the service of Dominion Government hydrographic officers with the Admiralty during 1918-1919:

In Feb., 1918, the Naval Service Department learned that the British Admiralty Hydrographic Office was rather short of surveyors and advised the Hydrographer, Admiral Parry, that if necessary, the department could spare some of its staff from the hydrographic survey, for service in connection with the war. This offer the Admiralty gladly accepted and granted commissions in the R.N.V.R. to R. J. Fraser, J. L. Foreman, L. C. Prittie, M. A. MacKinnin, C. G. Smith, and W. K. Willis.

O. R. Parker, who was a Royal Naval Reservist before the war, was put in general service and later appointed to H.M. S. Endeavour, in the Mediterranean. After considerable service there he was transferred to home waters and served in the Straits of Dover on the surveying trawler Esther, and after the armistice to service mine clearing off the Yorkshire coast. He returned to Canada in Aug., 1919.

C. G. Smith, originally with the Canadian Expeditionary Force, and after transfer to the Admiralty Surveying Service, was employed at various points off the English and Scottish coasts, in connection with harbor improvement and aids to navigation demanded by the war. He also saw service on surveying ships mine laying.

L. C. Prittie was appointed to H.M.S. Endeavour in the Mediterranean, operating in the vicinity of Malta. After the collapse of the Turks, they were ordered to the Aegean and later to the Dardanelles, where they prepared an anchorage and laid moorings for the allied fleets off Constantinople. Just previous to this service the commanding officer of the Endeavour was killed on some special duty. Mr. Prittie also saw service on the Egyptian and Palestine coasts and returned to Canada in the early summer of 1919.

J. L. Foreman was appointed to H.M.S. Hearty, engaged in the lengthy and difficult re-survey work in the waters of The Wash on the east coast of England. Later the ship and party were transferred to the Scottish coast, working out of Inverness and Aberdeen. He returned to Canada in the spring of 1919.

M. A. MacKinnin went overseas originally with the Canadian Expeditionary Force and was transferred early in 1918 to the Admiralty surveying service employed in the Firth of Forth.

R. J. Fraser was at first attached to H.M.S. Osea coastal motor boat base on the Essex coast, as Assistant Surveying Officer to Lieut. Commander Maxwell, R.N. During the summer of 1918 he was appointed to the submarine boom defence at Brigthlingsea and put in charge of surveying in the Thames Estuary until the armistice was signed. In Nov., 1918, he and Mr. MacKinnin were appointed to the newly commissioned surveying ship Melisande and worked throughout the winter and spring at Folkestone in the Straits and the Medway River, surveying channels and mooring berths for the laying up of the Nore reserve fleet, and sounding out the Thames Estuary. In June, 1919, they were appointed to H.M. S. Kellett, the first of the new class of surveying ships designed to replace the ancient vessels still in service. They joined their ship on the Clyde and proceeded to Chatham, where the ship was prepared as an exhibit for the visit of the inter allied conference of hydrographers July 1. They made a survey of the approaches to Chatham dockyard, in connection with the berthing of the Queen Elizabeth class of battleships. They returned to Canada on the completion of this work.

W. K. Willis went overseas in Nov., 1918, there still being a shortage of trained Admiralty surveyors. He was appointed to H.M.S. Hearty and worked off the east coast of England and Scotland in connection with the mine clearance work in these waters returning to Canada in July, 1919.

Much valuable experience was gained by all the Canadian surveyors whilst employed with those of the Royal Navy. Besides being surveyors, they had at all times the many responsibilities of watch keeping officers, both at sea and in harbor, and quite often were in sole command of their respective ships. The interchange of ideas and insight into the methods of working and the standards of accuracy adopted by the surveyors of the two countries will go far in the future towards a clearer understanding of each others work.

Frauds by Stevedores—A Montreal press dispatch states that a system of defrauding the Wheat Export Co. has been uncovered at Montreal in connection with the improper handling of grain used for trimming vessels.

United States Shipping Board Notes.

The board has issued a statement that its fuel stations will soon girdle the world, and that U.S. steamships will be able to make a world circuit without needing to take fuel at other than U.S. owned fuel stations.

The House of Representatives' merchant marine committee, on Nov. 5, completed a bill for the disposition of the government merchant marine fleet, providing for continuation of the U.S. Shipping Board as a regulatory body, and prohibiting sale to foreign interests of ships needed in the U.S. fleet.

The German s.s. Vaterland, owned formerly by the Hamburg American Steamship Co., and seized by the U.S. Government during the war, has been handed over to the United States Shipping Board for operation, after having been used by the navy since April, 1917, as a troop transport. She has been docked at Hoboken, N.Y., to be re-equipped after her war service, and it is said that she will be placed in the Atlantic passenger trade.

The U.S. Chamber of Commerce has submitted to its 1,236 member organizations, its ocean transportation committee's report, recommending that Shipping Board ships, under 6,000 d.w. tons, be sold both to U.S. and foreign bidders; that ships over 6,000 tons be restricted to U.S. registry for a period of years, to protect U.S. ship owning interests, and that the government absorb the difference between cost and sale price of 2,000 ships owned by the board.

A. Washington, D.C., press dispatch of Nov. 20, stated that U.S. Shipping Board officials had announced that the former German s.s. Imperator would be tendered to Great Britain immediately, thus disposing of a controversy as to the future of this vessel. Action with regard to 7 other German steamships had not then been determined, it being deferred pending the final disposition of the tank steamships, U.S. owned, but which had been operating under the German flag, and which are now held by Great Britain.

C.G.S. Champlain, the Acting Minister of Marine stated in the House of Commons, Nov. 10, in answer to an enquiry that the government had received a demand from the Gulf of St. Lawrence Shipping & Trading Co., to charter the C.G.S. Champlain to the company, but the Marine Department had no present intention of chartering, or selling, the ship. In answer to an enquiry as to the government's intention in regard to the operation of a line of steamships by the government between Murray Bay and Tadoussac, the acting minister stated that the C.G.S. Champlain was then operating on that route.

In connection with the foregoing, we are advised that the C.G.S. Champlain, formerly running between Riviere Ouelle, Ste Irenee, Murray Bay and Cap a l'Aigle, has had her service extended to Tadousac calling at way ports and that she will be run on a tri-weekly service in connection with railway service from Murray Bay to Tadousac.

The C.P.R. s.s. Minnedosa, 13,972 tons, was the largest ship which received Lloyd's classification during 1918-1919. She was fitted with a combination of reciprocating and turbine engines.

Atlantic and Pacific Ocean Marine.

The Osaka Shosen Kaisha s.s. Borneo Maru reopened its regular service from Japan to Vancouver during October, the service having been interrupted by the war.

The British steamship Winnipeg, from Victoria, B.C., for Queenstown, Ireland, was reported disabled off the west coast of Ireland, Nov. 9. She was towed into Queenstown for repairs.

Canadian Pacific Ocean Steamships' s.s. Melita has been requisitioned by the British Admiralty to carry troops to India. This is the only C.P.R. steamship now under government requisition.

The Red Star Line announces that it will resume its sailings between New York and Antwerp, Belgium, via Southampton, Eng., Dec. 11. This will be the first of this line's sailings on this route since the occupation of Belgium by the Germans in 1914.

The British s.s. Rio Neigero, which grounded on Pointe des Monts, Que., Nov. 17, was examined by divers, but in order to make a more thorough examination, she was taken to the Davie Shipbuilding and Repairing Co.'s drydock at Lauzon, Que., Nov. 20.

The British s.s. Germanicus, owned formerly in Germany and latterly operated by the British Ministry of Shipping, ran ashore, Nov. 7, near Father Point, Que., and was reported to be in bad condition. She was built in 1901 at Stockton-on-Tees, Eng., for German owners.

The Grecian s.s. Platea, which was wrecked on Sable Island, early in November, is believed to be a total loss. She was owned formerly by Wm. Thomson and Co., St. John, N.B., and was built at Glasgow, Scotland in 1897. She was bound for Montreal, light, for a cargo for Greece.

A direct steamship service between Vancouver, B.C., Marseilles, France, and Genoa, Italy, was inaugurated early in November with the sailing of the Mont Cenis, a 4,900 ton ship operated by La Societe Generale de Transport Maritimes a Vapeur, for which Dingwall Cotts and Co. are local agents.

The Canadian Robert Dollar Steamship Co. which is reported to have bought frontage on the East River, New York, intends inaugurating a steamship line between New York and Shanghai, China, via the Panama Canal. Two steamships will be placed on this service for the present, and it is expected that a call will be made at San Francisco. This service will be additional to that operated across the Pacific by this company from Vancouver.

A London, Eng., press dispatch of Nov. 10, states that the British Parliament is to be asked to grant powers to make Galway on the west coast of Ireland, a trans-Atlantic port, which would thus reduce the sea passage between Canada and the United Kingdom by about 700 miles. It is said that in addition to the harbor works, the project involves the construction of a tunnel about 30 miles long between Ireland and Scotland, or the operation of a train ferry, so that passengers may be carried from Ireland to points in Scotland and England without transshipping. This matter has been under consideration for several years.

The s.s. Polar Land, owned by the United States Shipping Board, and operated by the West India Steamship Co., foundered off Sable Island, about 600 miles from Halifax, N.S., Nov. 9, when outbound to Genoa, Italy. She was towed into Halifax, and after being repaired, again sailed on Nov. 2. Wireless calls were received at Cape Sable station, and were picked up by the steamships Kanawha and Strathfillan, bound for London, Eng., and New York, respectively, and both vessels proceeded to the point indicated, but before reaching it, a further wireless message was received, to the effect that the vessel was sinking and had been abandoned, the crew taking to the boats. No trace of the vessel was discovered, nor have any of the boats or members of the crew been found.

Maritime Provinces and Newfoundland.

The steam tug Merrimac, owned by G. S. Campbell and Co., Halifax, N.S., was sunk in the harbor, Nov. 9, when she was struck by the s.s. Mesaba, which she was towing out of a berth.

Six U.S. steam tugs arrived at Halifax, N.S., Nov. 12, from the Great Lakes en route to U.S. ports for harbor use. They were built by the U.S. Government for use as mine layers for war purposes, but will now be diverted to peace time use.

The longshoremen at St. John, N.B., ceased work early in November on a demand for an increase in wages to 80c an hour. An offer of 65c an hour by the companies was declined, and on Nov. 15 a compromise was made, and a new rate of 70c an hour decided upon.

The s.s. Lady Evelyn, owned formerly by the Dominion Government, and operated latterly between Pictou, N.S., and the Magdalen Islands, by the St. Lawrence Navigation and Transportation Co., ran aground on a reef near Pictou Island, Nov. 13. She floated off without assistance, a little later, and it is reported was undamaged.

The two attendants at the lighthouse on Big Island, about 70 miles from Quebec, were reported to have been drowned while crossing from the lighthouse to the main land, during a gale in the early part of November. Complaints had been received that the light had not been burning for three nights, and an investigation by government officials found no one in charge at the lighthouse and the boat used by the men to get ashore was discovered upturned on the beach at Riviere Ouelle.

The litigation in connection with the collision of the steamships Premier and D. J. Purdy, in the St. John River, on Oct. 5, 1918, was concluded, Nov. 8, on an appeal from the New Brunswick Admiralty District Court to the Exchequer Court of Canada. The original judgment found both vessels to blame and condemned the s.s. D. J. Purdy to pay to the s.s. Premier one-half of the damages claimed. An apppeal and a cross appeal were entered, and final judgment was given Nov. 8, in favor of the s.s. Premier, allowing its appeal, and dismissing the cross appeal, both with costs.

Provinces of Quebec Marine.

A contract for repairs to the Public Works Department's dredge, no. 106, has been awarded to A. Lacouture, Sorel, Que.

Canada Steamship Lines' s.s. Malton ran on the rocks, near Lachine Rapids, early in November, through the breaking of the steering gear.

The Webster Steamship Co.'s s.s. Howard W. collided with the s.s. Lakeport in Coteau Lake, Oct. 30, both vessels being considerably damaged.

A Quebec press report states that a wharf to accommodate three ocean going steamships is being built at Baie des Ha Ha, which is considered as a step towards making a winter seaport in the province.

The corner stone of the Sailors' Memorial, erected by Montreal Harbor Commission at Victoria Pier, Montreal, was laid by the Prince of Wales, Oct. 31. He was given a card tray, made of Canadian gold, commemorating the occasion, on behalf of the Harbor Commissioners by W. G. Ross, Jr., the young son of the President of the commission.

Canada Steamship Lines Ltd., closed its Saguenay service, Nov. 1, when the s.s. Murray Bay made the last trip for the season. The steamships Quebec and Saguenay were scheduled to complete their season's service between Montreal and Quebec, about Nov. 28. The traffic on these routes was heavier this year than for several years past.

The Montreal Sand and Gravel Co.'s steam tug, St. Louis, sank in 30 ft. of water in Lake St. Louis, near Beauharnois, during a storm, Oct. 29. She was built at Buffalo, N.Y., in 1875, and practically rebuilt at Montreal in 1907, and was valued at $20,000. She was screw driven, by engine of 24 n.h.p., and had the following dimensions, length, 69.4 ft.; breadth, 15.8 ft.; depth, 7.2 ft.; tonnage, 56 gross, 35 net.

Ontario and the Great Lakes.

The Public Works Department received tenders to Nov. 29 for rebuilding the dam at Lakefield on the Trent Canal.

Canada Steamship Lines Ltd. has bought the s.s. Nipigon from U.S. owners, and has had her name changed to Maplehill, and registered her in Canada.

The C.P.R. s.s. Athabasca was docked at Collingwood, Nov. 10, for repairs made necessary by the ship touching bottom on a shoal in Lake Superior, several plates being damaged.

The International Ferry and Ry. Co.'s franchise for ferry service between Fort Erie, Ont., and Buffalo, N.Y., expires May 1, 1920. Negotiations are proceeding for a renewal of the charter and general improvement of the service.

The Chicago, Duluth and Georgian Bay Transit Co. is reported to have sold the two steamships North American and South American to the Goodrich Transit Co., Chicago, Ill. Prior to the war these ships called at Fort William.

The Hamilton Harbor Board made its annual inspection towards the end of October, after which it was announced that plans for the complete laying out of the harbor properties will be ready in December, and the work commenced early next year.

The Great Lakes Steamship Co., Cleveland, Ohio, has entered action, at Toronto, against the Maple Leaf Milling Co., for $40,516, for damages caused by the latter company's alleged default in unloading the s.s. John Dunn, Jr., at Port Colborne, Dec. 9, 1918.

The s.s. N. J. Nessen, owned in Chicago, Ill., which struck a rock and sank as she was entering the harbor at Meaford, Oct. 17, was raised by a wrecking crew from Midland, after which she left for Collingwood, under her own steam, where the necessary repairs will be carried out by the Collingwood Shipbuilding Co.

Canada Steamship Lines s.s. Ionic, with a general cargo from Montreal for Hamilton, ran aground in the Morrisburg Canal, Nov. 8, and suffered considerable damage. It is said that she will be floated as soon as possible, but that she will not be operated again this year.

The Dominion Government s.s. Tipperary, a small vessel which was utilized at Port Weller, in connection with the making of a harbor at the entrance to the Welland Ship Canal, was swept from her moorings there, during a storm, Nov. 19, and driven ashore. It is expected that she will be a total loss.

The Toronto Harbor Commission secured the consent of the City Board of Control, Nov. 10, subject to the city council's assent to the issue of $4,000,000 of debentures for harbor development. It was announced that 80% of the amount would be spent on revenue producing projects, and that the amount will be available for expenditure during 1920.

The U.S. Lake Survey reports the stages of the Great Lakes in feet above mean sea level, for October, as follows,—Superior, 602.47; Michigan and Huron, 580.63; St. Clair, 575.39; Erie, 572.50; Ontario, 246.35. Compared with the average October stages for the past 10 years, Superior was 0.15 ft. above; Michigan and Huron, 0.19 ft. above; Erie, 0.42 ft. above, and Ontario, 0.57 ft. above.

The s.s. Homer Warren, owned by Milnes Coal Co., Toronto, foundered during a storm, near Sodus Point, N.Y., Oct. 28, the crew of 9 being lost. She was a wooden vessel built in 1863, and was originally named Atlantic. She was rebuilt in 1900, and considerable repairs were made in 1911. Her dimensions were, length, b.p., 176½ ft.; breadth, moulded, 30 ft.; depth, moulded, 12 ft.; tonnage, 448 gross, 281 net. She was equipped with a steeple compound engine, with cylinders 21 and 42 in. diar., by 36 in. stroke, supplied with steam by a Scotch boiler 11½ x 13 ft. at 130 lb. She was owned originally in Saginaw, Mich., and was bought by the Peninsula Tug & Towing Co., of Wiarton, Ont., and later passed to the Milnes Coal Co.

British Columbia and Pacific Coast.

The C.P.R. is reported to be contemplating buying a steamship for the British Columbia Coast Service, to replace the s.s. Princess Sophia, which was lost in the Lynn Canal about a year ago.

Lumber shipments from British Columbia to Europe continue high; it being stated that about 12,000,000 ft. is en route to England, and that a further 40,000,000 ft. will be on the way before the end of the year.

C. H. Nicholson, Manager, Grand Trunk Pacific Coast Steamship Co., is reported to have stated, in connection with rumors, that the company would place its larger vessels on the Alaska run next year, that it has no intention of entering the Alaska tourist service.

Plans are reported ready for the construction of new offices for the Dominion Marine Department on the Songhees Reserve, Victoria. It is said that the building will cost between $50,000 and $100,000 and that work will be commenced as soon as there is some assurance that the Johnson St. bridge will be built.

British Shipping Losses During the War.

The Deputy Minister of Marine, Alex. Johnston, has issued the following statement:—

British merchant ships lost by enemy action during war, 2,479; gross tonnage, 7,759,090. British merchant ships destroyed by submarines, 2,099; gross tonnage, 6,635,059. British merchant ships destroyed by mines, 259; gross tonnage, 673,417. The remainder were sunk by torpedo boats, air craft, etc. Lives lost on foregoing, 14,287. Fishing vessels lost, 675; gross tonnage, 74,765. Lives lost on these, 434. Ships damaged but not sunk, 1,885; gross tonnage, 8,007,967. Lives lost on these, 592.

Losses of Canadian merchantmen, which are included in the total of British losses have not yet been segregated.

Against these losses the net merchant tonnage launched in the United Kingdom, for British owners, was: 1915, 374,000 tons; 1916, 386,000 tons; 1917, 752,000 tons. The launchings in Great Britain for foreign owners were: 1915, 36,000; 1916, 38,000, and 1917, 20,000 net tons.

World Shipbuilding Statistics.

The world's shipbuilding activities for the third quarter of 1919 include the building of 2,328 vessels, aggregating 8,048,592 tons, excluding Germany. In the United Kingdom there are vessels aggregating 2,816,733 tons under construction, an increase of 293,000 tons over the record for the preceding quarter. The United States ranks first in the extent of work under way. Japan, Holland and Italy, including Trieste, exceed Canada. Including approximately 87,000 tons for other British Dominions, the category under which Canada is placed ranks next to Great Britain, with a tonnage of 308,465. Canada's record for the quarter shows that 23 vessels with a total tonnage of 53,833 were being built on the Great Lakes. Coast shipbuilding amounted to 29 steel vessels with a total tonnage of 108,020, as well as 49 wooden steamships with a total tonnage of 48,950, and 26 wooden sailing vessels with an aggregate tonnage of 10,745.

Contracts Let for Marine Public Works.

The Dominion Public Works Department has let the following contracts:

Island of Orleans, Que.; repairs to wharf; Nap. and Jos. Trudel, Ste. Irenee, Que.; Oct. 31; schedule of prices.

Pointe Pizeau, Sillery, Que.; repairs to wharf; Jos. Gosselin, Ltd., Levis, Que.; Oct. 20; unit prices.

G. S. Tyrian; repairs; T. Hogan & Co.; Halifax, N.S.; Oct. 30; $19,890.

Naramata, B.C., construction of wharf; Sam Mills, New Westminster, B.C.; Nov. 3, 1919; schedule of prices.

St. John, N.B.; dredging in deep water berths; J. A. Gregory, St. John, N.B.; Nov. 4; class B, 33c per cu. yd. (scow).

Notre Dame des Sept Douleurs, Que.; extension to wharf; N. Letourneau and J. A. Fortier, Montmagny, Que.; Nov. 6; schedule of prices.

Vancouver Dry Dock Proposals—In addition to the three applications to the Dominion Government for aid in the construction of dry docks for Vancouver harbor, particulars of which were given in Canadian Railway and Marine World for November, pg. 621, it is stated that a proposal to build a floating dry dock of 12,500 tons capacity in Vancouver harbor is under consideration by interests in Seattle, Wash. It is stated that the dock will consist of 6 wooden pontoons, with steel wings, and cost approximately $550,000. It is said that a company will be formed for the purpose, by a union of Puget Sound shipbuilding concerns, and that financial assistance will be asked of the City of Vancouver.

International Mercantile Marine.—A press dispatch from London, Eng., Nov. 24, stated that control of the International Mercantile Marine Ltd., had been placed in British hands, by the decision of the directors to ratify an agreement with the British Admiralty and the Board of Trade, whereby it is made compulsory that British subjects shall manage the company's general business and vessels, and that the directors shall be British subjects and residents in the British Empire. It is also stated that in future the names of directors are to be submitted to the British Government for approval.

Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marie Canals during October, 1919:

ARTICLES.		Can Canal	U.S. Canal	Total
	Eastbound.			
Lumber	m. ft. b. m.	2,188	[illegible]	[illegible]
Flour	Barrels	518,660	[illegible]	[illegible]
Wheat	Bushels	3,208,846	[illegible]	[illegible]
Grain, other than wheat	Bushels	2,915,256	[illegible]	[illegible]
Copper	Short tons	3,242	7,894	11,136
Iron Ore	Short tons	11,342	[illegible]	[illegible]
Pig Iron	Short tons	125		125
Stone	Short tons	1,800	5,800	7,600
General Merchandise	Short tons	1,883	9,242	11,125
Passengers	Number	398	[illegible]	405
	Westbound.			
Coal, soft	Short tons	12,475	1,836,036	1,848,511
Coal, hard	Short tons	—	498,505	498,505
Iron Ore	Short tons	—	14,573	14,573
Mfd. Iron and Steel	Short tons	1,307	3,823	5,130
Salt	Short tons	1,458	10,437	11,895
Oil	Short tons	—	[illegible]	[illegible]
Stone	Short tons		110,001	110,001
General Merchandise	Short tons	28,317	40,008	68,325
Passengers	Number	309	15	324
	Summary.			
Vessel passages	Number	439	1,810	2,249
Registered tonnage	Net	595,981	6,099,442	6,695,423
Freight—				
Eastbound	Short tons	265,336	6,797,784	7,063,120
Westbound	Short tons	43,457	2,607,342	2,650,799
Total Freight	Short tons	308,793	9,405,126	9,713,919

German Steamships Interned in South America to Be Repaired in Germany Instead of in Canada or the United States.

London, Eng., Oct. 26.—Further details of the story of the award by the Ministry of Shipping of a contract for the repair of 33 German steamships interned in South American waters to the Germans have come to light. They show that this decision was a very important one indeed, and one which sacrifices not only the interests of a Canadian company, but interests of Canada itself. The story as first told to the Montreal Gazette correspondent by a member of the Anderson Co., of Montreal and New York, made it appear that the company would be the only one to benefit if the offer to repair the vessels at cost plus $5 a ton was accepted. It now develops that a prior proposal of the company was to purchase the steamships for $30,000,000, the purchase money to be used as credit in Canada for the supply of foodstuffs to Germany, and some of the vessels to be allocated to Canada to augment her merchant marine. The German owners were willing to accept the offer on the first condition. The proposal was made shortly after the armistice, when Canada sadly needed the ships, and the Canadian Government therefore recommended it to the British Government, attaching a condition regarding the use of 10 ships for the Canadian Merchant Marine.

J. H. Anderson, a Canadian, and head of the company, appeared before the Ministry of Shipping under these auspices. He had sounded other allied governments regarding the plan and obtained their sanction. It only remained for Britain to consent. Canada's part in the negotiations was prompted solely by a desire to obtain extra tonnage for relief of her export trade, which was very badly needed at the time. It is said Premier Borden had personally interested himself in the matter for this reason. The Ministry of Shipping, however, flatly refused the offer. It is said the chief reasons were that it had been decided the ownership of the ships was still vested in Germany and that the allocation of German merchant tonnage had already been made. These arguments are rather remarkable since the German owners are willing to sell and the other allied governments are favorable to the Anderson Company's offer. It was after this refusal that Anderson made a new offer to repair the vessels and which, in turn, was rejected in favor of German interests.

The Anderson Company acted for the French Government during the war for the purchase of tonnage in America and also for the United States Shipping Board, as well as for the British Government. A precedent for the purchase of enemy shipping had also been established in 1917, when the U.S. bought Austrian and German ships. In any case, the second Anderson proposal for the repair of the ships seemed clearly a feasible one, which would place this particular tonnage at the disposal of Britain, and, as a Canadian, recommended by Canada, it might have been expected that the contract should be given to him, or at least his claims given priority over the enemy countries. It is also stated that the time taken, according to the German plans, to reconstruct this service will be greatly in excess of that of the Anderson Company, according to the particulars of the plans of repairs as covered by their proposal. The cost of these repairs, under the arrangement with Germany, cannot be much less than proposed by the company, inasmuch as the proposal called for on a basis of actual cost for all repairs and the company asked only $5 a ton to cover its outstanding expenses.

London, Oct. 30.—The Ministry of Shipping's reasons for awarding the contract for the repair of 33 German ships interned in South American waters to Germany instead of a Canadian firm were given to the Montreal Gazette's correspondent today by T. Lodge, Secretary of the Ministry. The statement contained one new point, that the vessels are to be towed all the way to Germany for repair. Its essence was that Britain did not wish to allow the purchase of the vessels in the interest of Canada because under the peace treaty it was expected these ships would be allocated to the United Kingdom, and in the second place, they did not consent to the repair of the vessels by a Canadian firm because it was considered the Germans could do the work better. As an allowance for the value of the vessels is to be made Germany, according to Mr. Lodge's statement, even though Britain is allocated them, and as the cost of the towing the vessels to Germany will be greater than the cost of repair in United States ports under the Anderson plan, it can scarcely be said an adequate case has been made out against a year's delay involved in the present arrangement, and the whole thing looks like a striking example of bureaucratic ineptitude.

Mr. Lodge said he was not acquainted with the first offer made by Anderson for the purchase of the ships. "However," he said, "it is easy to see that under the circumstances the British Government could not have authorized the sale of German ships to anyone. They were not our ships, they belonged to Germany."

"But were not the Germans willing to sell?" the correspondent asked.

"The Germans would have been glad to sell all their ships, but it was not in Great Britain's interests to allow it, inasmuch as we stood to gain a large portion of this tonnage under the peace treaty," the Secretary replied.

"But is not Germany to receive something in return?" he was asked

"Yes, their value will be allowed for," was the reply.

As to the offer of the Anderson Company to repair the ships, for cost, plus $5 a ton, Mr. Lodge said an agreement had been arrived at between the allies for the repair of the German ships in the Dutch West Indies by the British, in Spain by the French, and in South American waters by the United States. Most of the vessels allocated under the first two heads had been repaired, but the U.S. had done nothing with the ships in Chile and Argentina. Two months ago the responsibility for these ships was transferred to Britain. As the Germans were responsible for putting other of their tonnage in shape under the peace treaty, the Ministry thought it wise to include the South American ships. They will be towed to German ports and there repaired.

"But will that not be a very expensive proceeding?" the correspondent asked.

"The Germans who owned these vessels should be able to repair them," Mr. Lodge replied. "We will get the ships under the same conditions as the others regarding carrying foodstuffs to Germany."

The foregoing cablegrams are copyrighted by the Montreal Gazette.

The Toronto Harbor Commission's Work.

The following summary of what the Toronto Harbor Commission has done since 1912 at a cost of $9,764,800, has been given out:—

Acquired 257.5 acres of water lots by patent from Dominion Government.

Acquired 4,700 feet of frontage of riparian or water-frontage rights between Bathurst and York Sts.

Reclaimed 1,057 acres of waterlots and marsh lands, requiring handling of 16,000,000 cu. yds. of material, divided as follows: 11,000,000 cu. yds. for business and industrial properties, and 5,000,000 cu. yds. for park purposes.

The above yardage reclaimed 272 acres of park lands and 785 acres of business and industrial properties.

Built 13,000 ft. of approximately 2½ miles of commercial dock walls. With the exception of the Don retention walls, all of this work is in the inner harbor.

Built in the eastern harbor terminals—11,630 ft. of sidewalk, 9,350 ft. of concrete pavement of various widths, 9,500 ft. of storm sewers from 12 in. to 42 in. in diameter 4,500 ft. of storm overflow sewers, sizes 6 x 18 ft., 6 x 8 ft. and 6 x 16 ft.

Built administration buildings at Bay and Cherry Sts., together with miscellaneous construction buildings.

Built Sunnyside pavilion.

Built 6.6 miles of railway trackage, together with construction plant, such as derricks, scows, tugs, pile drivers, etc.

Acquired property and property rights in eastern harbor terminals.

Maintained harbor and dock properties in eastern harbor terminals dredging channels, sewer outlets, etc.

General engineering, surveys, construction, administration and overhead operating expenses.

Paid interest charges on bonds and sinking fund.

Steamships for Canadian National Railways Pacific Coast Service—An Ottawa press dispatch stated recently that the Minister of Marine has announced that he would call for tenders shortly for 2 new steamships to run on the triangular route between Vancouver, Victoria and Seattle, in conjunction with the Canadian National Rys. and in competition with the C.P.R., and that they would be 50 ft. longer than the C.P.R. ones, and several knots faster. It appears that this report may by, at the least, somewhat premature. The question of obtaining steamships to operate in connection with the C.N.R. on the Pacific coast has, no doubt, been under discussion, but as far as can be ascertained no decision has been arrived at. When the G.T. Pacific Railway becomes a portion of the Canadian National Rys. system, the G.T. Pacific Coast Steamship Co.'s ships, Prince Albert, Prince George, Prince John, and Prince Rupert, now operating between ports from Seattle on the south to Prince Rupert on the north, company's motorship, Tillamook, and its tug, Lorne, will come under the C.N.R. management.

The Dominion Government's Policy as to the Shipbuilding Industry's Future.

The Ottawa Journal, which is a Union Government supporter, said on Nov. 19 as follows:—"During the next week the government is likely to consider closely the question of its shipbuilding policy. The two ministers most interested are, naturally, the Minister of Marine, who has been responsible for the government's shipbuilding policy; and the Minister of Finance, who will have to provide the funds necessary for carrying it out. The government, so far, has built, or has under contract, over 50 ships. Some 12 or 15 of these are completed; and before the first of the year 10 or 12 more will be ready for sea. They are on various trade routes in all parts of the world and the government is well satisfied with the result. They have opened up business for Canada at a time when there was a world shortage of shipping; and it is estimated that the vessels will all have paid for themselves in three years time, if rates continue near to their present height.

"The question now arises as to future construction, and a continuation of the policy of building government owned vessels. It is felt in official circles that the government cannot indefinitely continue its building programme; and that, for the future, it should be a matter of private enterprise. However, with the present high cost of building and uncertainty as to the future, private capital is somewhat timid. This leaves the Canadian shipbuilders in an awkward position. They have built up on both coasts, and on the great lakes a magnificent industry, with a great organization, and it is felt that this should not be allowed to languish. If the government is not going to continue its building policy, and it apparently does not intend to do so, except on a limited scale, the question arises as to what form encouragement to shipbuilding should take in the future. This will be one of the matters under discussion by the ministry during the week.

"The plan of a bonus to the shipbuilding industry has been the one generally advocated; but there are strong objections to such a policy. The farmers particularly are against the bonusing principle in any industry. Two interesting suggestions have been put forward and there is good reason to believe that they will be given consideration by the ministers concerned. One proposal is that the government should assist ship buyers in financing. It is pointed out that in Great Britain there are companies which make a regular business of financing construction by underwriting the bonds of ship owning companies. There are no such facilities in Canada, as the industry is comparatively new. It is suggested that the government might undertake this method of encouraging the industry in preference to bonussing. Another suggestion is that the government should encourage the purchase of ships by private capital, and hence the shipbuilding industry, by allowing a substantial amount annually for depreciation, which should be taken into consideration in estimating business profits in income taxation. It is pointed out that at present the cost of ships is very high. Consequently private capital hesitates to commit itself too heavily in the purchase of vessels, fearing that in a few years hence values will be reduced heavily. In the meantime, it is admitted that while profits will be high, a large share of the same will go to the government. It is proposed, to meet this loss, that the government should allow a certain figure for this depreciation, which would otherwise go to the country in taxation.

"It is understood that the Minister of Marine may shortly call a conference of shipbuilders from both the Atlantic and Pacific coasts to consider the carrying out of the government's shipbuilding policy and also the bonussing of the shipbuilding industry."

We are advised that the Minister of Marine does not contemplate calling such a conference as referred to above, but that shipbuilders have asked for an interview with him and other members of the government in order to urge a bonus for steel shipbuilding.

Sorel Government Shipyard Superintendency.

The Civil Service Commission advertized recently for applications to be sent in by Nov. 24 by residents of the Province of Quebec only, for the position of shipyard superintendent for the government shipyard at Sorel, Que., Marine Department at an initial salary of $3,000 a year. Candidates must have education equivalent to graduation in engineering from a school of applied science of recognized standing; at least 5 years of experience in ship design and construction, 2 years of which shall have been in responsible charge of such work; thorough knowledge of various types of ships and ship machinery and the construction and repair thereof; firmness, tact, good judgment, and ability to manage men; preferably a knowledge of both French and English. No special age limit is fixed for this position, but the appointee must be of such an age as to ensure a reasonable period of satisfactory service after appointment. The successful candidate will be required to perform the following duties: under direction, to have charge of the Sorel shipyard; to be responsible for the design, estimate, construction, and repair of ships; to supervise the buying and safekeeping of stores and stock and the work of all employes, and to perform other related work as required. An examination will be held in education and experience along the lines indicated above. An oral examination of the best qualified candidates will be held, if necessary in the commission's opinion.

The vacancy was caused by the resignation of W. S. Jackson, who was appointed Superintendent, May 12, 1912.

F. A. Willsher, Assistant Naval Constructor, of the Marine Department, at Ottawa, has been acting as Superintendent.

The Head Lines s.s. Melmore Head, which left Montreal, Nov. 21, light, developed turbine trouble in the St. Lawrence, and was delayed at Quebec for four or five days making temporary repairs, after which she left under escort for Halifax, N.S., where permanent repairs were carried out, after which she proceeded to St. John, N.B., to take on a general cargo for Belfast, Ireland.

Exemption of Pacific Coast Shipping From Pilotage Dues.

The Canada Shipping Act, Revised Statutes of Canada, 1906, chap. 113, provides in sec. 477, what ships shall be exempted from compulsory payment of pilotage dues. Bill 42, passed by the Dominion Parliament at its recent session, provides further exemptions, by adding the following paragraph to the Canada Shipping Act, sec. 477, subsec. 1.

"(h) Ships registered in Canada employed in voyages between any port in the Province of British Columbia, and the port of San Francisco, or any port of the United States of America on the Pacific, north of San Francisco, and between any port in the Province of British Columbia and any port in Alaska."

On the motion for the second reading of the bill in the House of Commons, the acting Minister of Marine, Hon. A. K. Maclean, said: "The bill is to enable Canadian registered shipping operating between British Columbia and United States ports as far south as San Francisco, and sailing as far north as Alaska, to be relieved of pilotage. We are simply giving the shipping owned in British Columbia the same relief that years ago was given to Nova Scotia and New Brunswick and later to Quebec and Ontario shipping. As a matter of fact, the law has been evaded for many years in British Columbia, and the class of shipping to which this bill refers has not paid any pilotage.

Exchange on Freight Charges on Canadian Goods Collected in Great Britain.

Ottawa press dispatch, Nov. [illegible]:—The practice of shipping companies in Montreal, in applying the New York rate of exchange for determining freight charges collected in Britain on goods shipped from Canada, has brought a protest from the Canadian Trade Commission. The commission points out that British importers naturally believe Canada should be independent of the United States in these matters, and has asked the shipping companies to apply the Canadian rate of exchange. This would mean a saving of about 16c in the pound sterling, representing the 4% premium enjoyed in this country. The Canadian Government Merchant Marine Ltd., has already adopted the Canadian rate of exchange. It is now hoped that the Shipping Conference will take similar action.

Esquimalt Drydock.—As stated in Canadian Railway and Marine World for November, a Victoria, B.C., press dispatch of Oct. 16, said that, following negotiations which had been in progress for several weeks, Skinners Cove, Esquimalt, had been selected as the site of a drydock to be built by the Dominion Government, and we pointed out that we had previously been advised that the government in 1914 had acquired a site at Langs Cove, Esquimalt, for the purpose of erecting a drydock of the first class. Langs Cove is at the northeast corner of Esquimalt harbor, and Skinners Cove, where it is said the new drydock will be located, is adjacent to it. We are advised that the reason given for changing the site is in order to obtain a rock foundation for the keel blocks and also to secure a better entrance.

Cargo Shipbuilding in Canada for British Government.

Steamships War Hamilton and War Hydra, built by Polson Iron Works, Toronto, for the British Government, under order from the Imperial Munitions Board, have been sold to the Mount Royal Steamship Co., Montreal, and their names have been changed to Belchers and Baffin, respectively. They are of approximately [illegible],500 d.w. tons each. The War Hydra was launched Oct. 15, 1918, and the War Hamilton, Dec. 21, 1918. The latter was originally named War Aquila.

Steamship War Fury, 3,450 d.w. tons for British Government.

The s.s. War Fury, which was launched by the Midland Shipbuilding Co., at Midland, Ont., Oct. 16, and a full description of which appeared in Canadian Railway and Marine World for November, pg. 618, is the last of the steamships ordered by the Imperial Munitions Board to be built in Canada for the British Government. She sailed from Midland, Nov. 1, for Port Colborne, Ont., where she loaded grain for Montreal, and we were advised, Nov. 13, that she was at the latter port, in process of being drydocked for examination.

Canadian Allis-Chalmers, Ltd., Bridgeburg, Ont.—The 2 steel steamships, War Magic and War Vixen, built for the British Government under order from the Imperial Munitions Board, completed their trial trips on Lake Erie recently. The War Vixen left Bridgeburg Nov. 13 for Port Colborne, where she took on a cargo for Montreal. The s.s. War Magic left Bridgeburg Nov. 20.

J. Coughlan and Sons, Vancouver, B.C. The s.s. War Chariot, which completed her trial trips, Oct. 29, is the last of the ships built for the British Government.

Mainly About Marine People.

Hon. C. C. Ballantyne, Minister of Marine, and of the Naval Service, who had been absent from Ottawa, since early in the summer, on account of illness, returned there Nov. 4, and resumed his official duties. He received a hearty ovation on appearing in the House of Commons on Nov. 6. He expected to visit the Pacific coast on official business after parliament was prorogued, but will probably not be able to go for some months, possibly not before spring.

J. R. Binning, heretofore Manager, Furness, Withy & Co., Montreal, has been appointed Manager for Canada and Newfoundland, vice J. E. Furness, who has returned to England. Prior to entering Furness, Withy & Co.'s service, he was in the Foreign Freight Department, C.P.R., and resigned in 1898 on his appointment as Assistant Manager, Furness, Withy & Co., Montreal. He occupied that position until 1903, when he was appointed Manager there. He is a director of Canada Steamship Lines Ltd., and Vice President of the Northern Navigation Co., one of the Canada Steamship Line's subsidiaries.

F. Carter-Cotton, who was first chairman of the Vancouver Harbor Board, died in Vancouver, Nov. 20. He went to Vancouver in 1886, and established the News-Advertiser the following year, subsequently occupying several elective positions.

Sir Nathaniel Dunlop, formerly Chairman, Allan Line Steamship Co., died in London, Eng., Nov. 16, aged 89.

M. P. Fennell, Secretary, Montreal Harbor Commissioners, was elected Secretary of the American Association of Port Authorities, at its eighth annual convention at Galveston, Tex., Nov. 10. The 1920 convention will be held at Chicago, Ill.

John E. Furness, Canadian Manager, and a director, of Furness Withy and Co., has resigned as Canadian Manager, and in future will reside in England. He was born in Sweden in 1878, and educated there. He entered Furness Withy and Co.'s service at West Hartlepool, Eng., and was transferred subsequently to the London office. In 1904, as head of the Freight Department, he came to Canada as Assistant Manager, and in 1905 was appointed Manager, and was located at Halifax, N.S. He was interested in civic affairs there, and was, for a time, one of the aldermen. He was also associated with the Board of Trade, the Sailors' Home, and several local organizations.

Capt. J. W. Harrison, heretofore master of various steamships operated by Furness, Withy & Co., has been appointed Marine Superintendent for Canada and Newfoundland, for the company, with office at Halifax, N.S.

Alexander Hector, who has been appointed Port Agent, Canadian Government Merchant Marine, Ltd., Halifax, N.S., was born there, Sept. 12, 1882, and entered transportation service in June, 1898, since when he has been to Oct., 1902, clerk, freight department, Dominion Atlantic Ry.; Nov., 1902, to Oct., 1906, clerk, freight department, Intercolonial Ry.; Nov., 1906 to Nov., 1917, telegraph operator, city ticket and express agent, and chief clerk, Traffic Department, consecutively, Halifax and South Western Ry.; Nov., 1917 to Jan., 1919, Travelling Freight and Passenger Agent, Canadian Northern Ry.; Jan. 1, to Sept. 30, 1919, Travelling Freight Agent, Canadian National Rys., all at Halifax, N.S.

Hiram McLean, who died at Truro, N.S., Nov. 7, aged 49, from typhoid fever, was a partner in the shipbuilding firm of McLean and McKay, with shipyard at Economy, N.S.

Patrick John Melvin, who has been appointed Contracting Freight Agent, Marine Navigation Co. of Canada, which operates from Montreal during the summer and West St. John, N.B., during the winter, to St. Nazaire, France, was born at Trim, Ireland, Mar. 3, 1872, and entered railway service in Oct., 1888, since when he has been, to Aug., 1889, junior clerk, Freight Department, Great Northern Ry. of Ireland, Omagh; Aug., 1889 to Mar., 1894, clerk, Freight Department, same road, Newry; May, 1894 to Apr., 1898, clerk, Audit and Claims Department, G.T.R., Montreal; Apr., 1898 to Feb., 1906, clerk, Foreign Freight Department, C.P.R., Montreal; Feb., 1906 to Sept., 1918, chief clerk, Export Freight Department, same road, Montreal; Sept., 1918 to Mar. 15, 1919, acting Export Freight Agent, same road, Montreal; Mar. 15 to Nov., 1919, Export Freight Agent, C.P.R., Montreal.

J. F. Paige, whose resignation as Manager, Port Arthur Shipbuilding Co., Port Arthur, Ont., was announced in our last issue, together with his appointment as Operating Manager, Halifax Shipyards, Halifax, N.S., was born at Pictou, N.S., Dec. 13, 1873, and commenced his shipbuilding career with the Truro Foundry & Machine Co., Truro, N.S., as an apprentice, and entered the engineering department in 1892. In 1896 he was employed by the Perth Amboy Shipbuilding Co. of New Jersey and returned to Truro in 1897. From 1898 to 1902 he was consecutively junior and chief engineer, Dominion Atlantic Steamship Co., and from 1904 to Dec., 1916, was Superintendent, Fore River Shipbuilding Co., Boston, Mass. He was appointed Manager, Port Arthur Shipbuilding Co., in Feb., 1907, and during the time he was with the company, 27 ships were launched.

Capt. J. R. Philp, who died at Toronto, Nov. 19, aged 85, was stated to be one of the oldest sailors in Canada. He came to Canada from England in the early days, in a sailing vessel which took 19 days to make the trip, a comparatively fast time. He served as master of a number of boats on the Great Lakes and retired from active service in 1884.

G. D. Robinson, whose resignation as European Freight Agent, Canadian Pacific Ocean Services, Ltd., Montreal was announced in our last issue, has opened an office at Coristine Building, Montreal, where he is carrying on business as steamship freight broker, shipping, forwarding and chartering agent.

H. B. Smith, President, Collingwood Shipbuilding Co., who left on Sept. 15 for England and France, in connection with shipbuilding matters, returned to Owen Sound, Ont., Nov. 19. He was accompanied on his trip by J. S. Leitch, General Manager, Collingwood Shipbuilding Co., and Paul G. Chace, Vice President, Port Arthur Shipbuilding Co.

Cameron Stanton, Assistant Deputy Minister of Marine, has returned to Ottawa, after a brief visit to England.

Capt. W. Turnbull, master of the White Pass and Yukon Ry. s.s. Dawson, died suddenly at Vancouver, Oct. 30, very shortly after leaving the s.s. Princess Mary, on which he had come down from the north. He was born in Scotland in 1868, and had been in W.P.& Y.R. service since 1898, during which time he had been master of practically every one of its vessels on the Yukon River.

R. C. Vaughan, Assistant to President, Canadian National Rys., left Toronto, Nov. 9, for Vancouver, accompanied by D. O. Wood, Traffic Manager, Export & Import Department, C.N.R., on business connected with Canadian Government Merchant Marine Ltd., and the operation of its ships which are being built at the Pacific coast. They are expected to return to Toronto early in December.

Col. A. W. R. Wilby, C.B.E., who returned to Canada recently after nearly four years on active service, has resumed his position as District Engineer, Dominion Marine Department, Victoria, B.C. He left Canada in Mar., 1916, with the 62nd Battalion, C.E.F., which was broken up in England shortly after, and he was transferred to the 48th Battalion (3rd Canadian Pioneers, and went to France, where he served as a major until May, 1917, when the battalion was broken up. He was then appointed Deputy Assistant Director, in connection with the labor directorate for the Canadian Corps, and on its reorganization in the early part of 1918, he was promoted to Colonel with the title of Labor Commandant, at Canadian Corps headquarters. He was mentioned in dispatches on two occasions and was made a Commander of the Order of the British Empire for services at the front.

Vancouver's Recommendations for Harbor Improvements, Etc.

The Canadian Manufacturers' Association's British Columbia Branch, has made a number of recommendations to the Vancouver Harbor Commission, for the improvement of harbor facilities there. These recommendations, which were to be taken up with the Dominion Government, by the Commission, during its visit to Ottawa in November, comprise the construction of large dock and freight sheds on Burrard Inlet; a terminal railway system, as recommended in what is known as the Swan report; provision for 2 fireboats to be equipped for no other purpose than to protect wharves and industries on False Creek and Burrard Inlet; keeping of the port charges as low as possible, to induce trade; and the submission that dredging and maintenance should not be a direct charge upon the port's traffic, but should be met out of general revenue; immediate construction of a dry dock capable of repairing any vessel which might come into the port; all possible steps to be taken to encourage export trade, the operation of government owned steamships and the continuation of shipbuilding.

Non Rolling Ship—E. A. Sperry is reported to have stated, at the Society of Naval Architects and Marine Engineers' annual meeting in New York recently, that plans are in progress for extensive adoption of a new principle so that benefits and economies resulting from a ship guaranteed against rolling will be available to the travelling public.

Gladys H.-Eric W. Collision—An enquiry was held at Ottawa, Oct. 20, before Capt. L. A. Demers, Dominion Wreck Commissioner, and Capts. C. Lapierre and C. J. Stuart as nautical assessors, into the collision between the barge Gladys H., tow and the Webtser Steamship Co.'s s.s. Eric W., in the Lachine Canal recently. The court found that the master of the Eric W. violated article 29 of the Rules of the Road for the Great Lakes, causing the barge Gladys H. to swerve to port, when her steering was nullified through her keel nearing or touching bottom, due to disturbed water caused by the Eric W. The certificate of the master of the Eric W., Capt. Marchant, was suspended for one month from its receipt by the court, and he was cautioned that the regulations framed for guidance of navigating canals and narrows stretches of water must be strictly adhered to.

Edward Stone, General Advertising Agent, Canadian Pacific Ocean Services Ltd., Montreal, formerly General Agent, Passenger Department C.P.O.S., Yokohama, Japan, in sending in a subscription order, writes: "I enclose my subscription to your valuable paper. It is on file in the Yokohama office and is read very diligently by the staff there."

Shortage of Certificated Masters and Mates.

The acting Minister of Marine, on Nov. 5, moved, in the House of Commons, as follows: "That it is expedient to amend the Canada Shipping Act, chap. 113 of the Revised Statutes, 1906, by providing that,—

"1. Notwithstanding any provision in the Merchant Shipping Act, 1894, or any amendment thereto, or in the Canada Shipping Act, or any amendment thereto, the Minister of Marine and Fisheries of Canada may grant permission to the following vessels to clear from any port in Canada on any voyage even though the master and mate of any such vessel, or either of them, do not hold valid certificates of competency or service, provided that the said minister is satisfied that properly certificated men cannot be procured and that the acting master and mate are competent and have sufficient experience:—

"(a) Canadian registered vessels other than vessels carrying passengers;

"(b) Canadian registered vessels carrying passengers not exceeding 100 registered tons, which ply exclusively within what the Minister of Marine and Fisheries may deem to be sheltered waters within the inland waters or on the sea coasts of Canada;

"2. These provisions shall continue in operation for one year from the date of the passing of the act to be based upon this resolution and no longer."

The resolution was carried, and a bill founded on it was read a first time, Nov. 7. On the second reading of the bill, Nov. 8, the acting Minister of Marine said that if the bill was acceptable, he purposed amending it, so that it would be restricted to sailing ships, and operative only for 6 months. During the war an order in council was passed permitting vessels to sail from Canadian ports without certificated masters and mates, if it were shown that it was not possible to get them, and that the men engaged were competent. Now it is impossible to get the required number of certificated masters and mates for trans-Atlantic voyages, there being more Canadian ships, particularly sailing ships, in trans-Atlantic business than for the past 25 years. In the U.S., sailing ships up to 700 tons gross can leave any U.S. port without certificated officers, and in the United Kingdom any freight vessel may engage in the coasting trade without certificated officers. All that the bill was intended for was to continue for 6 months after the proclamation of peace what was permitted under the war time order in council, but if any substantial objection developed, the bill would be withdrawn.

There was a considerable amount of objection from members of the opposition, chiefly on account of the late date on which the bill was brought forward, precluding what was regarded as full and adequate discussion, and the bill was withdrawn.

The White Transpportation Co.'s s.s. H. E. Runnels of Buffalo, N.Y., ran aground at Grand Marais on the south shore of Lake Superior, Nov. 13, during a heavy storm and was pounded to pieces, the crew being rescued by coastguards. She was built at Port Huron, Mich., in 1893. The hull was of wood, and her dimensions were: length, b.p., 182 ft.; breadth, moulded, 35 ft.; depth, moulded, 13 ft.; tonnage, 889 gross; 629 net.

Legislation and Regulations Respecting Compulsory Equipment of Radio Telegraph Apparatus on Ships Registered in Canada and Great Britain.

Canadian Railway and Marine World has been favored by the Deputy Minister of Naval Service, G. J. Desbarats, C.M.G., with the following summary:—

1.—Canadian legislation and regulations.

(a) Radiotelegraph Act, Statutes, 1913, chap. 43, sec. 4. The provisions of this section are limited to vessels carrying or licensed to carry passengers. Vessels coming under one of the following categories must carry a radiotelegraph equipment and one operator:

When carrying 50 or more passengers and crew and plying between ports more than 200 miles apart.

When carrying 250 or more passengers and crew and plying between ports more than 90 miles apart.

When carrying 500 or more passengers and crew and plying between ports more than 20 miles apart.

The above provisions are subject to a few minor exceptions.

(b) Temporary war measures—Defence of Canada order 23A, effective Jan. 1, 1918, prescribes that "Every steamer registered in Canada of 1,600 tons, plying to Europe, must be equipped with a radiotelegraph set and carry two certificated operators." This order automatically cancels when the War Measures Act is annulled.

2. **International regulations**—The provisions of the Convention on Safety of Life at Sea, 1914, prescribed that "All merchant ships which carry 50 or more persons, whether they carry passengers or not, must carry a radio equipment and one or two operators, subject to the exception that any of the contracting parties may exempt ships which in the course of their voyage do not go more than 150 miles from the nearest coast."

This convention, while signed by all the leading mercantile powers, including Canada, has not yet been declared effective; it will probably become effective in Great Britain on Jan. 1, 1920.

3. **Existing British Legislation**—(a) Defence of the Realm Regulation 37B, 1916, prescribed as follows:—"Every British ship of 3,000 gross tonnage or more which has been granted a license to install wireless apparatus, must be fitted with such apparatus and provided with one certificated operator."

(b) On Oct. 23, 1917, the provisions of the above regulation were amended as follows:—"Every British seagoing ship of 1,600 gross tonnage or more, which has been granted a license to install wireless apparatus, must be fitted with such apparatus and provided with two certificated operators." This latter regulation is still in effect (Nov., 1919).

(c) Canadian Regulation 23A, mentioned in paragraph 1 (b), is practically identical with this British Regulation, with the exception that the provisions of our regulation are limited to Canadian ships plying to Europe or in European waters.

4. New Legislation by Great Britain—"An act to make further provisions with respect to wireless telegraphy on ships" has been passed by the British Parliament. It becomes effective on the cancellation of the British Defence of the Realm Regulation dealing with the compulsory equipment of radiotelegraph apparatus.

Every seagoing British passenger steamer and every seagoing British steamer of 1,600 tons gross or upwards, shall be provided with a wireless equipment and with one or more certificated operators, the number of operators to be governed by the regulations contained in the convention for Safety of Life at Sea.

The Board of Trade is given power to exempt any ships or classes of ships in which they consider the installation of a radiotelegraph equipment is unnecessary or unreasonable.

A passenger steamer is defined as one which carries more than 12 passengers.

Three months after the act comes into force, its provisions shall apply equally to ships registered in foreign countries and to British ships registered elsewhere than in the United Kingdom.

With the annulment of the Canadian War Measures Act, in the near future, compulsory equipment in Canada will be limited to passenger ships affected by the provisions of the Radiotelegraph Act, Sec. 4, and will, accordingly, be less drastic than the British legislation in this reference. Canadian ships plying to Great Britain will, nevertheless, be affected by the new British legislation.

It is probable that the convention for Safety of Life at Sea will be approved by Canada in the near future, and when its provisions are placed in effect, every ship carrying more than 50 persons, and plying on voyages which take her more than 150 miles from the coast, must be equipped with wireless apparatus.

The Great Lakes Transportation Co. has bought the s.s. F. P. Jones, from the United States Shipping Board. She was owned formerly by Geo. Hall Coal Co., Ogdensburg, N.Y., and is now at Midland, Ont., where alterations are being made by the Midland Shipbuilding Co. She is a steel ship and was built in 1913 at Wyandotte, Mich., on the channel system, with steel tank top where no wood ceilings are fitted. She has 3 watertight and 2 non-watertight bulkheads, stee lboiler house, steam pump well and electric light. Her dimensions are: length, 244 ft.; breadth, 43 ft.; depth, 21 ft.; tonnage, 1,706 gross; 1,059 net. She is equipped with triple expansion engines, with cylinders 18, 29 and 48 in. diar. by 40 in. stroke, 900 i.h.p., at 85 r.p.m., supplied with steam by 2 Scotch boilers, each 12 x 11½ ft., and 170 lb. She has been renamed Glencadam, and transferred to the Canadian register, and will be operated to South American ports.

Canada Steamship Lines' Earnings—A London, Eng., cablegram of Nov. 19, credits W. Grant Morden, M.P., one of the company's London advisory committee, with stating that the company had had record earnings for this year, and that there would certainly be a bonus to the shareholders.

Seal Cove Marine Ways, Ltd., has been incorporated under the British Columbia Companies Act with $10,000 authorized capital, and office at Prince Rupert, B.C., to own and operate dry docks, marine ways, shipbuilding plants, steam and other vessels, etc.

Gulf of St. Lawrence Shipping and Trading Co.'s Service.

A recent press report from St. John's, Nfld., said:—"The Gulf of St. Lawrence Shipping and Trading Co. will have a regular fortnightly service of steamships between Montreal and St. John's next summer. The St. John's agents are A. Harvey & Co., who have the use of Shea's wharf for discharging cargoes. All this autumn they are running the service under a temporary arrangement with United States steamships. The Ellerslie and Lake Elon have already made trips from Montreal with general cargo, but instead of going back to Montreal, return to the United States. The s.s. Galatea is now on the way here. The two regular boats for the service are being built and will be 2,800 tons each, with first class accommodation for about 60 passengers. One will be ready by June next, the other in July.

"The company's travelling agent, Mr. Keating, of Montreal, who is now in the city, states that the new ships will be up to date in every particular and special attention will be given to passenger accommodation."

Canadian Railway and Marine World understands that the Gulf of St. Lawrence Supply Co. made an offer to the Marine Department recently for the 2 steel cargo steamships of approximately 2,800 d.w. tons each, which are being built by Nova Scotia Steel and Coal Co. for Canadian Government Merchant Marine, but that it was declined.

The s.s. John Owen, owned by the Owen Transportation Co., Detroit, Mich., is presumed to have been lost during a storm on Lake Superior, in the early part of November, together with her crew of 22. Search has been made for any trace of the ship or crew, and some wreckage has been found southwest of Caribou Island, bearing the vessel's name, but no trace of the crew has been discovered. The s.s. John Owen was built at Wyandotte, Mich., and was of composite construction, with diagonal strapping on frames, 2 watertight bulkheads, steel boiler house, steam pump wells, bow sheathed for operation in ice, and with center board and electric light equipment. Her dimensions were: length, b.p., 281 ft.; breadth, moulded, 41 ft.; depth, moulded, 21 ft.; tonnage, 2,127 gross; 1,609 net. The propelling machinery consisted of triple expansion engines, with cylinders 19½, 33 and 56 in. diar., by 42 in. stroke, 1,500 i.h.p. at 80 r.p.m., supplied with steam by 2 Scotch boilers each 12½ x 11 ft. at 160 lb.

Manchester Liners, Ltd., report for the year ended June 30, shows that after providing for depreciation, and all charges, and including balance brought forward, there was a surplus of £137,369. Of this, £50,000 has been placed to reserve account, a dividend of 15% paid absorbed £66,780, and £6,678 was placed to first debenture reserve fund, leaving £13,911 carried forward to the current year. The company's steamships were operated during the year free of serious accident, and two new ones were added to the fleet, viz.: Manchester Brigade and Manchester Division. The company operates between Manchester, Eng., and Canada.

The Marine and the Naval Service Departments, Ottawa, have moved their offices, from Mackenzie Ave., to the new Hunter building, O'Connor St.

Canadian Notices to Mariners.

The Marine Department has issued the following notices:—

Ontario—Lake Huron and Georgian Bay, sailing directions—A new edition of "Sailing Directions for Canadian shores of Lake Huron and Georgian Bay," has been published; copies may be obtained from the Hydrographic Survey, Naval Service Department, Ottawa, for 25c each.

Ontario—Kaministikwia River, Fort William—The small shoal extending out from the south side of the Kaministikwia River at the lower end of the Westport turning basin has been removed by the Public Works Department to a depth of 25 ft. The temporary black spar buoy marking the shoal will be discontinued.

United States—Lake Superior, St. Marys River, Cedar Point range lights moved to Round Island—Front light, on northerly end of Round Island; fixed white light; 2,500 candles; elevation, 50 ft.; black, pyramidal, skeleton structure, with white slatted oval daymark. Back light, on southerly end of Round Island; fixed white light; 2,500 candles; elevation, 70 ft.; black, pyramidal, skeleton structure, with white slatted oval daymark.

Nova Scotia—Bay of Fundy, Minas Basin—The operation of lights and fog alarms in the Bay of Fundy and Minas Basin on the north coast of Nova Scotia, east of Margaretville, with the exception of Ile Haute, will be discontinued while navigation is closed for the winter, normally from about Jan. 10 to about April 1, each year, without any special notice being given. Any or all of these lights may be relit, at any time, if the Department deems it in the best interests of navigation through the absence of severe weather or if navigation is possible.

Quebec—Gulf of St. Lawrence, Magdalen Islands, Grand Entry Harbor—New back range light to be established, on or about Nov. 1, 1919; 240 ft. 40° 30′ (N. 67° E. mag.) from front light. Fixed red catoptric light shown from a locomotive headlight lantern; elevation, 37 ft.; pole, with shed at base, on concrete foundation; color, white.

Quebec—Chaleur Bay, St. Omer—The outer portion of the breakwater at St. Omer has been carried away and the lighthouse now stands on the extremity of the remaining portion, 135 ft. shoreward of its former position. Mariners should give the light a berth of 150 ft. until the debris has been removed.

North Atlantic Ocean—Floating mine—A floating mine was sighted on Oct. 9, in lat. n. 45° 39′, long. w. 29° 19′.

North Atlantic Ocean—Floating derelict—The wreck of the s.s. Venezina, which was abandoned on fire in lat. n. 43° 32′, long. w. 45° 4′, is reported to be a menace to navigation.

Nova Scotia—Port Medway, Voglers (Conrads) Cove—Buoys established on west side of channel leading up to the cove; wooden spar buoy; red. On east side of channel at entrance to cove; wooden spar buoy; black. On west side of channel inside the cove; wooden spar buoy; red.

Prince Edward Island—Murray Harbor, Irvine Point—A channel, 65 ft. wide and 7 ft. deep, has been dredged by the Public Works Department, through the bar in front of Irvine lane, about 800 ft. west of Irvine Point. The dredged channel begins at the north side of the bar and extends shoreward for 1,000 ft. The inside 200 ft. has been dredged to a width of 200 ft. to form a basin.

Prince Edward Island—Naufrage Pond—The channel between the breakwaters at the entrance to Naufrage Pond, and the basin inside the breakwaters, have been dredged by the Public Works Department to a depth of 5 ft.

Quebec — River St. Lawrence, St. Thomas channel — Black gas buoys 73½B, 75B, and 77B, have been moved southward 250 ft. giving the channel a width of 750 ft.

Ontario—Great Lakes and River St. Lawrence—All Canadian lights and fog alarms on Lake Superior will be kept in operation this autumn until the close of navigation, with the exception of Caribou Island, Quebec Harbor, Davieaux Island, and Michipicoten Island east end, which will be closed on Dec. 15, and with the exception of Gargantua, Michipicoten Harbor, Corbeil Point, and Ile Parisienne, which will be closed on Dec. 20. Also Slate Island, Battle Island, Lamb Island, Shaganash, Point Porphyry, Thunder Cape, Welcome Island, Pie Island, and Victoria Island, which will be closed after the last sailing to or from Port Arthur and Fort William.

All Canadian lights and fog alarms on Lake Huron, Georgian Bay, Lake St. Clair, Lake Erie, Lake Ontario, and connecting waters, will be maintained in operation until the close of navigation, excepting the Southeast Shoal lightship, Lake Erie, which may be removed after Dec. 1, and also Lonely Island light, Georgian Bay, which may be closed before the general close of navigation.

All Canadian lights on the River St. Lawrence will be maintained in operation until the close of navigation.

All gas buoys and other floating aids to navigation will be maintained in position as long as ice conditions will permit, and in cases where it is necessary to remove gas buoys before the close of navigation, the more important points will be marked by spars.

New Brunswick—Bay of Fundy, Mascabin Point—The steam fog horn has been replaced by a diaphone, operated by air, compressed by an oil engine, giving one blast 3½ seconds duration every 30 seconds.

Nova Scotia—Green Island Fog Alarm, additional particulars. On west side of island. Bombs exploded every 15 minutes, and every 5 minutes when vessels' signals are heard in dangerous proximity.

United Kingdom Wireless Telegraphy Requirements—This contains the text of the Merchant Shipping (Wireless Telegraphy) Act, 1919, an abstract of which is given under "Legislation and Regulations Respecting Compulsory Equipment of Radio Telegraph Apparatus of Ships Registered in Canada and Great Britain," on another page of this issue.

Elder, Dempster & Co., Montreal, state that they are replacing part of their heavy losses sustained during the war and have already added to their fleet 5 new steamships of 10,500 d.w. tons each, viz.: New Brunswick, New Texas, New Toronto, New Georgia and New Mexico, also the s.s. Bassa, of 8,500 d.w. tons. They are also building several other steamships, including some 12,500 ton ships, which are expected to be ready next spring. The steamships mentioned above are specially adapted to suit the Canadian South Africa service.

Upbound and Downbound Courses on Lakes Huron and Superior.

On the Dominion Marine Association's recommendation resulting from consideration given to correspondence on the subject, the Canadian Lake Protective Association decided recently that the observance of separate courses upbound and downbound in Lake Huron and on the south shore of Lake Superior shall be an official requirement under normal conditions for all vessels enrolled in the association, the one exception to the rule being that in stress of weather the master should follow his own judgment as to deviation from the prescribed courses. The regulation as to Lake Huron has been in force in the association for a number of years, and masters are directed to pay careful attention to the rule with a view to additional safety for their ships.

On Lake Huron a line is to be drawn on the chart from Detour Passage to a point 10 miles e.n.e. of Thunder Bay Island light, thence to a point 10 miles off Harbour Beach, thence to Lake Huron light vessel; and on Lake Superior a line is to be drawn from point of departure to a point 6 miles north of Devil Island, thence to a point 10 miles north of Copper Harbour, and thence to Whitefish.

All upbound ships are to keep to the westward of this line on Lake Huron and to the southward on Lake Superior, and all downbound ships are to keep to the northward of this line on Lake Superior and to the eastward on Lake Huron, giving the line a good margin of leeway, and deviating from this rule only when in the master's judgment weather conditions require it.

Improvement Expected in Atlantic Shipping Situation.

London, Nov. 4.—T. Lodge, Secretary to the Ministry of Shipping, says a steady improvement is expected in the Atlantic shipping situation. The ministry will not state what percentage of liner cargo space it will require for December, but thinks the situation will gradually improve during the winter. The ministry will not carry Canadian wheat for the allies in controlled cargo space. This means that Belgium, France, Italy and Portugal, and possibly Poland, will have to make their own arrangements if they take Canadian wheat. The Hudson's Bay Co. will probably carry the French and Belgian wheat and the Italians will put on a service of their own. Contracts for the supply of large quantities of Canadian flour to Scandinavia are under negotiation and separate arrangements are necessary for this. Special copyright cablegram to Montreal Gazette.

Trent Valley and Welland Ship Canals. J. A. Campbell, M.P. for Nelson, Man., asked in the House of Commons, Nov. 10, whether the financial condition of the country permits of the expenditure on the Trent Canal of $1,[illegible],000, and on the Welland Ship Canal of $[illegible] this year. The Minister of Justice replied as follows: "Work on the Trent and Welland Ship Canals, together with other works were closed down during the war. During the current year work was resumed on the Welland and Trent Canals for the purpose of giving work to the unemployed civilians and returned soldiers in the districts affected."

Rumored Shipping, Shipbuilding and Steel Merger in Canada.

Reports are current of a merger of steel and shipbuilding interests in Canada, it being stated that the companies involved are, Dominion Steel Corporation, Nova Scotia Steel and Coal Co., Steel Co. of Canada, and Canada Steamship Lines. At a meeting of the directors of the Dominion Iron and Steel Co., one of the constituent companies of the Dominion Steel Corporation, at Montreal, Nov. 20, it was announced that it had been decided to sell 50,000 shares of common stock in the Dominion Steel Corporation Ltd., to a London, Eng., syndicate, at $70. Mark Workman, the President, in making the announcement, stated that it was felt that the business could be greatly extended and assisted by enlisting the cooperation of men influential in shipping, coal and steel circles. He also stated that an advisory committee for the purpose of co-operating with the Dominion Steel board in connection with its interests in Great Britain, would be formed. The syndicate mentioned includes Sir William Beardmore, of William Beardmore and Co., shipbuilders, etc., Glasgow, Scotland; Lord Furness, head of Furness Withy and Co., and Honorary President, Canada Steamship Lines Ltd.; Sir Trevor Dawson, of Vickers Ltd., Canadian Vickers Ltd., and of the Canada Steamship Lines, London advisory board; Sir Harry McGowan, Benjamin Talbot and Henry Steel.

British Columbia Coast Steamship Service, C.P.R.—J. W. Troup, Manager, Victoria, B.C., authorized the statement, in August, that the construction or acquisition of further car barges and passenger steamships for the company's service was being considered, but that no definite plans had then been made, and no expenditure had been authorized. We are now advised that nothing definite has been decided on and that the cost of construction appears to be almost, if not absolutely, prohibitive.

The Dredge Canada P.W.D. No. 7, was offered for sale by tender, by the Public Works Department up to Nov. 27, as she lies moored at Liverpool, N.S. She was built of iron in 1872 at Renfrew, Scotland, and is being sold, as it is found that it is no longer economical to operate her as a dredge, but that it may be possible to convert her into a steamship or a barge. She is 132 ft. long with 20 ft. beam. There are 2 simple engines 22 x 21 in. with one Scotch boiler, 9 ft. long by 10 ft. diar.

Inspection of Ships' Tackle—The Civil Service Commission asked applications recently for the position of Inspector of Ships' Tackle. Applicants are required to have had a primary school education and at least 2 years experience as rigger or stevedore and to be familiar with all kinds of ships' tackle The salary will be $1,200 a year, which may be supplemented by such bonus as may be voted by parliament The duties cover the inspection of ships' tackle, life jackets, etc.

The International Transportation Co. Ltd., has been incorporated under the Dominion Companies Act, with $500,000 authorized capital, and office at Montreal, to carry on a general mercantile business, and also a general ticket agency for transportation by land and water and a general shipping business, including chartering vessels.

Amendments to Radiotelegraph Regulations.

The acting Minister of the Naval Service, Hon. A. K. Maclean, submitted in the House of Commons, on Nov. 3, an amendment to the Radiotelegraph Regulations as follows:

Regulation 88 of the regulations made by the Minister of the Naval Service in accordance with the Radiotelegraph Act, statutes of 1913, chap. 43, sec. 11, as enacted by the Minister of the Naval Service on Oct. 12, 1916, is hereby repealed and the following is substituted therefor:—

"88 (a) No person shall be permitted to attend examination for any class of certificate of proficiency in radiotelegraphy who is not a natural born British subject; who has at any time been of enemy nationality, or whose parents or either of them, have at any time been of enemy nationality. Provided, however, that any naturalized British subject, who has not, or whose parents, or either of them, have not, at any time, been of enemy nationality, may be admitted to examination if his application be approved by the Minister of the Naval Service.

"(b) Candidates for examination for first class certificates of proficiency must be not less than 18 years of age.

"(c) For the purpose of this regulation a person shall be deemed to be of enemy nationality if he has at any time been a subject of a state with which Great Britain has been at war within a period of 10 years, immediately proceeding the date of this regulation."

The Canadian Deep Waterways and Power Association was organized at Windsor, Ont., Nov. 19, to promote a deep water route from the ocean to the head of the lakes, and incidentally to encourage various power development schemes along the route. The officers elected for the current year are: Honorary President, W.M. German, K.C., Welland, Ont.; Honorary Vice Presidents, Sir Adam Beck, London, Ont., and the Mayor of Toronto; President, O. E. Fleming, K.C., Windsor, Ont.; Vice President, E. L. Cousins, Toronto.

Government Steamship Tyrian—The Dominion Public Works Department gave a contract, Oct. 30, to T. Hogan & Co., boiler makers, etc., Halifax, N.S., for repairs to the ships machinery and boilers, at a cost of $19,890. The Tyrian was built at Glasgow, Scotland, in 1869, and is screw driven by engine of 108 n.h.p. Her dimensions are: length, 237.5 ft.; breadth, 30.2 ft.; depth, 10.9 ft.; tonnage, 1,039 gross; 667 registered. She has been utilized for some time as a cable repair ship.

International Bridge Assessment—The assessment of the property of the International Bridge Co., owned by the G.T.R., which has been under discussion for some months, was settled Nov. 5. The assessment was formerly $300,000, but early this year the Bridgeburg assessor increased it to $1,200,000. The company appealed, and after negotiation the Bridgeburg, Ont., Town Council, consented to fix $600,000 as the value for assessment purposes.

Among the Express Companies.

The Canadian National Ex. Co. has opened offices at Ragged Rapids and Tionaga, Ont., Val Jalbert, Que., and South Edmonton, Alta.

The Canadian Ex. Co., which is a subsidiary of the G.T.R., is included in the deal whereby the Dominion Government will acquire the G.T.R. properties.

The Dominion Ex. Co. has notified its agents of the increased premiums for money orders issued for payment in the U.S. on account of the difference in exchange. The increased premium due to the difference in exchange is 5¼%.

The Quebec Supreme Court, in the case of Benard vs. Canadian Ex. Co. for $350 claimed on the ground that a quantity of furs had not been delivered to plaintiff, held, Nov. 10, that the company was not liable, as the furs had been seized by the Game and Fisheries Department.

The American Ex. Co. has created a Canadian Division, with headquarters at Montreal, and A. C. Heffernan as Manager. All the United States express companies are, at present, being operated as the American Railway Express Co., under the United States Railroad Administration.

The Canadian Ex. Co. was charged Nov. 20, at Ottawa, with unlawfully importing intoxicating liquors into the Provinces of Ontario on Nov. 18. The charge arises out of the shipment of wines from Montreal to the Ottawa Country Club near Aylmer, Que., and owing to a misrouting of the shipment it entered the Province of Ontario. The hearing of the case was adjourned.

The Canadian Ex. Co.'s European Traffic office staff has been reorganized as follows: General Agent and Assistant to European Traffic Manager, P. A. Clews; Advertising Agent, M. V. Caldwell; with offices at London, Eng.; General Agent, E. J. Wearing; Freight Agent, J. M. Charles, with offices at Liverpool, Eng.; General Agent, J. M. Walker, with office at Glasgow, Scotland.

Registration of Cable Addresses.

The C.P.R. Co.'s Telegraphs and the Great North Western Telegraph Co. have issued the following circular to cable patrons:

Commencing Jan. 1, 1920, a fee of $2.50 a year will be made for recording a registered address. Upon that date all existing registrations will lapse, unless renewal has been previously made and the fee paid for the succeeding year. All registrations will automatically expire 12 months from date of registry and must be renewed, if a continuation of the registration be desired. Thirty days prior to expiration of any registration, a formal notice will be sent by one of the telegraph companies in order that the registration and subscription may be renewed, if desired. It will be necessary to register with one telegraph company only, as each company will at once record registrations with the other and render any desired assistance to patrons in making same. Reversible addresses will be discontinued, but customers may retain present addresses by making local registration, and arranging with their correspondents to make similar registration with the telegraph administrations abroad. Upon receipt of this advice please forward to one of the telegraph companies at your place verification of your existing selected address or addresses. It must be accompanied by a remittance to cover the registeration, of each address, for the year from Jan. 1, 1920.

Telegraph, Telephone and Cable Matters.

The Postal Telegraph Co., which is to lay a new cable in the Pacific Ocean between America and China, announces that it hoped to have the work completed and the cable in operation within two years. President C. H. Mackay, who returned recently from Europe, where he conducted the negotiations, is reported to have stated that the matter was progressing satisfactorily.

The Great North Western Telegraph Co. has opened offices at Restigouche, Que., Norwood, Ont., Erickson, Man., and Entrance, Alta., and has closed its offices at Bristol, Bryson, Cape d'Espair, Gilbert des Caps, Little Metis Beach, Montmagny and Pointe au Pic, Que., Attercliffe, Bala Park, Breslau, Clifton House (Niagara Falls), Dwight, Lake Joseph, Sparrow Lake and Wanstead, Ont., and Alberta Beach, Alta.

Trade and Supply Notes.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers distinctly to understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

Davis-Bournonville Co., Jersey City, N.J., has issued an 8 page circular, describing portable outfits for oxy-acetylene welding and cutting, including cabinet truck, large wheel open truck, and small wheel open truck. It has also issued a circular respecting its institute at Jersey City, for teaching the theory and practice of welding and cutting with the oxy-acetylene torch. The many requests received for skilled welders have made it imperative to meet the general present and future needs.

Davis-Bournonville Co., Jersey City, N.J., has issued a circular describing Davis acetylene flare light generator and referring to some of its many possible uses.

Independent Pneumatic Tool Co., Chicago and Montreal, has issued a folder, "Thor Super-Power Electric Drills," describing and illustrating its line of portable electric tools.

The Wellman-Seaver-Morgan Co., Cleveland, Ohio, has issued bulletin 38 "Mechanical handling of cargoes at the U.S. Army Supply Base, Boston, with W-S-M cranes," describing and illustrating the installation of 4 semi-portal bridge type cranes, to handle freight to and from ships.

Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries unless otherwise stated:

Belleville Railway Men's Educational Club Meets each Tuesday, 7.30 p.m. F. A. Pinkston, Belleville, Ont.

Canadian Car Service Bureau—W. J. Collins, Manager, 401 St. Nicholas Building, Montreal.

Canadian Electric Railway Association—Acton Burrows, 70 Bond Street, Toronto.

Canadian Freight Association (Eastern lines)—G. C. Ransom, 909 Shaughnessy Building, Montreal.

Canadian Freight Association (Western lines)—W. E. Campbell, 805 Boyd Block, Winnipeg.

Canadian Railway Board of Adjustment No. 1—R. Chapple, 263 St. James Street, Montreal.

Canadian Railway Club—W. A. Booth, 131 Charron St., Montreal. Meetings at Montreal 2nd Tuesday, each month, 8.30 p.m., except June, July and August.

Dominion Marine Association—F. King, Counsel, Kingston, Ont.

Canadian Ticket Agents' Association—E. de la Hooke, London, Ont.

Eastern Canadian Passenger Association—G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Montreal—C. M. Strange, 9 Beaver Hall Square, Montreal.

Engineers' Club of Toronto—R. B. Wolsey, 94 King Street West, Toronto.

Engineering Institute of Canada—F. S. Keith, 176 Mansfield St., Montreal.

Express Traffic Association of Canada—C. N. Ham, Montreal.

Great Lakes and St. Lawrence River Rate Committee—A. E. Storey, 310 G.T.R. General Offices, Montreal.

Hydro-Electric Railway Association of Ontario—T. J. Hannigan, Guelph, Ont.

International Water Lines Passenger Association—M. R. Nelson, 89 Chatham Ave., Buffalo, N.Y.

Niagara Frontier Summer Rate Committee, James Morrison, Montreal.

Quebec Transportation Club—A. F. Dion, Harbor Commissioner's Office, Quebec, Que.

Railway Association of Canada—W. M. Neal, Montreal.

Shipping Federation of Canada—Thos. Robb, Manager, 42 St. Sacrament Street, Montreal.

Toronto Transportation Club—W. A. Gray, 257 Roxton Road, Toronto.

Transportation Club of Vancouver—H. W. Schofield, 556 Church St., Vancouver, B.C.

Transportation Conventions in 1920

Feb. 10-12—American Wood Preserveds' Association, Chicago, Ill.

Mar. 16-18—American Railway Engineering Association, Chicago, Ill.

May—Association of Railway Claim Agents, Atlantic City, N.J.

May—International Railway Fuel Association, Chicago, Ill.

May 5-7—Air Brake Association, Chicago, Ill.

June—American Association of Freight Agents.

June 9-16—American Railroad Association's Mechanical Section, Atlantic City, N.J.

Customs Requirements in Connection with coastwise shipping, of which some complaints have been made in regard to the situation on the Pacific coast, is being dealt with locally, with the cooperation of the Dominion Marine Association. Vessel owners on the Great Lakes are not affected to such an extent as those on the Pacific coast, and in the former case, it has been found possible to transact business without the difficulty complained of. The suggestion is that the requirements for clearing vessels at customs, where purely coasting business is concerned, should be abolished, as they throw a much heavier burden on vessel owners than is justified by the benefits received. It is believed that satisfactory arrangements can be made in consultation with the customs officials.

The Marine Stevedoring and Contracting Co. of Canada, Ltd., has been incorporated under the Dominion Companies Act, with $10,000 authorized capital, and office at Montreal, to carry on a general stevedoring, contracting, wrecking and salvaging business. The incorporators are, J. Mazzala, J. Maura, New York; E. Burke, Westmount, Que.; T. P. and J. H. Dillon, Montreal.

CANADIAN PACIFIC RAILWAY COMPANY

Dividend Notice.

At a meeting of the Board of Directors, held today, a dividend of two and one-half per cent on the Common Stock for the quarter ended 30th September last, being at the rate of seven per cent per annum from railway revenue and three per cent per annum from Special Income Account, was declared payable on 31st December next to shareholders of record at 3 p.m., on 1st December next.

By order of the Board.

ERNEST ALEXANDER,
Secretary.

Montreal, 10th November, 1919.

THE VICTORIA ROLLING STOCK & REALTY CO., OF ONTARIO, LIMITED.

Notice is hereby given that a dividend of four per cent. on the paid-up capital stock of the Company for the half-year ended Nov. 29th, 1919, has been declared payable Dec. 1st, 1919, to the shareholders on record as of the 29th of Nov., 1919.

G. T. CHISHOLM, Secretary.

Toronto, Nov. 22nd, 1919.

NOTICE.

The General Railway Signal Company of the United States of America, the owner of the exclusive rights to Canadian patents No. [illegible], No. 93127, No. 96276, and No. 97778, issued to Young and Townsend, and covering methods of signalling electrified railways, wishes to call the attention of all possible users of the devices and systems covered by such patents to the fact that it is prepared to sell and furnish, at short notice, all such devices and to install such systems upon any railway in the Dominion of Canada.

All inquiries regarding the above should be addressed to The General Railway Signal Company of Canada, Limited, Lachine, Province of Quebec, Canada.

ESTABLISHED 1849.

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Subscriptions are based on the service furnished and are available only by reputable wholesale, jobbing and manufacturing concerns, and by responsible and worthy financial, fiduciary and business corporations. Specific terms may be obtained by addressing the Company at any of its offices. Correspondence invited.

OFFICES IN CANADA:
Halifax, N.S.; Hamilton, Ont.; London, Ont.; Montreal, Que.; Ottawa, Ont.; Quebec, Que.; St. John, N.B.; Toronto, Ont.; Vancouver, B.C.; Calgary, Alta.; Edmonton, Alta.; Winnipeg, Man.; Victoria, B.C.

THOS. C. IRVING,
Gen. Man. Western Canada, Toronto.

PAGE & JONES,

Ship Brokers and Steamship Agents,

Cable Address: "PAJONES," Mobile.

MOBILE, ALABAMA, U. S. A.

All Leading Codes Used.

For Sale and Classified Advertising

Under this heading Canadian Railway and Marine World will place advertisements for Positions Wanted, positions Vacant, Equipment for Sale, Tenders Wanted, Dividend, Annual Meetings, Legal Notices, etc.

ADVERTISING RATES.

Rates for advertisements set in uniform style in six point under

Positions Wanted and Positions Vacant, 3c per word.
Equipment for Sale advertisements, 4c per word.

Allow five words where replies are to be sent to a box number. Minimum order—$1.

Rates under other headings and for display advertisements on application.

SALE OF
MILITARY STORES, ETC.

Dry Goods, Hospital Furniture, Bedding, Hardware, Leather Goods, Junk, Etc.

Sales will be made by sealed tender

Persons desiring to tender are requested to register their names and addresses with the **Secretary of the War Purchasing Commission, Booth Building, Ottawa** stating the class of goods in which they are interested, whether new or second-hand or both.

Tender forms with full details of the goods and places at which samples may be seen, will be mailed when ready to those who have registered as requested above.

Special Terms to Hospitals, Etc.

Dominion, Provincial, and Municipal departments, hospitals, charitable, philanthropic, and similar institutions which are conducted for the benefit of the public and not for profit may purchase goods without tender at prices established by the War Purchasing Commission.

Returned Soldiers and Sailors and Widows and Dependents of Soldiers and Sailors killed in the War may obtain supplies, for their own personal use and not for re-sale, through the nearest branch of the Great War Veterans Association who will combine individual orders and forward to the War Purchasing Commission through the Dominion Command of the Great War Veterans Association. These services are rendered by the Great War Veterans Association to all parties in the class named, whether members of the Great War Veterans Association or not.

All communications should be addressed to the Secretary, War Purchasing Commission, Booth Building, Ottawa, who will be glad to supply lists and further details to those interested.

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Canadian transportation

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